

# **SOME ECTOPARASITES OF THE BIRDS OF ASIA**

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## ABSTRACT

During the period July 1963 to July 1971 ectoparasites were collected from the birds of eastern Asia; Korea, Japan, Taiwan, Hong Kong, Philippines, Thailand, Borneo, Indonesia, Singapore and India. From the more than 15000 collections there were 238 genera and 564 species of arthropods represented. The number of avian hosts examined included 743 species. Of the parasite species Acarina made up 34.3%, Mallophaga 53% and Hippoboscidae 9.5%. Annotated lists of the host-parasite and the parasite-host relationships are given.

# SOME ECTOPARASITES OF THE BIRDS OF ASIA <sup>(1)</sup>

## INTRODUCTION

The Migratory Animals Pathological Survey was initiated in July 1963 with the following objectives: 1. To determine the origins and movements of migratory bird populations in Eastern Asia. 2. To make a study of avian ectoparasites to serve as background information for epidemiological studies in Asian laboratories of the zoonoses. 3. To make a survey of the haematozoa in birds. 4. To accrue general information concerning the ecology of Asian birds.

Grants for this work were made available to Asian biologists and equipment and technical assistance given to them.

Eventually twelve teams totalling more than 60 people were in the field capturing and ringing birds, collecting ectoparasites, collecting blood films, and making other observations concerning the bionomics of birds. These teams were under the guidance of the following scientists:

1. Korea, Dr. Won Pyong—Oh, Kyung Hee University, Seoul.
2. Japan, Dr. Y. Yamashina and Mr. M. Yoshii, Yamashima Institute of Ornithology, Tokyo.
3. Taiwan, Dr. Paul S. Alexander and Mr. Sheldon Severinghaus, Tunghai University, Taichung.
4. Hong Kong, Mr. F.O.P. Hechtel, in cooperation with the University Malaya, Kuala Lumpur.
5. Northern Philippines, Mr. Godofredo Alcasid, Philippines National Museum, Manila.
6. Southern Philippines Dr. D.S. Rabor, Silliman University, Dumaquete, Negros Oriental and Mindanao State University, Mindanao.
7. Thailand, Mr. Ben King, American Component SEATO Medical Laboratory and Mr. Kitti Thonglongya, Applied Scientific Research Corporation of Thailand, Bangkok.

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8. Malaya, Lord Medway and Dr. David Wells, University of Malaya in cooperation with the U.S. Army Medical Research Unit, Kuala Lumpur.
9. Sarawak, Mr. Tom Harrison and Dr. Mike Fogden, Sarawak Museum, Kuching
10. Sabah, Mr. Henry Tsen, Sabah Museum, Kota Kinabalu.
11. Indonesia, Dr. S. Somadikarta, Muzium Bogoriense, Bogor.
12. India, Dr. Salim Ali, Bombay Natural History Society, Bombay.

In addition short periods of study were made in Okinawa, Guam, Vietnam, Singapore, and Nepal.

Data, ectoparasites and blood films were sent to the MAPS laboratory in Tokyo and later to Bangkok where the headquarters was established at the Applied Scientific Research Corporation of Thailand in 1966.

Ectoparasites were sorted and sent to the following taxonomists:

1. Acarina: Feather mites, Dr. Jean Gaud, Laboratoire de Parasitologie Faculte de Medecine, Rennes, France, Dr. Warren T. Atyeo, University of Georgia, Athens, and his associates Dr. K.R. Orwig, Dr. N.L. Braasch, Dr. P.C. Peterson, Dr. R.P. Park, LCDR R.J. Santana; Ticks, Dr. Harry Hoogstraal, USNAMRU-3, Cairo, Egypt; Chiggers, Mr. N. Nadchatram, Institute for Medical Research, Kuala Lumpur and Miss Panita Lakshana, SEATO Medical Laboratory, Bangkok; other mites, Dr. Nixon Wilson, Bishop Museum, Honolulu.
2. Mallophaga, Dr. K.C. Emerson and his associates, Washington D.C.
3. Hippoboscidae, Dr. T.C. Maa, Taipei.
4. Other groups have been sent to taxonomists and museums throughout the world.

The role of the authors has been that of sorting, accumulating and sifting the data and specimens as they arrived. Taxonomic papers have been published on these collections by each taxonomist and these are listed at the end of this report.

## METHODS IN THE FIELD

The field teams were provided with the finely powdered commercial silicon-dioxide insecticide "Dri-die 67", procaine tubes (discarded from dental clinics) and a solution of 70% ethyl alcohol and 1% glycerine. In order to collect the arthropods the bird was dusted thoroughly with the insecticide and held quietly in the hand for five minutes. Then it was supported above a piece of white paper, out of the wind, and its feathers shaken and ruffled. The action of the "Dri-die" is to break the oil film of the arthropod's integument permitting a rapid loss of water. Most species of ectoparasites so irritated will fall from the feathers by this method. The parasites were collected from the paper, placed in a procaine tube of alcohol and glycerine, labeled, and shipped to the MAPS headquarters.



It was requested that the field teams collect ectoparasites from five individuals of each species in each habitat during each season.

Birds were captured by means of mist nets and parasites were collected from a few that were shot for museums. Although experiments were made with other types of nets the ones proving most useful were nylon or silk obtained from a Tokyo manufacturer in the following sizes: 24 mm. mesh with four panels 2.4 meters high, 12 meters long, for small birds; 36 mm. mesh, same height and length, for medium sized birds (this was the best all purpose net); 61 mm mesh, same height, and length for larger birds and shore birds. Use of the nets has been summarized by McClure (1966), Bub (1967) and numerous authors in "Bird Banding" and other journals. They are highly adaptable nets and their successful use depends upon the ingenuity of the user.

Captured birds were removed from the nets, placed in separate cloth bags and carried from the net lines to the point of ringing and ectoparasite collection. After each use the bags were reversed and shaken to reduce the chance of contamination of parasites between species.

The field teams were also provided with thirteen sizes of bird rings or bands stamped with a serial number and "Write P.O. Box 3443, Hong Kong, B.C.C."

## THE AVIFAUNA OF ASIA

Because of the great interchange and exchange of populations in Eurasia the continent can not be faunistically divided into Asia and Europe. The vast deserts and mountain bulwarks of central Asia have been effective barriers to some species so that many are limited to the lands west of the Ural Mountains with migrants that move to and from Africa. East of the Urals other populations move into and out of India or South-East Asia. Ringing results (to be published) show that many species with widely dispersed Palearctic populations are made up of populations utilizing different geographical areas for over-wintering. More than 2200 species of birds are known from this vast area east of the Ural Mountains and the Indus River.

The zoogeographical designations of Palearctic, Oriental, Australasia and Tropical have been applied to these populations, with as many subdivisions as there have been zoo-geographers to discuss them. More detailed studies have made it increasingly difficult to categorize these populations by geographical distribution. At the beginning of this study it was not clear which Asian species were migratory and which were not, nor

had there been a clear definition of a migratory species. The overt migration of many forms breeding in the Palearctic and wintering in the Tropical Oriental regions were known but recent work has shown much movement within the Palearctic, within the Oriental or Tropical, and within what were considered stable or non-migratory populations.

With no historical background to refer to it is not possible to suggest how many of these modern movements of birds are related to deep seated genetic patterns and how many have been brought about by the rapid destruction and alteration of Asian habitats which has gone on during the past century. Records of new birds found recently in the various political or geographical areas of Asia have little meaning other than that the species is now present. Individuals displaced by habitat destruction may wander long distances and whether such birds can establish in new areas remains to be seen.

The most abundant terrestrial forms in species and numbers have different geographical and geological origins. Fisher and Peterson (1964) list the origins of the avian families and Table 1 refers this to some of the families that are abundant in Eastern Asia and from which we have ectoparasite material.

In every biotic community the avian complex is a mixture of families and genera utilizing the various niches present. In tropical forests the niches are numerous with a resulting ramification in the number of species present. The species complex in man-disturbed temperate areas may be reduced to a few groups with numerous individuals utilizing the few niches available. In the tropical forests, the reverse is true with few individuals and many species using the many niches. For example: In the rice and upland farming area that surround the Sagiya Heron Sanctuary just north of Tokyo a two year's survey (McClure, unpublished) on 40 acres of rice land interspersed among tree planted farmyards indicated that there were 64 species present representing 28 families. The average number of birds per species per observation was two. In the Gombak Forest thirteen miles east of Kuala Lumpur, Malaysia, a year's survey (McClure, unpublished) tallied 164 species of 37 families and one bird per species per observation. Twenty-two of the families were represented in both habitats, that completely man dominated in Japan and that only slightly disturbed in Malaya, but only eight species were found in both habitats, all migrants in Malaya and summer residents in Japan.

Table 1. Origin and distribution of some abundant groups found in the areas where the MAPS banding teams worked.

Family	Geographical Origin	Geological Origin	Population Densities		Remarks
			Common	Fewer	
Ardeidae	Asian tropics	Eocene	Tropic and Middle Latitudes.	North temperate	Migratory. Marsh forms greatly increased by cultivation, especially rice.
Rallidae	?	Paleocene	Most Latitudes	Desert areas	Many migratory species. Marsh and rice land species increased by cultivation.
Columbidae	Austral-Asian	Miocene	Tropic and Subtropic Latitudes	North temperate.	Non-migratory. Tropical species are fruit eaters of forests. Grain feeding temperate species increased by cultivation.
Psittacidae	Austral-Asian	Miocene	India, Malaysia	None north of Himalayas	Tropical forest species, non-migratory.
Strigidae	Palaeartic	Eocene	Asia-wide		Few migrants Mainly forest or brush-land species.
Alcedinidae	Oriental	Eocene	S. E. Asia	Japan, Korea	Few reach north. Forest species, some of which have increased with man's disturbance.
Meropidae	Ethiopian	Pleistocene	India, S. E. Asia		Open country species, increased by cultivation, migrate between sub-tropics and tropics.
Coraciidae	Ethiopian	Eocene	India, Thailand	Japan, Korea	Only 1 species in north. Open country species increased by man's disturbance.
Bucerotidae	Ethiopian	Eocene	Thailand	India	Limited to tropics. Forest species. Reduced by environment destruction.
Capitonidae	Ethiopian	Pleistocene	S. E. Asia	Taiwan	Tropical forest, non-migratory species, reaching as far north as Taiwan.
Picidae	New World	Miocene		No where abundant	Non-migratory forest species, most depleted by forest destruction.
Eurylaimidae	Oriental	?	Malaysia	Thailand	Tropical forest species, non-migratory.
Pittidae	Oriental	?	S. E. Asia	Japan, Korea	Only one species gets north, mainly tropical forest species.
Alaudidae	Ethiopian	Pliocene	Japan, Korea	Malaysia	Migratory savannah species increased by man's disturbance.
Hirundinidae	Oriental	Pleistocene	Asia-wide		Most species migratory, savannah species closely associated with man.
Campephagidae	Austral-Asian	?	S. E. Asia	Japan, Korea	One species gets as far north as Japan. Tropical forest species.
Pycnonotidae	Ethiopian	Pleistocene	Southern Asia	Japan, Korea	One species as far north as Japan. Tropical forest edge species increased by man's disturbance.

Table 1-2

Family	Geographical Origin	Geological Origin	Population Densities		Mainly tropical forest species a few of which inhabit man-disturbed areas. Tropical and Sub-Tropical species associated with forest. Two species increased by man's activities. Non-migratory. Includes weed species that are common in all man disturbed areas. Non-migratory. Mainly temperate forest species, non-migratory. Tropical forest species a few of which use man-disturbed areas. Non-migratory. A mixed group. Many tropical non-migratory species as well as temperate migratory ones. Many migrant species. Mainly species of forests both temperate and tropical. Nearly all migratory. Temperate zone savannah species many of which have increased with man's disturbance of environments. Mainly migratory. Temperate forest edge species increased by man's disturbance of forests. Both migratory and non-migratory species. Many weed species that utilize man disturbed areas. Tropical forest species a few of which have moved to man-disturbed areas. Tropical forest species a few of which have moved to man-disturbed areas. Species of uncertain migratory habits. Tropical. Many utilized man disturbed areas. Mainly temperate zone species associated with man disturbed areas. The commonest species found associated with man and his agriculture.
			Common	Fewer	
Dicruridae	Oriental	Pleistocene	Southern Asia	Taiwan	
Oriolidae	Austral-asian	Pleistocene	Malaysia	Korea	
Corvidae	Palaeartic	Miocene	Asia wide	Philippines	
Paridae	Palaeartic	Eocene	Japan, Korea	S. E. Asia	
Timaliidae	Oriental	Pleistocene	S. E. Asia	Philippines	
Sylviidae	Palaeartic	Miocene	Temperate Areas	Dry Areas	
Muscicapidae	Oriental?	Pleistocene	Most forests	Malaysia.	
Motacillidae	Ethiopian	Miocene	Most of Asia	S. E. Asia	
Laniidae	Palaeartic	Miocene	Japan, Korea	Korea, Japan	
Sturnidae	Ethiopian	Eocene	India, S. E. Asia	Taiwan	
Nectariniidae	Ethiopian	?	S. E. Asia	Japan	
Dicaeidae	Oriental	?	S. E. Asia	S. E. Asia	
Zosteropidae	Oriental	?	Taiwan, Malaysia.	S. E. Asia	
Fringillidae	Palaeartic	Pleistocene	Siberia, Japan, Korea.	Korea, Japan	
Ploceidae	Ethiopian	Miocene	India, S. E. Asia.		

## PARASITE POPULATIONS

At the beginning of the study it was felt that differences in the density of parasites and parasite infestations should be related to geography rather than only to host i.e. a host species would have a higher infestation at one latitude or in one habitat than another because of the ecological pressures on the parasite other than those evident within the niches on the host itself. Host distribution would obviously affect these densities where certain heavily infested species had limited geographical distribution. This would be evident where two hosts harbored the same parasite species but which had different geographical distribution and different rates of infection. Field observations indicated that certain species of birds habitually were more heavily parasitized than others. But often these species had limited geographical distribution. Mohr and Stumpf (1964) suggested that the density or parasitism may be related to host size rather than geographical distribution or host population density.

Using the political areas to indicate latitude the density of parasitism in the three major groups of parasites, biting lice or Mallophaga, feather mites and chiggers, is compared in Table 2. From Korea to Indonesia to India a total of 3001 collections of Mallophaga were made from 497 species of birds with an average collection of 5.3 parasites per bird. Eight of the twelve areas fell within 10% of this figure. Although the Thailand average appeared to be higher and that of Taiwan lower than this with a large number of collections from each the  $X^2$  test indicates that they fall within the range of probable variance. The temptation here is to believe that this can be interpreted to mean that basic infestation rates of Mallophaga among all species in all latitudes is similar and that latitude does not critically effect the development of parasite populations in this group. It must be remembered that the overlap in species between one country and another may be very low (12% as between Japan and Malaya). This would effect the overall density of parasites especially if host species consistently heavily infested failed to extend into higher or lower latitudes.

Among the 4893 collections of feather mites from 589 bird species the average collection included 29.5 parasites. There was considerably more geographical variation within this group than indicated by the Mallophaga for only a third of the areas fell within 20% of this average. Japan and Korea were above average, Taiwan and Hong Kong below, Philippines and Thailand about average, Malay and Indonesia considerably above average, while India fell within the average range. This suggests that the feather mites are more abundant among species in the humid tropics. The  $X^2$  test indicates that the tropical areas had significantly higher numbers of parasites.

Table 2. Population densities of three major groups of parasites by geographical area.

AREA	MALLOPHAGA			FEATHER MITES			CHIGGERS		
	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.
Korea	61	148	4.5	69	732	35.8	5	8	2.0
Japan	27	77	5.4	40	123	36.3	1	1	2.0
Taiwan	51	200	3.2	101	807	22.1	3	3	17.0
Hong Kong	23	84	5.3	22	121	21.9	4	4	6.5
Philippines	140	858	5.9	151	792	29.8	19	43	3.7
Thailand	186	663	8.6	198	736	23.8	78	309	11.0
Malaya	59	241	5.4	88	735	50.1	22	62	5.2
Sabah & Sarawak	39	112	5.2	41	100	10.3	2	4	5.2
Singapore	11	14	25.0	8	12	52.0	—	—	—
Indonesia (Java)	26	269	5.2	35	329	46.8	—	—	—
Bhutan	36	52	4.9	60	106	21.6	5	12	5.7
India	104	283	5.4	105	300	27.1	2	15	5.8
Total or Average	497	3001	5.3	589	4893	29.5	123	461	9.0

Intensive studies of the lepto-trombiculid mites in Thailand and Malaya distort the picture of chigger infestations. An earlier study in Malaya, McClure (in Press) indicated chigger infestations on 65 species of forest birds as compared with 78 species listed here for Thailand. In Malaya the average number of chiggers per bird was five or less while in Thailand the numbers collected were more than double this. It is suspected that even with a more intensive search in the temperate areas the relative numbers of infested species and density of chiggers would have been lower than that of the tropical areas.

Using the same format as Table 2, the relationships between parasite populations are compared in Tables 3 and 4 for families of birds grouped according to their migratory or non-migratory habits. In these tables the number of Mallophaga collected appears to be related to bird size (except for ardeids, herons) rather than migratory activities. In Table 3 among the migratory families, Hirundinidae, Turdidae, Sylviidae and Fringillidae had significantly higher populations of feather mites. Among the nonmigratory more tropical families, Rallidae, Alcedinidae, Eurylaimidae, Sturnidae, and Ploceidae had significantly higher infestations of feather mites.

Aside from the academic interest concerning what groups of parasites develop the largest populations on the birds and what birds harbor these populations the density of parasites has epidemiological implications. Certain environments may be conducive to large infestations and birds in these environments may be subject to these infestations. If such parasites are disease vectors then the dispersal of these vectors by the birds could be greater than from an environment conducive to low infestations. There is nothing in the following lists of parasites and hosts to indicate whether a parasite is a scientific oddity or a universal inhabitant of a given host species. Field collections by the various teams were not sufficiently comparable that these data could be listed by parasite or host species but in Tables 5 and 6 they are summarized by family of birds, showing some of the differences seen in the several geographical areas for the three major parasite groups.

## EPIDEMIOLOGY AND AVIAN PARASITES

Two large groups of arthropod-borne agents infectious to man in Asia have been shown to be involved with avian parasites, the arbor viruses and rickettsiae producing encephalitis and typhus respectively. The arbor virus most widely studied in Asia has been Japanese Encephalitis and the typhus commonly involved with birds, Scrub Typhus. Birds of several species have been shown to act as reservoirs for Japanese encephalitis and to proliferate the disease. Birds have not been reported as common reservoirs of the typhus rickettsia, but do transport the chigger vectors.

Table 3. Families of birds including many migratory species and the parasite density per individual.

	MALLOPHAGA			FEATHER MITES			CHIGGERS		
	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.
AVIAN FAMILY									
Ardeidae	7	85	3.4	7	15	4.0	3	5	7.2
Accipitridae & Falconidae	18	50	14.8	7	15	7.3	1	1	20.0
Rostratulidae & Charadriidae	9	176	8.0	8	54	17.9	-	-	-
Scolopacidae	28	202	8.0	18	98	18.5	-	-	-
Hirundinidae	6	140	2.1	8	577	36.7	2	13	2.4
Turdidae	26	115	6.2	43	378	41.4	14	86	6.1
Sylviidae	22	56	3.1	42	349	45.4	6	9	4.2
Motacillidae	4	29	2.0	10	165	25.7	3	15	5.7
Laniidae	6	23	3.9	6	53	22.7	-	-	-
Fringillidae	18	93	4.3	27	667	38.7	5	7	8.0
Total	144	969	5.6	176	2371	25.8	34	136	7.6



Table 4. Families of birds including mainly tropical or sub-tropical non-migratory species and the parasite density per individual.

	MALLOPHAGA			FEATHER MITES			CHIGGERS		
	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.
AVIAN FAMILY									
Phasianidae & Turnicidae	13	80	13.4	6	50	9.1	4	19	8.1
Rallidae	15	76	8.6	17	88	61.9	3	3	18.0
Columbidae	12	37	5.9	9	34	19.0	1	1	1.0
Cuculidae	14	27	5.0	12	34	20.1	2	3	3.0
Strigidae & Tytonidae	10	61	6.1	12	37	31.8	2	6	1.1
Apodidae	9	102	5.2	8	125	25.0	2	2	2.5
Alcedinidae	13	71	6.2	9	50	36.4	3	4	30.2
Eurylaimidae	5	24	8.4	5	20	33.5	1	1	10.0
Pittidae	7	36	8.0	4	15	17.1	6	27	4.6
Dicruridae	6	58	6.3	7	82	30.4	1	1	5.0
Timaliidae	42	118	3.3	64	313	20.7	32	196	12.5
Pycnonotidae	34	397	3.9	31	335	14.8	12	18	6.3
Muscicapidae	19	107	3.4	42	241	25.7	6	24	7.5
Sturnidae	19	210	9.6	16	167	50.2	—	—	—
Nectariniidae	6	9	1.2	10	31	13.1	1	1	1.0
Dicaeidae	3	3	4.3	10	21	16.6	—	—	—
Ploceidae	13	251	3.7	14	406	49.7	—	—	—
Total	240	1667	6.0	276	2049	27.9	76	306	7.9

Table 5. The parasite densities among the families including many migratory species related to the area in which they were collected.

	MALLOPHAGA			FEATHER MITES			CHIGGERS		
	Number Host Species	Number Collec- tions	Ave. No. Parasites per Coll.	Number Host Species	Number Collec- tions	Ave. No. Parasites per Coll.	Number Host Species	Number Collec- tions	Ave. No. Parasites per Coll.
<b>ARDEIDAE</b>									
Taiwan	3	74	3.3	2	8	3.4	1	1	1.0
Philippines	1	5	1.6	2	3	5.0	1	1	1.0
Thailand	3	3	1.7	2	2	1.0	1	2	12.0
Malaya	1	1	2.0	1	1	1.0	1	1	10.0
India	1	2	16.0	1	1	20.0	1		
Indonesia	7	85	3.4	7	15	4.0	3	5	7.2
<b>Total</b>									
<b>ACCIPITRIDAE &amp; FALCONIDAE</b>									
Japan	1	7	1.7						
Korea	4	4	12.0						
Taiwan	2	2	7.0	2	2	8.5			
Hong Kong	2	12	17.3						
Philippines	2	5	5.0						
Thailand	8	14	21.0	6	13	7.0	1	1	20.0
Malaya	1	1	3.0						
Singapore	2	2	60.0						
India	3	3	7.0						
<b>Total</b>	18	50	14.8	7	15	7.3	1	1	20.0
<b>ROSTRATULIDAE &amp; CHARADRIIDAE</b>									
Korea	1	1	2.0						
Taiwan	2	5	3.2	2	9	23.3			
Philippines	7	122	8.6	6	36	13.0			
Thailand	6	33	7.9	1	1	3.0			
Sabah	3	5	2.6	2	2	2.0			
Singapore	1	1	20.0	1	1	150.0			
India	5	9	6.8	2	5	26.0			
<b>Total</b>	9	176	8.0	8	54	17.9			

Table 5-2

	MALLOPHAGA			FEATHER MITES			CHIGGERS		
	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.
<b>SCOLOPACIDAE</b>									
Japan	2	3	3.7	1	1	16.0			
Korea	1	3	3.0	1	2	6.0			
Taiwan	2	8	5.0	1	1	60.0			
Hong Kong									
Philippines	18	111	8.0	12	39	13.5			
Thailand	9	21	17.5	2	2	8.5			
Malaya	1	5	2.4	1	10	16.5			
Sabah	6	17	2.8	3	5	1.2			
Singapore	1	1	3.0			26.4			
India	11	33	7.4	11	38	18.5			
Total	28	202	8.0	18	98				
<b>HIRUNDINIDAE</b>									
Japan	2	13	1.6	2	18	27.3	1	1	2.0
Korea	2	2	2.5	3	10	11.5	1	1	1.0
Taiwan				5	102	19.0			
Philippines	1	4	2.2	2	15	27.5	1	1	2.0
Thailand	5	26	1.8	4	40	27.2	1	3	3.0
Malaya	2	64	2.1	3	343	42.8	1	7	2.4
Sarawak & Sabah	1	11	3.3	1	12	8.2			
Singapore	1	1	2.0	1	36	64.4			
Indonesia	1	19	2.1	1	1	20.0			
India	1	140	2.1	8	577	36.7	2	13	2.4
Total	6								

Table 5-3

AREA	MALLOPHAGA			FEATHER MITES			CHIGGERS		
	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.
<b>TURDIDAE</b>									
Japan	8	19	7.6	12	51	44.9			
Korea	4	8	5.0	6	19	20.3			
Taiwan	4	12	4.6	11	76	35.7			
Hong Kong	7	21	4.0	8	21	26.2	1	1	1.0
Philippines	7	16	6.3	11	41	49.3	1	1	1.0
Thailand	5	15	1.5	10	80	32.0	13	73	6.9
Malaya	4	7	23.1	5	29	72.4	2	10	1.6
Sarawak & Sabah	2	2	11.0	4	10	16.6			
Indonesia	2	2	6.0	4	25	67.6			
India	6	13	5.7	6	26	45.4	1	1	2.0
Total	26	115	6.2	43	378	41.4	14	86	6.1
<b>SYLVIIDAE</b>									
Japan	3	3	6.3	8	23	30.4			
Korea	4	4	6.0	6	16	25.0			
Taiwan	5	12	1.6	12	47	12.1			
Hong Kong	1	2	2.0	1	17	11.1			
Philippines	6	12	2.0	9	55	19.1			
Thailand	7	10	2.7	12	37	20.4	1	3	1.7
Malaya	1	6	1.3	5	129	87.4	5	5	5.0
India	3	7	7.0	7	25	36.3	1	1	9.0
Total	22	56	3.1	42	349	45.4	6	9	4.2
<b>MOTACILLIDAE</b>									
Korea	4	8	2.5	5	59	22.3			
Taiwan	1	1	1.0	3	43	15.0			
Hong Kong	1	2	1.5	1	1	1.0			
Philippines	4	7	1.3	5	15	9.7			
Thailand	2	7	2.3	4	24	45.9	2	2	1.0
Malaya				2	4	50.0			
India	2	4	1.8	5	19	43.9	1	13	6.4
Total	4	29	2.0	10	165	25.7	3	15	5.7

Table 5-4

AREA	MALLOPHAGA			FEATHER MITES			CHIGGERS		
	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.
<b>LANIIDAE</b>									
Japan	1	1	1.0	1	1	6.0			
Korea	2	5	4.4	3	9	17.5			
Taiwan	2	2	2.5	1	7	10.7			
Hong Kong	1	1	11.0	3	25	36.3			
Philippines	2	5	2.6	4	7	5.1			
Thailand	2	6	4.7	1	4	5.2			
Malaya	3	3	3.3	6	53	22.7			
India	6	23	3.9						
Total									
<b>FRINGILLIDAE</b>									
Japan	3	4	4.5	7	12	28.7			
Korea	14	63	5.4	18	527	41.3		3	1.6
Taiwan	2	3	1.0	4	81	25.3			
Hong Kong	1	2	1.0	4	28	42.1			
Philippines	1	3	3.7	2	3	12.0			
Thailand	3	7	1.9	5	11	23.4		4	12.5
Malaya	1	11	1.7	3	5	26.8			
India				27	667	38.7		7	8.0
Total	18	93	4.3						

Table 6. The parasite population densities among the families of mostly tropical or sub-tropical non-migratory species related to the area in which they were collected.

	MALLOPHAGA			FEATHER MITES			CHIGGERS		
	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.
<b>PHASIANIDAE &amp; TURNICIDAE</b>									
Korea				1	2	1.0			
Taiwan	3	8	1.0	2	6	8.5			
Philippines	3	48	4.9	1	39	9.1	2	16	6.3
Thailand	5	16	48.4	1	1	7.0	2	3	18.0
Malaya	1	1	41.0	1	1	30.0			
India	3	7	2.0	1	1	10.0			
Total	13	80	13.4	6	50	9.1	4	19	8.1
<b>RALLIDAE</b>									
Taiwan	1	1	5.0	1	2	45.0			
Philippines	12	54	7.0	13	64	70.1	1	1	2.0
Thailand	2	2	2.5	1	1	50.0			
Malaya	2	4	10.5	3	5	60.4	2	2	26.0
Sarawak				1	1	20.0			
Singapore	1	1	4.0	1	1	10.0			
India	4	14	15.7	4	14	35.0			
Total	15	76	8.6	17	88	61.9	3	3	18.0
<b>COLUMBIDAE</b>									
Korea	1	3	2.3	1	1	2.0			
Japan	1	1	25.0						
Taiwan	1	1	3.0	2	6	7.6			
Philippine	7	19	6.5	6	20	8.9	1	1	1.0
Thailand	1	6	1.8	2	2	51.0			
Singapore				1	2	140.0			
India	4	7	6.8	2	2	1.5			
Indonesia				1	1	35.0			
Total	12	37	5.9	9	34	19.0	1	1	1.0

Table 6-2

	MALLOPHAGA				FEATHER MITES				CHIGGERS					
	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.
<b>CUCULIDAE</b>														
Korea														
Philippine	8	13	5.2	1	1	10.0	1	1	1	1	3.0			
Taiwan				9	18	24.5	1	1						
Thailand	5	6	5.7	1	1	5.0								
Malaya	3	4	4.8	3	6	30.1	4	6	1	2	3.0			
Indonesia	2	2	6.0	4	6	5.5	1	2						
India	1	2	1.0	1	2	6.0								
Total	14	27	5.0	12	34	20.1	12	34	2	3	3.0			
<b>STRIGIDAE &amp; TYTONIDAE</b>														
Japan				1	1	90.0								
Taiwan	2	2	1.0	5	16	23.7								
Philippines	2	4	10.5	2	5	54.2								
Thailand	7	53	6.1	7	13	26.7			1	5	1.2			
Malaya				1	1	80.0			1	1	1.0			
Indonesia	1	1	1.0	1	1	10.0								
India	1	1	2.0	1	1	31.8			2	6	1.1			
Total	10	61	6.1	12	37		12	37	2	6				
<b>APODIDAE</b>														
Taiwan	1	11	2.0	1	33	12.2								
Philippines	4	35	2.9	5	55	43.8			1	1	1.0			
Thailand	3	5	5.8	1	1	15.0			1	1	4.0			
Malaya	1	26	10.4	2	20	3.3								
Indonesia	1	25	4.1	1	16	14.9								
Total	9	102	5.2	8	125	25.0	8	125	2	2	2.5			

Table 6-3

	MALLOPHAGA			FEATHER MITES			CHIGGERS		
	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.
<b>ALCEDINIDAE</b>									
Japan	1	1	2.0	1	7	13.1	1	1	4.0
Korea	1	2	3.5	1	1	800.0			
Taiwan									
Hong Kong	3	4	2.5						
Philippines	7	16	2.7	5	22	37.3	1	1	16.0
Thailand	4	15	5.5	2	4	1.2	1	1	1.0
Malaya	7	12	8.4	6	9	5.3	1	1	100.0
Borneo	3	7	9.1	3	4	5.5			
Singapore	1	1	2.0						
Indonesia	2	12	9.5	2	2	15.5			
India	1	1	10.0	1	1	1.0			
Total	13	71	6.2	9	50	36.4	3	4	30.2
<b>EURYLAIMIDAE</b>									
Philippines				1	2	27.5			
Thailand	3	5	1.2	1	1	3.0			
Malaya	3	7	5.3	2	4	127.0			
Sarawak	2	12	13.2	3	13	7.3		1	10.0
Total	5	24	8.4	5	20	33.5	1	1	10.0
<b>PITTIDAE</b>									
Korea	1	1	1.0	1	1	3.0			
Philippines	2	23	9.4	1	5	35.0	2	9	3.0
Thailand	5	8	5.4	2	2	9.0	3	6	6.0
Malaya	1	1	10.0	3	7	5.7	3	12	5.2
Indonesia	1	1	4.0						
India	1	2	7.5						
Total	7	36	8.0	4	15	17.1	6	27	4.6



Table 6-4

	MALLOPHAGA			FEATHER MITES			CHIGGERS		
	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.
<b>DICRURIDAE</b>									
Taiwan				1	1	2.5			
Philippines	4	35	3.9	3	31	37.0	1	1	5.0
Thailand	4	16	12.0	6	34	25.4			
Malaya				1	2	40.0			
Sarawak	1	2	6.0	1	2	30.0			
Indonesia	1	2	2.0	1	8	35.0			
India	3	3	7.3	2	4	10.0			
Total	6	58	6.3	7	82	30.4	1	1	5.0
<b>TIMALIIDAE</b>									
Taiwan	5	16	2.7	15	152	20.7			
Philippines	1	1	3.0	2	2	17.5	1	2	3.0
Thailand	20	50	3.1	23	74	25.4	25	167	13.8
Malaya	4	5	1.2	11	25	22.0	7	23	5.9
Sarawak & Sabah	3	4	4.2	7	8	7.4	1	3	3.6
Indonesia	2	3	2.7	2	6	16.6			
India	16	39	4.0	23	46	15.4	1	4	1.2
Total	42	118	3.3	64	313	20.7	32	199	12.4
<b>PYCNONOTIDAE</b>									
Japan	1	2	2.0	1	3	20.7			
Korea	1	3	1.3	1	7	16.5			
Taiwan	4	15	5.6	4	47	36.3			
Hong Kong	3	33	3.5	3	39	14.0	2	2	4.5
Philippines	6	105	4.3	7	73	6.9			
Thailand	18	125	3.2	19	97	13.4	8	14	7.3
Malaya	6	29	4.0	6	16	12.1	2	2	1.0
Borneo	5	32	4.6	3	8	7.0			
Indonesia	2	40	4.8	3	35	10.6			
India	5	15	2.1	3	10	9.6			
Total	34	397	3.9	31	335	14.8	12	18	6.3

Table 6-5

	MALLOPHAGA			FEATHER MITES			CHIGGERS		
	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.
<b>MUSCICAPIDAE</b>									
Japan				5	12	30.6			
Korea				1	1	39.0			
Taiwan		3	3.0	5	14	57.0			
Philippines	2	40	4.0	12	56	31.2			
Thailand	6	18	2.3	14	75	21.5	6	16	7.3
Malaya	8	23	3.3	8	31	36.7			
Borneo	5	6	2.5	4	8	18.2			
Indonesia	3	7	5.7	4	10	22.5			
India	3	10	2.2	15	34	19.2	2	8	8.0
Total	19	107	3.4	42	241	25.7	6	24	7.5
<b>STURNIDAE</b>									
Japan	1	1	2.0	1	1	5.0			
Hong Kong	1	1	2.0						
Philippines	4	102	6.3	3	69	50.8			
Thailand	7	61	11.8	6	57	36.2			
Malaya	5	8	22.2	4	10	198.0			
Sabah	1	1	1.0	2	3	20.0			
Indonesia	2	11	26.3	2	8	14.0			
India	7	25	6.5	6	19	34.7			
Total	19	210	9.6	16	167	50.2			
<b>NECTARINIIDAE</b>									
Philippines				1	1	1.0			
Thailand	2	2	1.0	6	14	16.1	1	1	1.0
Malaya	1	1	1.0	1	3	3.7			
Borneo	2	2	1.5	1	1	11.0			
Indonesia	1	1	1.0	3	10	14.3			
India	2	3	1.3	1	2	7.0			
Total	6	9	1.2	10	31	13.1	1	1	1.0

Table 6-6

	MALLOPHAGA			FEATHER MITES			CHIGGERS		
	Number Host Species	Number Collections	Ave. No Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.	Number Host Species	Number Collections	Ave. No. Parasites per Coll.
DICAEIDAE									
Philippines									
Thailand	2	2	1.5	2	3	5.0			
Indonesia	1	1	10.0	6	12	21.3			
India				1	4	17.5			
Total	3	3	4.3	2	21	3.5			
				10		16.6			
PLOCEIDAE									
Korea	1	1	2.0	1	3	8.3			
Taiwan	2	13	1.5	4	45	11.7			
Hong Kong	2	4	2.2	2	9	9.0			
Philippines	5	39	3.5	4	38	22.7			
Thailand	4	15	6.9	7	52	41.4			
Malaya	5	19	2.3	5	24	47.8			
Sabah				1	1	20.0			
Singapore	1	1	1.0	2	4	21.5			
Indonesia	4	139	3.9	4	194	74.8			
India	5	20	3.7	6	36	21.0			
Total	13	251	3.7	14	406	49.7			

Epidemiologically these are two vastly different relationships. The period of viremia in the bird is short, usually a matter of hours (to a few days), and the production of protective antibodies is rapid. That a migratory bird could or would migrate while viremic has been demonstrated by studies in Egypt (Watson et. al. 1972) and that it could seed the vector mosquitoes over a wide area has been developed in theory but not demonstrated in nature. The effect of viremia on "Zugunruh" in captive birds has not yet been reported.

The presence of JE antibody has been demonstrated in birds, both domestic and wild, in Japan, Taiwan, Philippines and Thailand. Infectious mosquito vectors of this virus have been reported from Korea, Japan, Taiwan, Philippines, Thailand and Malaya. In Malaya vector mosquitoes (i.e. **Culex tritaeniorhynchus**, and others) breed all year and harbor the virus during all months. In Okinawa and Japan the appearance of the vector mosquito (also **C. tritaeniorhynchus**) in the environment is related to isothermal distribution and their infectiousness is seasonal. The appearance of JE virus in temperate climates is related to the infection in the mosquitoes and to that in other vertebrate hosts. Arrival and departure dates of migrant birds have been reported for Korea, Japan, Malaya and other areas. Results from the MAPS ringing has shown that migrants may move at the rate of several hundred miles a day, and the sources of birds, arriving in the north or south are also being determined. The next step, which was beyond the scope of this program, is to develop a study which will correlate all of these relationships and which will demonstrate whether bird movements do or do not seed the virus at various latitudes.

Both from studies in Malaya and Thailand it is known that a large number of bird species are attacked by Scrub Typhus vectors and that because of this they can be moved long distances when migrants leave indigenous areas of infestation.

Studies in Malaya have shown the persistence of the viable rickettsia in chiggers over many generations. The wide range of avian hosts reported here for the vector mites (**Leptotrombidium delienseis**, **L. akamushi**, **L. scutellare**) indicate that birds can reseed sterile areas with infectious or infectable vectors each year thereby creating a continuous epidemiological problem. The public health administrator must now be aware that the elimination of Scrub Typhus infection from any given area where the vectors can survive will only be of short duration, for migrant birds or those from nearby infected areas can reinstate infected vectors.

For further discussion concerning Japanese encephalitis and Scrub Typhus see the Annual Reports of the 406th Medical General Laboratory, Tokyo, Navy Medical Research Unit 2, Taipei, SEATO Medical Research Unit, Bangkok, US Army Medical Research Unit, Kuala Lumpur, years 1950-1970; fifth symposium on the study of the role of migrating birds in the distribution of arboviruses, 1972.



Table 7-2

Korea Latitude 38°-35° N	Japan 45°-30° N	Taiwan 25°-22° N	Hong Kong 22° N	Philippines 18°-5° N	Thailand 20°-6° N	Malaysia 6°-1° N	India 27°-12° N	Indonesia 6°-7° S
ERITHACUS CALLIOPE Trouessartia sp. (FM)	ERITHACUS CALLIOPE Unident. (FM) Unident. (Ma)	ERITHACUS CALLIOPE Unident. (FM)	COPSYCHUS SAULARIS Ornithophila metallica (H) Unident. (FM)	COPSYCHUS SAULARIS Trouessartia sp. (FM) Proctophylloides sp. (H) Proctophylloides cotyledon (FM) Pterodectes sp. (FM) Menacanthus sp. (Ma)	Dermaceator sp.(T) Leptotrombidium deliensis (Ch)	Leptotrombidium deliensis (Ch) Myrsidea sp. (Ma) Ptilonyssus dioptrornis (M)	COPSYCHUS SAULARIS Haemaphysalis intermedia (T) Unident. (M) Unident. (Ma) Unident. (FM)	COPSYCHUS SAULARIS Proctophylloides cotyledon (FM) Dolichodectes n. sp. (FM) Pteronyssoides sp. (FM) Ornithophila metallica (H) Brüelia sp. (Ma) Haemaphysalis wellingtoni (T) Ptilonyssus dioptrornis (M)
ERITHACUS CALLIOPE Unident. (FM) Unident. (Ma)	ERITHACUS CALLIOPE Ornithophila metallica (H) Menacanthus sp. (Ma) Brüelia sp. (Ma) Myrsidea sp. (Ma) Menacanthus nogoma (Ma) Unident. (FM) Unident. (M)	ERITHACUS CALLIOPE Proterothrix sp. (FM) Pteronyssus sp. (FM) Menacanthus sp. (Ma) Philopterus sp. (Ma) Ixodes sp. (T)	COPSYCHUS SAULARIS Trouessartia sp. (FM) Proctophylloides sp. (H) Proctophylloides cotyledon (FM) Pterodectes sp. (FM) Menacanthus sp. (Ma)	ERITHACUS CALLIOPE Leptotrombidium deliensis (Ch) Leptotrombidium elisbergi (Ch) Leptotrombidium scutellare (Ch) Neoschoengastia longipes (Ch) Helenicula simena (Ch) Eutrombicula wichmanni (Ch)	ERITHACUS CALLIOPE Unident. (FM)	COPSYCHUS SAULARIS Trouessartia sp. (FM) Proctophylloides cotyledon (FM) Dolichodectes n. sp. (FM) Pteronyssoides sp. (FM) Ornithophila metallica (H) Brüelia sp. (Ma) Haemaphysalis wellingtoni (T) Ptilonyssus dioptrornis (M)	COPSYCHUS SAULARIS Haemaphysalis intermedia (T) Unident. (M) Unident. (Ma) Unident. (FM)	COPSYCHUS SAULARIS Proctophylloides cotyledon (FM) Dolichodectes n. sp. (FM) Trouessartia sp. (FM)

Table 7-3

Korea Latitude 38°-35° N	Japan 45-30° N	Taiwan 25-22° N	Hong Kong 22° N	Philippines 18-5° N	Thailand 20-6° N	Malaysia 6-1° N	India 27-12° N	Indonesia 6-7° S	
ERITHACUS CYANE ?	ERITHACUS CYANE Unident. (FM) Unident. (Ma) Isodes turdus (T) Unident. (FM)	ERITHACUS CYANE Unident. (FM)			Trouessartia (FM) sp. Proctophylloides (FM) sp. Pteronyssus (FM) sp. Proctophylloides vassilivi (FM) Ornithomyza fuscipennis (H) Icosta sensilis (H) sensilis (H) Unident. (Ma)	ERITHACUS CYANE Odontacarus audyi (Ch) Leptotrombidium deliensis (Ch) Leptotrombidium lanceolata (Ch) audyi (Ch) Analgesa sp. (FM) Proctophylloides rubeculinus (FM) Ornithophila metallica (H) Myrsidea sp. (Ma) Menacanthus sp. (Ma) Haemaphysalis sp. (T) Ornithonyssus sylvianus (M) Ptilonyssus dioptrornis (M)	ERITHACUS CYANE ?		
					ERITHACUS CYANE Neoschoengastia longipes (Ch) Neoschoengastia solitus (Ch) Odontacarus audyi (Ch) Toritrombicula densipiliata (Ch) Neoschoengastia sp. (Ch) Leptotrombidium deliensis (Ch) Leptotrombidium arvina (Ch) Trouessartia (FM) sp. Proctophylloides sp. (FM) Procterotrinx sp. (FM)				

Table 7-4

Korea Latitude 38°-35°N	Japan 45 - 30°N	Taiwan 25 - 22°N	Hong Kong 22°N	Philippines 18 - 5°N	Thailand 20 - 6°N	Malaysia 6 - 1°N	India 27 - 12°N	Indonesia 6 - 7°S
<u>MONTICOLA</u> <u>SOLITARIA</u> ?	<u>MONTICOLA</u> <u>SOLITARIA</u> Unident. (FM)	<u>MONTICOLA</u> <u>SOLITARIA</u> Unident. (FM)	<u>MONTICOLA</u> <u>SOLITARIA</u> ?	<u>MONTICOLA</u> <u>SOLITARIA</u> Unident. (Ch) Unident. (FM)	<u>MONTICOLA</u> <u>SOLITARIA</u> Unident. Leptotrombidium (Ch) scutellare (FM)	<u>MONTICOLA</u> <u>SOLITARIA</u> ?	<u>MONTICOLA</u> <u>SOLITARIA</u> ?	
	<u>MYIOMELE</u> <u>LEUCURA</u> Proctophylloides cotyledon (FM) Analges sp. (FM)	<u>MYIOMELE</u> <u>LEUCURA</u> Proctophylloides cotyledon (FM) Analges sp. (FM)		<u>MYIOMELE</u> <u>LEUCURA</u> Leptotrombidium (Ch) scutellare (Ch) Neoschoengastia solitus (Ch) Leptotrombidium deliensis (Ch) Neoschoengastia sp. (Ch) Trouessartia sp. (FM) Proctophylloides cotyledon (FM) Ormithophila metallica (H)	<u>MYIOMELE</u> <u>LEUCURA</u> Analges sp. (FM) Ingrassiella sp. (FM) Proctophylloides pennifer (FM)	<u>MYIOMELE</u> <u>LEUCURA</u> Unident. (FM)	<u>MYIOMELE</u> <u>LEUCURA</u> Unident. (FM)	
					Ormithomya fuscipennis (H) Ormithoica bistativa (H) Haemaphysalis sp. (T) Pellonyssus sp. (M) Ormithonyssus sylviarum (M) Unident. (Ma)		<u>HODGSONIUS</u> <u>PHOENICUROIDES</u> Odontacarus audyi (Ch)	
					<u>HODGSONIUS</u> <u>PHOENICUROIDES</u> Leptotrombidium scutellare (Ch) Ormithoica bistativa (H)		<u>HODGSONIUS</u> <u>PHOENICUROIDES</u> Odontacarus audyi (Ch)	



Table 7-5

Korea Latitude 38-35° N	Japan 45-30° N	Taiwan 25-22° N	Hong Kong 22° N	Philippines 18-5° N	Thailand 20-6° N	Malaysia 6-1° N	India 27-12° N	Indonesia 6-7° S
			<p>MYOPHONEUS COERULEUS</p> <p>Unident. (H) Myrsidea (Ma) sp. Myrsidea sultanpurensis (Ma) Unident. (FM)</p>		<p>Ornithoica (H) bistativa (Ma) Brueelia sp. Haemaphysalis (T) sp. Ixodes sp. (T)</p> <p>MYOPHONEUS COERULEUS</p> <p>Leptotrombidium (Ch) deliense (Ch) Leptotrombidium (Ch) sp. Ornithomya (H) avicularia (H) Lynchia sp. (H) Ornithoica (H) n. sp. (H) Ornithoica (H) bistativa (H) Proctophyllodes (FM) sp. Trouessartia (FM) sp. Analges sp. (FM) Myrsidea sp. (Ma)</p> <p>SAXICOLA FERREA</p> <p>Leptotrombidium scutellare (Ch) Icosta fenestella (H) Trouessartia sp. (FM) Proctophyllodes cotyledon (FM)</p>			
			<p>SAXICOLA FERREA</p> <p>?</p>				<p>MYOPHONEUS COERULEUS</p> <p>Unident. (FM)</p>	
			<p>SAXICOLA FERREA</p> <p>?</p>				<p>MYOPHONEUS COERULEUS</p> <p>?</p>	
			<p>SAXICOLA FERREA</p> <p>?</p>				<p>SAXICOLA FERREA</p> <p>?</p>	

Table 7-6

Korea Latitude 38°-35°N	Japan 45°-30°N	Taiwan 25°-22°N	Hong Kong 22°N	Philippines 18°-5°N	Thailand 20°-6°N	Malaysia 6°-1°N	India 27°-12°N	Indonesia 6°-7°S
SAXICOLA <u>TORQUATA</u> Unident. (FM)	SAXICOLA <u>TORQUATA</u> Unident. (FM)	SAXICOLA <u>TORQUATA</u> ?	SAXICOLA <u>TORQUATA</u> ?	SAXICOLA <u>CAPRATA</u> Unident. (FM)	SAXICOLA <u>TORQUATA</u> Trouessartia (FM) sp. Pteronyssus (FM) sp.	SAXICOLA <u>TORQUATA</u> ?	SAXICOLA <u>TORQUATA</u> ?	
PHOENICURUS <u>AUROREUS</u> Proctophylloides n. sp. (FM) Proctophylloides cotyledon (FM) Myrsidea (Ma) sp.	PHOENICURUS <u>AUROREUS</u> Proctophylloides n. sp. (FM) Analges (FM) sp. Proctophylloides cotyledon (FM)	PHOENICURUS <u>AUROREUS</u> Unident. (FM)	PHOENICURUS <u>AUROREUS</u> Unident. (FM)	SAXICOLA <u>CAPRATA</u> Unident. (FM)	PHOENICURUS <u>AUROREUS</u> Trouessartia (FM) sp. Proctophylloides sp. (FM) Analges sp. (FM)	SAXICOLA <u>CAPRATA</u> Unident. (Ma)	PHOENICURUS <u>AUROREUS</u> Hyalomma magi- natum sub. sp. (T)	
TARSIGER <u>CYANURUS</u> Unident. (FM)	TARSIGER <u>CYANURUS</u> Trouessartia (FM) sp. Proctophylloides cotyledon (FM) Ornithonyssus sylviarum (M)	TARSIGER <u>CYANURUS</u> Unident. (FM)	TARSIGER <u>CYANURUS</u> Unident. (FM) Myrsidea (Ma) sp.		TARSIGER <u>CYANURUS</u> Leptotrombidium scutellare (Ch) Ixodes sp. (T) Haemaphysalis sp. (T) Unident. (Ma) Unident. (FM)	TARSIGER <u>CYANURUS</u> ?	TARSIGER <u>CYANURUS</u> ?	
TURDUS <u>CARDIS</u> ?	TURDUS <u>CARDIS</u> Philopterus (Ma) sp. Brueelia (Ma) sp. Ornithophila momiyamai (H)		TURDUS <u>CARDIS</u> Brueelia (Ma) sp. Myrsidea sp. (Ma) Haemaphysalis wellingtoni (T) Amblyomma (T) sp.					

Table 7-7.

Korea Latitude 38° - 35° N	Japan 45 - 30° N	Taiwan 25 - 22° N	Hong Kong 23° N	Philippines 18 - 5° N	Thailand 20 - 6° N	Malaysia 6 - 1° N	India 27 - 12° N	Indonesia 6 - 7° N
<u>TURDUS</u> <u>CHRYSOLAUS</u> ?	<u>TURDUS</u> <u>CHRYSOLAUS</u> Trouessartia sp. (FM) Montesauria sp. (FM) Proctophylloides sp. (FM) Analges sp. (FM) Mojoubertia sp. (FM) Myrsidea thoracica (Ma) Unident. (T) Lasius umbratus (Misc)	<u>TURDUS</u> <u>CHRYSOLAUS</u> Montesauria sp. (FM) Proctophylloides sp. (FM) Mesalgoides- sp. (FM) Proctophylloides weigoldi (FM) Unident. (Ma)	<u>TURDUS</u> <u>HORTULORUM</u> Toritrombicula densipilata (Ch) Ornithophila metallica (H) Ornithoica tridens (H) Brueelia sp. (Ma) Myrsidea sp. (Ma) Haemaphysalis wellingtoni (T) Haemaphysalis sp. (T) Unident. (M)	<u>TURDUS</u> <u>CHRYSOLAUS</u> Unident. (FM) Myrsidea thoracica (Ma) Sturnidoecus sp. (Ma)				
<u>TURDUS</u> <u>HORTULORUM</u> Brueelia sp. (Ma)	<u>TURDUS</u> <u>HORTULORUM</u> Unident. (FM) Unident. (Ma) Unident. (M)	<u>TURDUS</u> <u>NAUMANNI</u> Proctophylloides musicus (FM) Analges sp. (FM) Philopterus sp. (Ma)	<u>TURDUS</u> <u>NAUMANNI</u> Ricinus elongatus (Ma)				<u>TURDUS</u> <u>NAUMANNI</u> ?	

Table 7-8

Korea Latitude 38°-35°N	Japan 45-30°N	Taiwan 25-22°N	Hong Kong 22°N	Philippines 18-5°N	Thailand 20-6°N	Malaysia 6-1°N	India 7-12°N	Indonesia 6-7°N	
Philopterus (Ma) sp. Ornithoysus sylvianum (M)	Ixodes turdus (T)	TURDUS OBSCURUS Proctophylloides sp. Unident. (Ma)	TURDUS OBSCURUS ?	TURDUS OBSCURUS Trousartia sp. (FM) Proterothrix sp. (FM) Analges sp. (FM) Myrsidea thoracica (Ma)	TURDUS OBSCURUS Leptotrombidium scutellare (Ch) Neoschoengastia longipes (Ch) Ornithomya avicularia (H) Myrsidea thoracica (Ma) Haemaphysalis sp. (T) Ixodes sp. (T) Proctophylloides weigoldi (FM)	TURDUS OBSCURUS Leptotrombidium scutellare (Ch) Leptotrombidium deitensis (Ch) Leptotrombidium akamushi (Ch) Leptotrombidium keukenschrij- veri (Ch) Trousartia sp. (FM) Proterothrix sp. (FM) Proctophylloides sp. (FM) Proctophylloides sp. (FM) Proctophylloides weigoldi (FM) Analges sp. (FM) Pteronyssoides sp. (FM) Xolalges sp. (FM) Mesalgoides (FM) Ingrassiella sp. (FM) Myrsidea thoracica (Ma) Montesauria sp. (FM)	TURDUS OBSCURUS ?	TURDUS OBSCURUS ?	TURDUS OBSCURUS ?

Table 7-9

Korea Latitude 38°-35°N	Japan 45°-30°N	Taiwan 25°-22°N	Hong Kong 22°N	Philippines 18°-5°N	Thailand 20°-6°N	Malaysia 6°-1°N	India 27°-12°N	Indonesia 6°-7°S
<u>TURDUS</u> <u>PALLIDUS</u> Brüelia (Ma) sp. (FM) Myrsidea (Ma) sp. (FM) Unident. (FM)	<u>TURDUS</u> <u>PALLIDUS</u> Proctophylodes sp. (FM) Mesalgoides (FM) sp. (FM) Ingrassiella sp. (FM) Proctophylodes weigoldi (FM) Myrsidea thoracica (Ma) Brüelia sp. (Ma) Ixodes sp. (T)	<u>TURDUS</u> <u>PALLIDUS</u> Trouessartia (FM) sp. (FM) Proctophylodes weigoldi (FM) Pteronyssoides sp. (FM) Analges sp. (FM) Ingrassiella sp. (FM) Proterothrix sp. (FM) Myrsidea thoracica (Ma)	<u>TURDUS</u> <u>PALLIDUS</u> Ornithonyssus sylviarum (M) Unident. (FM) Unident. (Ma)	<u>TURDUS</u> <u>PALLIDUS</u> ?	<u>ZOOTHERA</u> <u>CITRINA</u> Neoschoengastia solitus (Ch) Leptotrombidium deltense (Ch) Tortrombicula densipilata (Ch) Odontacarus audyi (Ch) Icosta fenestella (H) Haemaphysalis sp. (T) Ixodes sp. (T) Trouessartia sp. (FM) Analges sp. (FM) Unident. (Ma)	<u>ZOOTHERA</u> <u>CITRINA</u> Leptotrombidium deltensis (Ch) Tortrombicula vorca (Ch) Odontacarus audyi (Ch) Montesauria (FM) sp. (FM) Proctophylodes sp. (FM)	<u>ZOOTHERA</u> <u>CITRINA</u> Leptotrombidium bhatipadense (Ch) Ornithonyssus sylviarum (M) Unident. (FM) Brüelia sp. (Ma)	<u>ZOOTHERA</u> <u>CITRINA</u> Unident. (FM) Unident. (Ma)

Table 7-10

Korea Latitude 38°-35' N	Japan 45°-30' N	Taiwan 25°-22' N	Hong Kong 22° N	Philippines 18°-5' N	Thailand 20°-6' N	Malaysia 6°-1' N	India 27°-12' N	Indonesia, 6°-7' S
<u>ZOOTHERA</u> <u>DAUMA</u> ?	<u>ZOOTHERA</u> <u>DAUMA</u> Proctophylloides n. sp. (FM) Analges sp. (FM) Myrsidea ishizawai (Ma) Brüelia daumae (Ma) Unident. (Ma) Ixodes sp. (T)	<u>ZOOTHERA</u> <u>DAUMA</u> Ornithomya fuscipennis (H) Unident. (FM)		<u>ZOOTHERA</u> <u>DAUMA</u> Unident. (FM) Unident. (Ma)	<u>ZOOTHERA</u> <u>DAUMA</u> Leptotrombidium scutellare (Ch) Helenicula simena (Ch) Proctophylloides doleophyses (FM) Pterodectes sp. (FM) Trouessartia (FM) sp. Montesauria (FM) sp. Pteronyssoides (FM) Analges sp. (FM) Myrsidea ishizawai (Ma) Myrsidea sp. (Ma) Haemaphysalis doenitzi (T) Ixodes sp. (T) Haemaphysalis wellingtoni (T)	<u>ZOOTHERA</u> <u>DAUMA</u> ?	<u>ZOOTHERA</u> <u>DAUMA</u> Unident. (FM) Haemaphysalis sp. (T)	<u>ZOOTHERA</u> <u>DAUMA</u> ?
<u>ZOOTHERA</u> <u>SIBIRICUS</u> ?	<u>ZOOTHERA</u> <u>SIBIRICUS</u> Ornithoica momiyaui (H) Ornithomya avicularia (H) Trouessartia sp. (FM) Myrsidea thoracica (Ma)				<u>ZOOTHERA</u> <u>SIBIRICUS</u> Myrsidea thoracica (Ma) Ornithomya avicularia (H) Unident. (FM)	<u>ZOOTHERA</u> <u>SIBIRICUS</u> Leptotrombidium dellense (Ch) Trouessartia sp. (FM) Montesauria (FM) sp. Proctophylloides doleophyses (FM) Mesalgioides sp. (FM) Xolalges sp. (FM) Myrsidea thoracica (Ma) Ingrassiella sp. (FM)	<u>ZOOTHERA</u> <u>SIBIRICUS</u> ?	<u>ZOOTHERA</u> <u>SIBIRICUS</u> Trouessartia (FM) sp. Proctophylloides doleophyses (FM) Mesalgioides sp. (FM) Analges sp. (FM) Montesauria (FM) sp. Unident. (Ma)

These relationships are complex and involve the geographical distribution of the avian host, its dispersal or migratory movements, the ability of the vector to survive off of the host at various latitudes and in the environments available, and the life cycles of both the hosts and the vectors. Ectoparasites have been collected from several species of thrushes, some migratory, some sedentary, and most of them widely distributed. The simple record of parasite collections from these hosts, shown in Table 7, illustrates the complexity of these geographical and host relationships.

### THE ECTOPARASITE COLLECTIONS

The approximate number of collections that were sorted and shipped each year to cooperating taxonomists was: 1964—1000, 1965—6250, 1966—1850, 1967—2025, 1968—1500, 1969—1000, 1970—500, 1971—850, totaling nearly 15,000. The following lists summarize the identification data that have been accumulated from these by September 1971. These include the collection of 238 genera of arthropods from 746 species of birds representing 70 families. The arthropods were distributed among 52 families.

Of these 238 arthropod genera 74 or 31% still do not have their respective species identified and in many cases new species remain to be described. Among the 564 identified species Acarina included 34.3%, Mallophaga 53% and the hippoboscid flies, Hippoboscidae 9.5%.

Although many species of parasites were very restricted in their host preferences some of the genera were widely distributed among the host families, i.e. **Leptotrombidium** mites were found on 131 species or 17.9% of those that were examined. Table 8 lists sixteen genera which were very widespread in their host distribution, being found on from 5 to 30% of the host species examined.

There was a greater diversity of ectoparasites, among the non—passerines than among the passerines. Non—passerine families which are considered to be of earlier geological origin have more specific parasites, and evolutionary affinities are demonstrated by the similarities of the parasites. Among the passerines many families share parasite genera as well as species. These affinities were especially evident among the Mallophaga while less obligate parasites were not so restricted in host selections.

### THE PARASITES AND THEIR HOSTS

Following is an annotated list of the parasites and their hosts. The parasite names are those reported by the cooperating taxonomists. The birds are listed by family and the scientific names used are from current literature as compiled for the MAPS checklist. The arthropod families are arranged in the order suggested by Baker and Wharton (1964). The country listed with each species indicates where the parasites were collected.

Table 8. Parasite genera with wide host range among the avian species examined. Additional information has increased or decreased these figures but not altered the relationships.

<u>Genus</u>	<u>Number of species found on.</u>	<u>% of the Host Species examined.</u>
<b>Ornithonyssus</b>	55	7.5
<b>Haemaphysalis</b>	58	7.9
<b>Leptotrombidium</b>	129	17.6
<b>Analges</b>	99	13.5
<b>Pteronyssus</b>	88	12.0
<b>Bicentralges</b>	33	4.5
<b>Proctophyllodes</b>	159	21.8
<b>Pterodectes</b>	147	20.1
<b>Trouessartia</b>	180	24.6
<b>Brüelia</b>	97	13.3
<b>Philopterus</b>	59	8.0
<b>Menacanthus</b>	60	8.2
<b>Myrsidea</b>	216	29.6
<b>Icosta</b>	60	8.2
<b>Ornithoica</b>	63	8.6
<b>Ornithophila</b>	49	6.7



## ACARINA

Acarina made up the greatest number of parasites, both numerically and by species. There were 28 families and 126 genera. Of these, 62 genera were represented by 194 species. When the remaining 64 genera have been studied the number of species should go well above that of the Mallophaga.

### MACROCHELIDAE

Common on the soil and as parasites of invertebrates. Probably accidental on vertebrates. One genus represented.

**Macrocheles** Latreille, 1829.

**Macrocheles** sp.

Nectariniidae: **Arachnothera longirostris**.

Lowland forest edge, from Thailand.

### RHINONYSSIDAE

Parasitic in the nasal passages of birds throughout the world. Cause nasal irritations in many species and are in a position to be related with disease organisms. Five genera and 25 species.

**Tinaminyssus** Strandtmann and Wharton, 1958.

Reported from Psittacidae 4 species, Columbidae 5, Alcedinidae 1, Capitonidae 1. Widely distributed tropical forest and brushland species.

**Tinaminyssus geopeliae** (Fain), 1964.

Columbidae: **Geopelia striata**.

A ground dove, from Philippines.

**Tinaminyssus halcyonus** (Domrów), 1965.

Alcedinidae: **Halcyon chloris**.

Seaside kingfishers, from the Philippines.

**Tinaminyssus hirtus** (Wilson), 1966.

Columbidae: **Chalcophaps indica**.

A ground dove, from Philippines.

**Tinaminyssus malayi** (Fain and Nadchatram), 1962.

Psittacidae: **Tanygnathus lucionensis**.

Capitonidae: **Megalaima franklini**

A parrot, from Philippines, barbet, from Malaya.

**Tinaminyssus psittaculae** (Fain), 1962.

Psittacidae: **Loriculus philippensis**, **L. vernalis**.

Lowland forest lorikeets, from Philippines and Thailand, respectively.

**Tinaminyssus prionituri** (Wilson), 1966.

Psittacidae: **Prioniturus discurus**.

A parrot, from Philippines.

**Tinaminyssus ptilinopi** (Wilson), 1964.

Columbidae: **Ptilinopus jambu**, **P. occipitalis**, **Sphenurus sieboldii**.  
Fruit pigeons, from Malaya, Philippines and Taiwan respectively.

**Ptilonyssus** Berlese and Trouessart, 1889.

Reported from Meropidae 1 species, Pycnonotidae 5, Aegithinidae 1, Timaliidae 1, Turdidae 4, Muscicapidae 3, Sylviidae 1, Sturnidae 1, Nectariniidae 1, Ploceidae 2. Tropical forest and brushland species.

**Ptilonyssus** sp.

Sylviidae: **Acrocephalus arundinaceus**.

**Ptilonyssus cinneryis** Zumpt and Till, 1955.

Nectariniidae: **Nectarinia jugularis**

Lowland farmyard and city sunbird, from Malaya.

**Ptilonyssus dioptrornis** (Fain), 1956.

Turdidae: **Copsychus saularis**, **C. malabaricus**, **Enicurus schistaceus**, **Erithacus cyane**.

Muscicapidae: **Muscicapa rufigastra**.

Forest and forest edge species, from Malaya.

**Ptilonyssus maclurei** Fain, 1963.

Muscicapidae: **Rhipidura albicollis**.

A flycatcher from mountain forests, from Malaya.

**Ptilonyssus malaysiae** Fain, 1964.

Aegithinidae: **Irena puella**.

A forest canopy species, from Malaya.

**Ptilonyssus motacillae** Fain, 1956.

Muscicapidae: **Muscicapa mugimaki**.

Sturnidae: **Sturnus sturninus**.

Ploceidae: **Lonchura maja**.

Migrants and a weaver, from Malaya.

**Ptilonyssus nadchatrami** Fain, 1964.

Pycnonotidae: **Pycnonotus erythropthalmus** **P. brunneus**.

Forest edge bulbuls, from Malaya.

**Ptilonyssus ploceanus** Fain, 1956.

Ploceidae: **Ploceus philippinus**.

Brushland weaver, from Malaya.

**Ptilonyssus pycnonoti** Fain, 1956.

Pycnonotidae: **Pycnonotus goiavier**, **P. brunneus**, **P. plumosus**, **P. atriceps**.

Lowland, forest edge bulbuls, from Malaya.

**Ptilonyssus ruandae alcippei** Fain and Nadchatram, 1962.

Timaliidae: **Alcippe nipalensis**.

Shrub inhabiting mountain babbler, from Malaya.

**Ptilonyssus trisculatus** (Vitzthum), 1935.

Meropidae: **Merops viridis**.

A bee-eater, from Malaya.

**Rallinyssus** Strandtmann, 1948.

Reported from Rallidae 5 species.

**Rallinyssus amauroornis** Wilson, 1965.

Rallidae: **Porzana cinerea**, from Luzon, **Amauroornis phoenicurus**, from Taiwan. Marsh and rice inhabiting rails.

**Rallinyssus porzana congolensis** Fain, 1956.

Rallidae: **Porzana tabuensis**.

From Luzon.

**Rallinyssus limnocoracis** Fain, 1956.

Rallidae: **Porzana fusca**.

A rail, from Malaya.

**Rallinyssus rallinae** Wilson, 1967.

Rallidae: **Rallina eurizonoides**.

From Luzon.

**Rhinoecius** Cooreman, 1946.

Reported from Strigidae 1 species.

**Rhinoecius cavannus** Wilson, 1968.

Strigidae: **Otus bakkamoena**.

Common farmyard and forest owl, of Thailand.

**Sternostoma** Berlese and Trouessart, 1889.

Reported from Cuculidae 1 species, Alcedinidae 1, Timaliidae 1, Sturnidae 1, Nectariniidae 1. Related only as tropical forest species.

**Sternostoma cooremani** Fain and Nadchatram, 1962.

Alcedinidae. **Halcyon chloris**.

Seaside kingfisher, from Malaya.

**Sternostoma cuculorum** Fain, 1956.

Cuculidae: **Phaenicophaeus chlorophaeus**.

Timaliidae: **Yuhina zantholeuca**.

Sturnidae: **Sturnus sturninus**.

Lowland forest species, from Malaya.

**Sternostoma tracheacolum** Lawrence, 1948.

Nectariniidae: **Arachnothera longirostris**.

A forest edge spiderhunter, from Malaya.

## DERMANYSSIDAE

Parasitic on vertebrates and are of economic and medical importance. Two genera, 2 species represented.

**Dermanyssus** Duges, 1834.

Reported from Hirundinidae 1 species, Pycnonotidae 1, Paridae 1, Muscicapidae 1 Fringillidae 2.

**Dermanyssus** sp.

Pycnonotidae: **Pycnonotus cafer**.

**Dermanyssus hirundinis** (Hermann), 1804.

Hirundinidae: **Hirundo rustica**.

Paridae: **Parus ater**.

Muscicapidae: **Muscicapa narcissina**.

Fringillidae: **Emberiza rutila**, **Pyrrhula pyrrhula**.

Hosts found in same environments in Korea.

**Liponyssoides** Hirst, 1913.

Reported from Apodidae 2 species.

**Liponyssoides intermedius** (Evans and Till),

Apodidae: **Chaetura gigantea**, **Collocalia troglodytes**.

Swifts associated in the Philippines.

## MACRONYSSIDAE

Parasites of vertebrates including disease vectors and parasites of economic and medical importance. Two genera and 5 species represented.

**Ornithonyssus** Sambon, 1928.

Reported from Ciconiidae 1 species, Strigidae 1, Alcedinidae 1, Bucerotidae 1, Capitonidae 1, Picidae 2, Hirundinidae 2, Dicruridae 1, Paridae 2, Timaliidae 10, Pycnonotidae 1, Turdidae 7 Sylviidae 4, Muscicapidae 6, Laniidae 2, Sturnidae 3, Nectariniidae 1, Fringillidae 8, Ploceidae 1. Very widespread mites important as nest parasites.

**Ornithonyssus** sp.

Muscicapidae: **Muscicapa latirostris**.

Palaearctic flycatcher.

**Ornithonyssus bursa** (Berlese), 1888.

Ciconiidae: **Anastomus oscitans**.

Strigidae: **Otus bakkamoena**.

Capitonidae: **Megalaima franklinii**.

Picidae: **Blythipicus pyrrhotis**.

Hirundinidae: **Hirundo rustica**, **Riparia riparia**.

Dicruridae: **Dicrurus remifer**.

Timaliidae: **Alcippe nipalensis**, **A. castaniceps**, **Stachyris poliocephala**,

**Minla strigula**, **Yuhina brunneiceps**.

Pycnonotidae: **Hypsipetes maclellandii**.

Sylviidae: **Phylloscopus borealis**, **Prinia hodgsoni**.

Muscicapidae: **Muscicapa sundara**.

Laniidae: **Lanius schach**.

Sturnidae: **Aplonis panayensis**, **Sturnus tristis**, **S. contra**.

Nectariniidae: **Arachnothera longirostris**.

Fringillidae: **Emberiza rustica.**

From many countries and many unrelated species. A common nest parasite.

**Ornithonyssus sylviarum** (Canestrini and Fanzago), 1877.

Alcedinidae: **Alcedo atthis.**

Bucerotidae: **Buceros bicornis.**

Picidae: **Picus chlorolophus.**

Hirundinidae: **Hirundo rustica.**

Paridae: **Parus palustris, P. varius.**

Timaliidae: **Alcippe morrisonia, Macronus gularis, Pellorneum ruficeps,**  
**Pomatorhinus schisticeps, Turdoides striatus.**

Turdidae: **Erithacus brunneus, E. cyane, Tarsiger cyanurus, Turdus merula,**  
**T. naumanni, T. pallidus, Zoothera citrina.**

Sylviidae: **Cettia canturians, Phragmaticola aedon.**

Muscicapidae: **Muscicapa banyumas, M. latirostris, M. monileger, M. narcissina,**  
**M. pallipes.**

Laniidae: **Lanius cristatus.**

Fringillidae: **Carduelis sinica, C. spinus, Carpodacus roseus, Emberiza elegans, E.**  
**rustica, E. spodocephala, Eophona migratoria, Fringilla montifringilla.**

Ploceidae: **Passer montanus.**

A widespread species of nest parasite of numerous unrelated hosts.

**Pellonyssus** Clark and Yunker, 1956.

Reported from Capitonidae 1 species, Picidae 5, Dicruridae 1, Timaliidae 1,

Pycnonotidae 2, Laniidae 1, Ploceidae 2. All tropical hosts.

**Pellonyssus** sp.

Picidae: **Meiglyptes tukki.**

Timaliidae: **Macronus gularis.**

Pycnonotidae: **Criniger pallidus.**

**Pellonyssus biscutatus** (Hirst), 1921.

Capitonidae: **Megalaima franklini.**

A Thailand forest barbet.

**Pellonyssus reedi** (Zumpt and Patterson), 1952.

Dicruridae: **Dicrurus leucophaeus.**

Laniidae: **Lanius cristatus.**

Ploceidae: **Lonchura malacca, L. punctulata.**

Wide distribution, unrelated hosts.

**Pellonyssus trachyphoni** Till, 1954.

Picidae: **Dinopium javanense, Picus canus, P. vittatus, Micropternus brachyurus.**

Pycnonotidae: **Pycnonotus melanicterus.**

Tropical lowland forest species.

## LAELAPIDAE

Parasitic mites of world wide distribution, most commonly found on mammals. Some are known vectors of haematozoa. Four genera, 8 species.

### **Androlaelaps** Berlese, 1903.

Reported from Capitonidae 3 species, Pididae 2, Ploceidae 2, Usual parasites of rodents.

**Androlaelaps crispus** (Grokhovskaya and Nguen), 1961.

Ploceidae: **Lonchura striata**.

A munia, from Thailand.

**Androlaelaps dissimilis** (Asanuma), 1953.

Capitonidae: **Megalaima faiostricta**, **M. franklini**, **M. zeylanica**.

Picidae: **Blythipicus pyrrhotis**, **Dendrocopos kizuki**.

Barbets from Thailand, woodpeckers from a wide geographical area.

**Androlaelaps haydocki** (Till), 1959.

Capitonidae: **Megalaima zeylanica**.

Picidae: **Blythipicus pyrrhotis**.

Forest species, from Thailand.

**Androlaelaps ellobii** Bregetova, 1952.

Capitonidae: **Megalaima franklini**.

Picidae: **Blythipicus pyrrhotis**.

Forest species, from Malaya. Usually on rodents.

**Androlaelaps neoflagellata** Baker, Traub and Evans, 1962.

Ploceidae: **Lonchura punctulata**.

Munia, from Malaya. Usually on rodents.

### **Echinonyssus** Hirst, 1925.

Reported from Timaliidae 1 species.

**Echinonyssus nasutus** Hirst, 1925.

Timaliidae: **Stachyris leucotis**.

A lowland forest babbler, from Malaya. Usually found on **Tupaia**.

### **Laelaps** Koch, 1839.

Reported from Timaliidae 1 species. Usually found on rodents.

**Laelaps flagellifera** Domrow, 1962.

Timaliidae: **Macronus ptilosus**.

Lowland forests, from Malaya. A rodent parasite.

### **Hirstionyssus** Fonseca, 1948.

Reported from Timaliidae 1 species.

**Hirstionyssus callosciurus** Bregetova and Grokhovskaya, 1961.

Timaliidae: **Trichastoma rostratum**.

Lowland forest babbler, from Malaya. A parasite of squirrels.

## ARGASIDAE

The soft ticks, all parasitic, most of economic or medical importance. Worldwide, attacking snakes, turtles, birds, mammals. Many are disease vectors. One genus and 2 species.

**Argas** Latreille, 1795.

Reported from Ardeidae 1 species, Ciconiidae 1, Scolopacidae 1, Strigidae 1, Hirundinidae 1. Large populations develop in nests of colonial hosts.

**Argas** sp.

Scolopacidae: **Calidris temmincki**.

A shorebird.

**Argas (Argas) japonicus** Yamaguti, Clifford and Tipton, 1968.

Hirundinidae: **Delichon urbica**.

Swallow, from Japan.

**Argas** sp. near **arboreus**.

Ciconiidae: **Anastomus oscitans**.

Strigidae: **Otus bakkamoena**.

Ardeidae: **Nycticorax nycticorax**.

First two associated in a breeding colony in Thailand, third from a breeding colony in Taiwan. Also from nests of egrets at Pulau Dua, W. Java.

## IXODIDAE

Hard ticks, worldwide distribution, attack birds and mammals, and are of medical importance as vectors of rickettsiae and viruses. Five genera and 13 species.

**Amblyomma** Koch, 1844.

Reported from Ardeidae 1 species, Phasianidae 1, Cuculidae 2, Strigidae 2, Upupidae 1, Capitonidae 1, Pittidae 5, Timaliidae 2, Turdidae 2, Sturnidae 1. Wide distribution among unrelated hosts.

**Amblyomma** sp.

Phasianidae: **Arborophila cambodiana**.

Cuculidae: **Cacomantis merulinus**, **Centropus sinensis**.

Strigidae: **Otus bakkamoena**, **O. spilocephalus**.

Upupidae: **Upupa epops**.

Pittidae: **Pitta erythrogaster**, **P. granatina**, **P. guajana**, **P. moluccensis**, **P. sordida**.

Timaliidae: **Pellorneum ruficeps**, **Stachyris poliocephala**.

Turdidae: **Copsychus malabaricus**, **Turdus cardis**.

Sturnidae: **Sturnus tristis**.

Most hosts were tropical forest species.

**Amblyomma geoemydae** (Cantor), 1847.

Ardeidae: **Dupetor flavicollis**.

Capitonidae: **Megalaima mystacophanes**.

Pittidae: **Pitta moluccensis**, **P. sordida**.

Timaliidae: **Stachyris poliocephala**.

Tropical forest species.

**Dermacentor** Koch, 1844.

Reported from Turdidae 1 species, Dicaeidae 1.

**Dermacentor** sp.

Turdidae: **Copsychus malabaricus.**

Dicaeidae: **Prionochilus johanna.**

Tropical forest species.

**Haemaphysalis** Koch, 1844.

Reported from Phasianidae 6 species, Columbidae 2, Cuculidae 3, Strigidae 2, Upupidae 1, Picidae 1, Pittidae 4, Alaudidae 2, Hirundinidae 1, Corvidae 1, Timaliidae 8, Turdidae 10, Sylviidae 4, Muscicapidae 4, Motacillidae 1, Sturnidae 3, Nectariniidae 1, Fringillidae 1. Widely distributed unrelated hosts.

**Haemaphysalis** sp.

Phasianidae: **Arborophila cambodiana, Coturnix chinensis, Lophura leucomelana.**

Cuculidae: **Carpococcyx renaudi.**

Strigidae: **Glaucidium brodiei, Otus spilocephalus.**

Pittidae: **Pitta moluccensis, P. sordida, P. soror.**

Alaudidae: **Mirafra javanica.**

Corvidae: **Garrulus glandarius.**

Timaliidae: **Macronus gularis, Pellorneum ruficeps, Pomatorhinus erythrogyne,**  
**Trichastoma abbotii, T. rostratum.**

Turdidae: **Erithacus cyane, Myiomela leucura, Tarsiger cyanurus, Turdus hortulorum,**  
**T. obscurus, Zosterornis citrina, Z. dauma, Z. marginata.**

Sylviidae: **Locustella certhiola, L. lanceolata.**

Muscicapidae: **Muscicapa sundara, M. tickelliae.**

Motacillidae: **Anthus hodgsoni.**

Sturnidae: **Sturnus nigricollis.**

Fringillidae: **Emberiza rutila.**

**Haemaphysalis bispinosa** Neumann, 1897.

Picidae: **Picus vittatus.**

Muscicapidae: **Muscicapa rufigaster.**

Sturnidae: **Sturnus tristis.**

Nectariniidae: **Anthreptes malacensis.**

Associated in coconut-mangrove plantations of Malaya.

**Haemaphysalis doenitzi** Warburton and Nuttall, 1909.

Cuculidae: **Centropus sinensis, C. toulou.**

Alaudidae: **Mirafra assamica, M. javanica.**

Hirundinidae: **Riparia riparia.**

Pittidae: **Pitta brachyura, P. moluccensis, P. sordida.**

Timaliidae: **Garrulax erythrocephalus, Stachyris maculata.**

Turdidae: **Zosterornis dauma, Z. marginata.**

Sylviidae: **Prinia flaviventris.**



Sturnidae: **Sturnus javanicus, S. nigricollis.**

Nectarinidae: **Anthreptes malacensis.**

All tropical species that walk on or go to the ground.

**Haemaphysalis intermedia** Warburton & Nuttall, 1909.

Cuculidae: **Centropus sinensis.**

Columbidae: **Streptopelia chinensis, Streptopelia senegalensis.**

Upupidae: **Upupa epops.**

Timaliidae: **Turdoides striatus.**

Turdidae: **Copsychus saularis.**

Sturnidae: **Sturnus tristis.**

All brushland surface feeding birds, of India.

**Haemaphysalis kutchensis** Hoogstraal and Trapido, 1963.

Timaliidae: **Turdoides striatus.**

Muscicapidae: **Saxicoloides fulicata.**

Motacillidae: **Anthus hodgsoni**

Indian ground feeding forms.

**Haemaphysalis ornithophila** Hoogstraal and Kohls, 1959.

Phasianidae: **Lophura leucomelana.**

Turdidae: **Zoothera marginata.**

Ground feeding birds, from Nepal and Thailand.

**Haemaphysalis nadchatrami** Hoogstraal, Trapido, and Kohls, 1965.

Cuculidae: **Centropus sinensis.**

From Thailand.

**Haemaphysalis wellingtoni** Nuttall and Warburton, 1907.

Phasianidae: **Gallus gallus, Lophura erythrophthalma, Rollulus roulroul**

Cuculidae: **Centropus sinensis, C. toulou.**

Pittidae: **Pitta moluccensis.**

Turdidae: **Copsychus saularis, Turdus cardis, T. hortulorum, Zoothera dauma, Z. marginata.**

Sylviidae: **Prinia socialis**

All ground feeding species.

**Hyalomma** Koch, 1844.

Reported from Timaliidae 1 species, Pycnonotidae 1, Turdidae 2,

Motacillidae 2.

**Hyalomma** sp.

Timaliidae: **Turdoides striatus.**

Pycnonotidae: **Pycnonotus cafer.**

Turdidae: **Erithacus svecicus.**

Motacillidae: **Anthus hodgsoni, Motacilla citreola.**

**Hyalomma marginatum isaaci** Sharif, 1927.

Turdidae: **Phoenicurus ochrurus.**

Thrush, from India.

**Ixodes** Latreille, 1795

Reported from Procellariidae 1 species, Accipitridae 1, Picidae 2, Pittidae 1, Dicruridae 1, Timaliidae 7, Turdidae 12, Sylviidae 1, Muscicapidae 1, Fringillidae 2. Unrelated hosts.

**Ixodes** sp.

Accipitridae: **Accipiter gentilis**.

Picidae: **Blythipicus pyrrhotis**, **Dinopium javanense**.

Pittidae: **Pitta soror**.

Dicruridae: **Dicrurus leucophaeus**.

Timaliidae: **Actinodura ramsayi**, **Garrulax erythrocephalus**, **Pellorneum ruficeps**, **Stachyris ruficeps**, **S. rufifrons**, **Trichastoma tickelli**.

Turdidae: **Brachypteryx leucophrys**, **Erithacus cyane**, **Myiomela diana**, **M. leucura**, **Tarsiger cyanurus**, **Turdus pallidus**, **Zoothera citrina**, **Z. dauma**, **Z. marginata**.

Muscicapidae: **Muscicapa grandis**.

Fringillidae: **Emberiza elegans**, **E. variabilis**.

Nearly all ground feeding species.

**Ixodes granulatus** Supino, 1897.

Timaliidae: **Pellorneum capistratum**.

Sylviidae: **Locustella lanceolata**.

Tropical forest species.

**Ixodes philipi** Keirans and Kohls, 1970.

Procellariidae: **Puffinus leucomelas**.

**Ixodes spinicoxalis** Neumann, 1899.

Turdidae: **Zoothera sibirica**.

A migrant, taken in Malaya.

**Ixodes turdus** (Scopoli), 1763.

Turdidae: **Erithacus cyane**, **Turdus naumanni**, **T. obscurus**.

Ground feeding thrushes, taken in Japan.

**EREYNETIDAE**

Predacious forms found among lichens and other species and associated with snails, birds, mammals, and amphibians. Two genera, 3 species.

**Boydaia** Womersley, 1953.

Reported from Pycnonotidae 3 species, Muscicapidae 1. Lowland forest birds, from Malaya.

**Boydaia pycnonoti** Fain, 1956.

Pycnonotidae: **Pycnonotus goiavier**, **P. erythropthalmus**, **P. simplex**.

Lowland forest edge bulbuls, from Malaya.

**Boydaia spatulata** (Fain), 1955.

Muscicapidae: **Muscicapa rufigastra**.

Mangrove forest flycatcher, from Malaya.

**Ereynetoides** Fain and Nadchatram, 1962.

Reported from Nectariniidae 1 species.

**Ereynetoides malayi** Fain and Nadchatram, 1962.

Nectariniidae: **Arachnothera longirostris**.

A forest edge spiderhunter, from Malaya.

### HARPYRHYNCHIDAE

Parasites of vertebrates, may cause tumors on birds. One genus.

**Harpyrhynchus** Megnin, 1877.

Reported from Coraciidae 1 species.

**Harpyrhynchus** sp.

Coraciidae: **Eurystomus orientalis**.

Canopy bird of tropical and temperate forests.

### CHEYLETIDAE

Mainly free living predators, but also occur on birds and other vertebrates. One genus.

**Neochyletiella** Baker, 1949.

Reported from Fringillidae 1 species.

**Neochyletiella** sp.

Fringillidae: **Emberiza cioides**.

Farmyard species, from Japan and Korea.

### TROMBICULIDAE

Parasites of vertebrates. Important zoonoses vectors. Worldwide in distribution. Seventeen genera, 44 species.

**Ascoschoengastia** Ewing, 1946.

Reported from Picidae 2 species, Timaliidae 1. Forest species.

**Ascoschoengastia (Laurentella) daria** (Traub and Audy), 1953.

Picidae: **Dinopium javanense**.

Woodpeckers of coconut groves, from Malaya.

**Ascoschoengastia (Laurentella) lorius** (Gunther), 1952.

Picidae: **Picus vittatus**.

Timaliidae: **Stachyris nigricollis**.

From lowland forests of Malaya.

**Blankaartia** Oudemans, 1911.

Reported from Ardeidae 2 species, Rallidae 1, Cuculidae 1, Sylviidae 1, all lowland species.

**Blankaartia acuscutellaris** Walch, 1922.

Ardeidae: **Ixobrychus cinnamomeus, I. sinensis.**

Rallidae: **Rallus striatus.**

Cuculidae: **Centropus toulou.**

Sylviidae: **Locustella lanceolata.**

Lowland birds, of Malaya.

**Eutrombicula** Ewing, 1938.

Reported from Ardeidae 1 species, Pittidae 2, Timaliidae 3, Turdidae 1, Muscicapidae 1. Unrelated hosts.

**Eutrombicula wichmanni** (Oudemans), 1905.

Ardeidae: **Dupetor flavicollis.**

Pittidae: **Pitta moluccensis, P. sordida.**

Timaliidae: **Garrulax erythrocephalus, Pellorneum capistratum, Trichostoma malaccense.**

Turdidae: **Erithacus calliope.**

Muscicapidae: **Muscicapa rufilata.**

Tropical forest species.

**Gahrlipeia** Oudemans, 1912.

Reported from Muscicapidae 1 species.

**Gahrlipeia fletcheri** Gater, 1932.

Muscicapidae: **Muscicapa rufigastra.**

Mangrove flycatcher of Malaya.

**Helenicula** Audy, 1954.

Reported from Phasianidae 1 species, Timaliidae 4, Muscicapidae 1, Turdidae 2, Motacillidae 1, Fringillidae 1. Unrelated hosts.

**Helenicula kohlsi** (Philip and Woodward), 1946.

Phasianidae: **Coturnix chinensis.**

A quail, in the Philippines.

**Helenicula lanius** (Radford), 1946.

Timaliidae: **Pomatorhinus schisticeps.**

A forest babbler, from Thailand.

**Helenicula miyagawai** (Sasa, Kumada, and Miura 1951).

Fringillidae: **Emberiza rustica.**

**Helenicula scanloni** Domrow and Nadchatram, 1964.

Muscicapidae: **Muscicapa banyumas.**

Forest flycatchers, from Thailand.

**Helenicula simena** (Hsu and Chen), 1957.

Timaliidae: **Pellorneum ruficeps**, **Stachyris nigriceps**, **Trichastoma tickelli**.

Turdidae: **Erithacus calliope**, **Zoothera dauma**.

Motacillidae: **Anthus hodgsoni**.

Tropical forest species both resident and migrant, from Thailand.

**Leptotrombidium** Berlese, 1912.

Reported from Ardeidae 2 species, Phasianidae 3, Turnicidae 2, Rallidae 4, Columbidae 2, Cuculidae 3, Strigidae 4, Podargidae 1, Caprimulgidae 1, Apodidae 1, Alcedinidae 3, Meropidae 1, Capitonidae 1, Picidae 2, Pittidae 2, Campephagidae 1, Corvidae 1, Paridae 3, Timaliidae 28, Paradoxornithidae 2, Pycnonotidae 15, Turdidae 18 Sylviidae 6, Muscicapidae 12, Motacillidae 1, Nectariniidae 1, Fringillidae 3. A catholic feeding genus with 123 species of hosts.

**Leptotrombidium** sp.

Ardeidae: **Ixobrychus cinnamomeus**.

Timaliidae: **Napothera macrodactyla**, **Garrulax caerulatus**, **G. chinensis**, **Pomatorhinus schisticeps**, **P. erythrogenys**, **Pellorneum ruficeps**, **Stachyris poliocephala**, **Trichastoma tickelli**.

Paradoxornithidae: **Paradoxornis webbiana**.

Turdidae: **Copsychus saularis**, **Erithacus calliope**, **Zoothera citrina**.

Sylviidae: **Prinia rufescens**.

Motacillidae: **Anthus hodgsoni**.

Fringillidae: **Emberiza cioides**, **E. pusilla**.

**Leptotrombidium (Leptotrombidium) akamushi** (Brumpt), 1910.

Phasianidae: **Coturnix chinensis**.

Turnicidae: **Turnix suscitator**.

Cuculidae: **Centropus sinensis**, **C. toulou**.

Timaliidae: **Malacopteron magnum**, **Trichastoma rostratum**.

Pycnonotidae: **Pycnonotus simplex**.

Turdidae: **Turdus obscurus**.

Muscicapidae: **Rhipidura albicollis**.

Mainly forest edge species, from Malaya.

**Leptotrombidium arenicola** Traub, 1960.

Timaliidae: **Trichastoma abbotti**.

Forest edge species, from Malaya.

**Leptotrombidium arvina** (Schluger et. al.), 1960.

Pittidae: **Pitta moluccensis**, **P. sordida**.

Timaliidae: **Pellorneum ruficeps**.

Turdidae: **Erithacus cyane**, **Zoothera citrina**.

Motacillidae: **Anthus hodgsoni**.

Nectariniidae: **Arachnothera longirostra**.

Lowland forest species, from Thailand.

**Leptotrombidium bhattipadense** (Joshee), 1964.

Turnicidae: **Turnix suscitator.**

Cuculidae: **Eudypamys scolopacea.**

Timaliidae: **Turdoides caudatus.**

**Leptotrombidium bodense** (Gunther), 1940.

Columbidae: **Chalcophaps indica.**

Rallidae: **Rallina fasciata.**

Pittidae: **Pitta moluccensis, P. sordida,**

Timaliidae: **Alcippe castaneiceps, Stachyris leucotis.**

Turdidae: **Erithacus cyane.**

Forest species of Malaya.

**Leptotrombidium deliense** (Walch), 1922.

Ardeidae: **Gorsachius melanolophus.**

Phasianidae: **Coturnix chinensis, Lophura erythrophthalma.**

Turnicidae: **Turnix tanki.**

Rallidae: **Amaurornis phoenicurus, Porzana fusca, Rallina fasciata, Rallus striatus.**

Columbidae: **Chalcophaps indica, Macropygia unchall.**

Cuculidae: **Centropus toulou.**

Picidae: **Blythipicus pyrrhotis, Picus vittatus.**

Pittidae: **Pitta moluccensis, P. sordida.**

Corvidae: **Platylophus galericulatus.**

Strigidae: **Otus bakkamoena, O. rufescens, O. scops.**

Podargidae: **Batrachostomus stellatus.**

Alcedinidae: **Ceyx erithacus, C. rufidorsus, Halcyon concreta.**

Meropidae: **Nyctiornis amictus.**

Paridae: **Sylviparus modestus.**

Timaliidae: **Alcippe castaneiceps, Garrulax chinensis, G. erythrocephalus, G. moniligerus, Macronus gularis, M. ptilosus, Malacopteron affinis, M. cinereum, M. magnum, Napothera brevicaudata, N. macrodactylus, Pellorneum capistratum, P. ruficeps, Pomatorhinus erythrognys, Stachyris erythroptera, S. leucotis, S. maculata, S. nigriceps, S. nigricollis, S. poliocephala, Trichastoma abbotti, T. bicolor T. malaccensis, T. rostratum, T. tickelli.**

Pycnonotidae: **Criniger ochraceus, Hypsipetes criniger, Pycnonotus brunneus, P. erythrophthalmos, P. goiavier, P. simplex.**

Turdidae: **Copsychus malabaricus, C. pyrropygus, Erithacus calliope, E. cyane, Myiomela leucura, Myiophoneus caeruleus, Turdus obscurus, Zosterops citrina, Z. sibirica.**

Sylviidae: **Acrocephalus arundinaceus.**

Muscicapidae: **Hypothymis azurea, Muscicapa banyumas, M. rubeculoides, M. rufilata, M. tickelliae, Rhinomyias brunneata, R. umbratilis, Terpsiphone paradisi.**

Motacillidae: **Anthus hodgsoni**.

Nectariniidae: **Arachnothera longirostris**.

Fringillidae: **Emberiza pusilla**.

Widespread host selection, mainly in tropical forests of Malaya and Thailand.

**Leptotrombidium (L.) elisbergi** Traub and Lakshana, 1966.

Turdidae: **Erithacus calliope**.

Palaeartic migrant, to Thailand.

**Leptotrombidium fulleri** (Ewing), 1945.

Paridae: **Parus modestus**.

**Leptotrombidium keukenschrijveri** (Walch), 1923.

Phasianidae: **Coturnix chinensis**.

Rallidae: **Rallina fasciata**.

Pittidae: **Pitta moluccensis**, **P. sordida**.

Timaliidae: **Stachyris leucotis**.

Turdidae: **Turdus obscurus**,

Sylviidae: **Locustella lanceolata**.

Philippine and Malayan hosts.

**Leptotrombidium lanceolata** (Womersley), 1952.

Turdidae: **Erithacus cyane**.

Palaeartic migrant, to Malaya.

**Leptotrombidium nakatae** Nadchatram and Traub, 1946.

Timaliidae: **Stachyris nigriceps**.

Forest babbler, in Thailand.

**Leptotrombidium rapmundi** Nadchatram and Upham, 1966.

Pittidae: **Pitta moluccensis**.

Coastal forests of Malaya.

**Leptotrombidium scanloni** Traub and Lakshana, 1966.

Turnicidae: **Turnix tanki**.

Timaliidae: **Napothera brevicaudata**, **Pomatorhinus schisticeps**.

Sylviidae: **Prinia rufescens**.

Motacillidae: **Anthus hodgsoni**.

Thailand species from several habitats.

**Leptotrombidium scutellare** (Nagayo et. al.) 1920.

Phasianidae: **Bambusicola fytchii**.

Turnicidae: **Turnix tanki**.

Strigidae: **Otus spilocephalus**.

Camprimulgidae: **Eurostopodus macrotis**.

Capitonidae: **Megalaima franklinii**.

Picidae: **Blythipicus pyrrhotis**.

Campephagidae: **Tephrodornis virgatus**.

Paridae: **Sylviparus modestus**.

Timaliidae: *Actinodura ramsayi*, *Alcippe morrisonia*, *Garrulax chinensis*,  
*G. erythrocephalus*, *G. leucolophus*, *G. milnei*, *Heterophasia melanoleuca*,  
*Pellorneum albiventre*, *P. ruficeps*, *Pomatorhinus erythrognys*, *P.*  
*schisticeps*, *Stachyris nigriceps*, *Timalia pileata*, *Trichastoma tickelli*,  
*Yuhina flavicollis*,

Paradoxornithidae: *Paradoxornis guttaticollis*.

Pycnonotidae: *Criniger pallidus*, *Hypsipetes flavala*, *H. mclellandii*, *Pycnonotus*  
*aurigaster*, *P. flavescens*, *P. jocosus*, *P. xanthorrhous*, *Spizixos canifrons*.

Turdidae: *Cochoa purpurea*, *Erithacus calliope*, *Hodgsonius phoenicuroides*,  
*Monticola solitarius*, *Myiomela leucura*, *Saxicola ferea*, *Tarsiger chrysaeus*,  
*T. cyanurus*, *Turdus obscurus*, *Zoothera dauma*.

Sylviidae: *Cettia pallidipes*, *Prinia atrogularis*, *P. rufescens*, *Seicercus burkii*.

Muscicapidae: *Muscicapa banyumas*, *M. grandis*, *M. monileger*, *M. sundara*.

Motacillidae: *Anthus hodgsoni*.

Fringillidae: *Emberiza pusilla*, *E. rutila*.

Mostly forest species, of Thailand.

**Leptotrombidium subintermedium** (Jameson and Toshioka), 1954.

Paridae: *Parus ater*, *Parus monticolus*

Forest birds, from Taiwan.

**Leptotrombidium sylvestre** (Audy and Traub), 1950.

Apodidae: *Chaetura gigantea*.

A swift from the Philippines.

**Lorillatum** Nadchatram, 1963.

Reported from Motacillidae 1 species.

**Lorillatum** sp.

Motacillidae: *Motacilla alba*.

**Mackiena** Traub and Evans, 1950.

Reported from Alcedinidae 1 species.

**Mackiena (Tinpinna) migratoria** Nadchatram and Wilson, 1969.

Alcedinidae: *Alcedo atthis*.

Migrant kingfisher, from Korea.

**Neoschoengastia** Ewing 1929.

Reported from Phasianidae 1 species, Strigidae 1, Alcedinidae 4, Coraciidae 1,  
Pittidae 3, Paridae 1, Paradoxornithidae 1, Turdidae 6, Muscicapidae 2. Unrelated hosts.

**Neoschoengastia** sp.

Strigidae: *Otus spilocephalus*.

Pittidae: *Pitta sordida*.

Turdidae: *Brachypteryx leucophrys*, *Erithacus cyane*, *Myiomela leucura*.



**Neoschoengastia gallinarum** (Hatori), 1920.

Phasianidae: **Lophura erythrophthalma**.

A Malayan forest pheasant.

**Neoschoengastia heynemani** Nadchatram and Upham, 1966.

Alcedinidae: **Alcedo euryzona**, **A. meninting**, **Halcyon smyrnensis**.

Paridae: **Parus elegans**.

Lowland forest birds, of the Philippines.

**Neoschoengastia longipes** Nadchatram, 1967.

Paradoxornithidae: **Paradoxornis guttaticollis**.

Turdidae: **Erithacus calliope**, **E. cyane**, **Turdus obscurus**.

Muscicapidae: **Muscicapa** sp.

Forest birds, of Thailand.

**Neoschoengastia monticola** Wharton and Hardcastle, 1946.

Alcedinidae **Halcyon pileata**.

A migrant kingfisher to Malayan farmlands.

**Neoschoengastia solitus** Nadchatram, 1967.

Coraciidae: **Eurystomus orientalis**.

Pittidae: **Pitta cyanea**, **P. moluccensis**, **P. sordida**.

Turdidae: **Brachypteryx leucophrys**, **Erithacus cyane**, **Myiomela leucura**, **Zoothera citrina**.

Muscicapidae: **Muscicapa banyumas**, **M. hainana**.

Mainly mountain forest birds, of Thailand.

**Neotrombicula** Hirst, 1915.

Reported from Paradoxornithidae 1 species.

**Neotrombicula** sp.

Paradoxornithidae: **Paradoxornis webbiana**.

A Korean woodland babbler.

**Odontacarus** Ewing, 1929.

Reported from Cuculidae 1 species, Columbidae 1, Rallidae 1, Pittidae 3, Pycnonotidae 1, Timaliidae 7, Turdidae 3, Muscicapidae 3.

**Odontacarus audyi** (Radford), 1946

Cuculidae: **Clamator coromandus**.

Columbidae: **Chalcophaps indica**.

Rallidae: **Rallina fasciata**.

Pittidae: **Pitta erythrogaster**, **P. moluccensis**, **P. sordida**.

Pycnonotidae: **Pycnonotus simplex**.

Timaliidae: **Napothera macrodactyles**, **Pomatorhinus ochraceiceps**, **Stachyris**

**maculata**, **S. nigriceps**, **S. poliocephala**, **Trichastoma abbotti**, **T. malaccense**.

Turdidae: **Erithacus cyane**, **Hodgsonius phoenicuriodes**, **Zoothera citrina**.

Muscicapidae: **Muscicapa zanthopygia**, **Philentoma pyrrhoptera**, **Rhinomyias brunneata**.

Mixed group of tropical forest and non-forest species.

**Schoengastia** Oudemans, 1910.

Reported from Ardeidae 1 species, Pittidae 3, Timaliidae 1. Unrelated hosts.

**Schoengastia dartevillei** Vercammen-Grandjean, 1958.

Timaliidae: **Turdoides caudatus**.

Indian ground feeding babbler.

**Schoengastia rectangulare** (Womersley), 1952.

Pittidae: **Pitta erythrogaster**.

Philippine ground feeding pitta.

**Schoengastia vieta** Gater, 1932.

Ardeidae: **Dupetor flavicollis**.

Pittidae: **Pitta moluccensis**, **P. sordida**.

Ground feeding forest species, from Malaya.

**Siseca** Audy, 1956.

Reported from Rallidae 1 species, Pittidae 2, Timaliidae 1, Turdidae 1,

Muscicapidae 1.

**Siseca rara** (Walch), 1923.

Rallidae: **Rallina fasciata**.

Pittidae: **Pitta moluccensis**, **P. sordida**.

Timaliidae: **Pellorneum ruficeps**.

Turdidae: **Copsychus malabaricus**.

Muscicapidae: **Muscicapa tickelliae**.

Birds of tropical lowland forests.

**Toritrombicula** Sasa, 1953.

Reported from Ardeidae 1 species, Rallidae 1, Columbidae 2, Caprimulgidae 1, Strigidae 1, Trogonidae 1, Eurylaimidae 1, Pittidae 5, Timaliidae 5, Turdidae 4, Muscicapidae 9, Motacillidae 1. Unrelated hosts.

**Toritrombicula** sp.

Pittidae: **Pitta sordida**.

**Toritrombicula asa** Nadchatram, 1967.

Columbidae: **Macropygia phasianella**.

Pittidae: **Pitta erythrogaster**, **P. sordida**.

Birds of Philippine mountain forests.

**Toritrombicula densipiliata** (Walch), 1922.

Ardeidae: **Dupetor flavicollis**.

Rallidae: **Rallina fasciata**.

Columbidae: **Chalcophaps indica**.

Caprimulgidae: **Eurystopodus macrotis**.

Strigidae: **Otus rufescens.**

Trogonidae: **Harpactes diardi.**

Eurylaimidae: **Eurylaimus javanicus.**

Pittidae: **Pitta cyanea, P. moluccensis, P. soror, P. sordida.**

Timaliidae: **Pomatorhinus hypoleucos, Stachyris maculata, S. nigriceps, S. poliocephala, Trichastoma malaccense.**

Turdidae: **Copsychus malabaricus, Erithacus cyane, Turdus hortulorum, Zoothera citrina.**

Muscicapidae: **Muscicapa banyumas, M. cyanomelana, M. rubeculoides, M. rufilata, M. zanthopygia, Philentoma pyrrhoptera, Rhinomyias bruneata R. umbratilis.**

Motacillidae: **Anthus hodgsoni.**

From hosts widespread in tropical forests.

**Toritrombicula uphami** Nadchatram, 1967.

Pittidae: **Pitta moluccensis, P. sordida.**

Turdidae: **Erithacus cyane.**

Muscicapidae: **Muscicapa grandis, M. rubeculoides, M. zanthopygia, Rhinomyias brunneata.**

All from Malayan lowland forests.

**Trisetica** Traub and Evans, 1950.

Reported from Timaliidae 1 species.

**Trisetica melvini** (Traub and Evans), 1950

Timaliidae: **Stachyris nigriceps.**

A lowland forest babbler, of Thailand.

**Trombicula** Berlese, 1905.

Reported from Apodidae 1 species.

**Trombicula megaderma** Vercammen-Grandjean and Nadchatram, 1963.

Apodidae: **Chaetura cochinchinensis.**

A swift, from Thailand. A bat parasite probably picked up by the bird at roost in a cave.

**Walchiella** Ewing, 1931.

Reported from Pittidae 1 species, Timaliidae 5.

**Walchiella impar** (Gunther), 1939.

Timaliidae: **Macronus gularis, Stachyris maculata.**

Forest edge babbler, of Malaya.

**Walchiella oudemansi** (Walch), 1923.

Pittidae: **Pitta moluccensis.**

Timaliidae: **Macronus gularis, Pellorneum ruficeps, Stachyris maculatus, S. nigricollis, S. poliocephala.**

Birds of Malayan lowland forests.

## FEATHER MITES

Following is a section including 17 families of mites usually grouped under the common name of "Feather Mites" They are common on almost every species of bird, have a wide variety of forms and structure and are so numerous that the group as a whole is still poorly known. Many species have broad host preferences while others are restricted to single host species. This section has been prepared by Dr. W.T. Atyeo.

### CYTODITIDAE

Some species infest the air sacks of birds. One genus and 1 species.

**Cytonossus** Fain, 1960

Reported from Ploceidae 1 species.

**Cytonyssus andrei** Fain, 1960.

Ploceidae: **Lonchura maja**.

A grassland weaver, from Malaya.

### TURBINOPTIDAE

Mites associated with nasal cavities of birds. One genus, 1 species

**Passerrhinoptes** Fain, 1956.

Reported from Timaliidae 1 species.

**Passerrhinoptes andropadi** Fain, 1956.

Timaliidae: **Leiothrix argentauris**

A mountain forest babbler, from Malaya.

### ALLOPTIDAE

#### ALLOPTINAE

**Alloptes** Canestrini, 1879.

Reported from Scolopacidae 3 species, Laridae 1.

**Alloptes** sp.

Scolopacidae: **Philomachus pugnax**, **Tringa glareola**, **T. totanus**.

Laridae: **Sterna bergii**.

**Brephosceles** Hull, 1934.

Reported from Anatidae 1 species, Charadriidae 2.

**Brephosceles** sp.

Anatidae: **Nettapus coromandelianus**.

**Brephosceles charadrii** Dubinin, 1951.

Charadriidae: **Charadrius dubius**, **Vanellus leucurus**.

Plover, from Philippines; Lapwing, from India

**Psilobrephosceles** Peterson and Atyeo, 1968.

Reported from Rallidae 4 species.

**Psilobrephosceles ortyometrae** (Canestrini), 1878.

Rallidae: **Porzana cinerea**, **P. fusca**, **P. pusilla**, **P. tabuensis**  
Rails, from Philippines.

**Thysanocercus** Gaud and Mouchet, 1957.

Reported from Apodidae 3 species.

**Thysanocercus** sp.

Apodidae: **Collocalia esculenta**, **C. troglydytes**, **C. whiteheadi**.

## ALLOPTIDAE

### TROUESSARTIINAE

**Allanalges** Trouessart, 1886.

Reported from Cuculidae 4 species, Alcedinidae 1.

**Allanalges** sp.

Cuculidae: **Clamator coromandus**.

Alcedinidae: **Ceyx erithacus**.

**Allanalges podagricus** (Trouessart), 1886.

Cuculidae: **Cacomantis merulinus**, **Chrysococcyx malayanus**, **Surniculus lugubris**.

Forest birds, from Malaya.

**Bicentralges** Orwig, 1968.

Reported from Ardeidae 1, Picidae 1, Eurylaimidae 3, Timaliidae 16, Pycnonotidae 2,  
Muscicapidae 3, Nectariniidae 2, Of the 27 hosts, 23 were passerines.

**Bicentralges** sp.

Eurylaimidae: **Psarisomus dalhousiae**.

**Bicentralges caulatus** Orwig, 1968.

Timaliidae: **Alcippe castaneiceps**, **A. nipalensis**, **A. poioicephala**, **Heterophasia  
picaoides**, **Stachyris maculata**, **S. nigriceps**, **S. poliocephala**, **S. ruficeps**.

Pycnonotidae: **Hypsipetes mcclllandii**.

Babblers and a bulbul of tropical lowland and mountain forests.

**Bicentralges coalitus** Orwig, 1968.

Eurylaimidae: **Cymbirhynchus macrorhynchus**, **Eurylaimus javanicus**,

Muscicapidae: **Muscicapa rufigastra**.

Malayan lowland forest birds.

**Bicentralges discinctus** Orwig, 1968.

Timaliidae: **Minla strigula**.

Muscicapidae: **Muscicapa grandis**, **M. westermanni**.

Malayan birds of the cloud forest.

**Bicentralges leiophyllus** (Gaud and Mouchet), 1957.

Timaliidae: **Napothera brevicaudata**, **Garrulax mitratus**.

Birds of the cloud forest, in Malaya.

- Bicentralges longivasatus** Orwig, 1968.  
 Timaliidae: *Malacopteron affine*, *M. cinereum*, *M. magnum*, *Stachyris poliocephala*  
*Trichastoma bicolor*, *T. rostratum*.  
 Babblers from lowland forests, of Malaya.
- Bicentralges miscellus** Orwig, 1968.  
 Eurylaimidae: *Cymbirhynchus macrorhynchus*, *Eurylaimus javanicus*.  
 Pycnonotidae: *Criniger finschi*.  
 Malayan lowland forest birds.
- Bicentralges orientalis** Orwig, 1968.  
 Ardeidae: *Ixobrychus cinnamomeus*.  
 Picidae: *Picus vittatus*.  
 Eurylaimidae: *Cymbirhynchus macrorhynchus*.  
 Nectariniidae: *Anthreptes malacensis*, *Nectarinia chalcostetha*.  
 Birds of Malayan lowlands and cultivated areas.
- Bicentralges vebulla** Orwig, 1968.  
 Timaliidae: *Stachyris nigricollis*.  
 Lowland forest species, of Malaya.  
*Calcealges* Gaud, 1952.  
 Reported from Timaliidae 7, Sylviidae 5, Nectariniidae 1, Zosteropidae 1. All hosts passerines.
- Calcealges** sp.  
 Timaliidae: *Garrulax erythrocephalus*, *Macronus gularis*, *Stachyris ruficeps*.  
 Sylviidae: *Acrocephalus arundinaceus*, *Phylloscopus maculipennis*, *Prinia flaviventris*.  
 Nectariniidae: *Aethopyga eximia*.
- Calcealges cyathoplax** Gaud, 1952.  
 Timaliidae: *Stachyris chrysea*.  
 Babbler of cloud forest, in Malaya.
- Calcealges malayensis** Orwig, 1968.  
 Timaliidae: *Napothera brevicaudata*, *Malacopteron cinereum*.  
 Lowland forest babblers, of Malaya.
- Calcealges montanus** Orwig, 1968.  
 Sylviidae: *Phylloscopus trivirgatus*, *Seicercus montis*.  
 Tropical mountain forests, of Malaya.
- Calcealges viriosus** Orwig, 1968.  
 Timaliidae: *Alcippe castaneiceps*.  
 Cloud forest species, from Malaya.
- Calcealges yunkerii** Gaud, 1962.  
 Zosteropidae: *Zosterops palpebrosa*.  
 Woodland species, from Taiwan.

**Hemicalcealges** Gaud and Mouchet, 1957.

Reported from Sylviidae 1 species, Ploceidae 4.

**Hemicalcealges** sp.

Sylviidae: **Prinia flaviventris**.

Ploceidae: **Lonchura punctulata**, **L. leucogaster**.

**Hemicalcealges schistopygus** Orwig, 1968.

Ploceidae: **Lonchura maja**, **L. malacca**.

Grassland forms, from Malaya.

**Neocalcealges** Orwig, 1968.

Reported from Timaliidae 11 species, Pycnonotidae 1, Muscicapidae 2.

**Neocalcealges** sp.

Pycnonotidae: **Hypsipetes maclellandii**.

**Neocalcealges angustus** Orwig, 1968.

Timaliidae: **Stachyris erythroptera**, **Malacopteron cinereum**.

Malayan lowland forest birds.

**Neocalcealges cuspilobus** Orwig, 1968.

Timaliidae: **Alcippe nipalensis**, **Stachyris nigriceps**.

Muscicapidae: **Culicicapa ceylonensis**.

Mountain forest forms, from Malaya.

**Neocalcealges emarginatus** Orwig, 1968.

Timaliidae: **Leiothrix argentauris**, **Garrulax mitratus**.

Cloud forest forms, from Malaya.

**Neocalcealges inauditus** Orwig, 1968.

Timaliidae: **Minla cyanouroptera**, **M. strigula**.

Mountain forests, from Malaya.

**Neocalcealges segregatus** Orwig, 1968.

Timaliidae: **Garrulax mitratus**, **Heterophasia picaoides**, **Leiothrix argentauris**,

**Minla cyanouroptera**, **Stachyris nigriceps**, **S. poliocephala**.

Muscicapidae: **Rhipidura albicollis**.

Mountain forest birds, from Malaya.

**Neocalcealges undulatus** Orwig, 1968.

Timaliidae: **Heterophasia picaoides**.

Mountain forest babbler, from Malaya.

**Pseudalges** Trouessart, 1885.

Reported from Meropidae 2 species.

**Pseudalges analgoides** (Trouessart), 1885.

Meropidae: **Merops superciliosus**, **M. viridis**.

Bee-eaters of open country, from Malaya.

**Trouessartia** Canestrini, 1899.

Reported from Trogonidae 1, Alcedinidae 5, Coraciidae 1, Capitonidae 2, Eurylaimidae 2, Hirundinidae 2, Campephagidae 1, Dicruridae 8, Oriolidae 1, Corvidae 1, Paridae 2, Timaliidae 23, Paradoxornithidae 1, Pycnonotidae 18, Turdidae 26, Sylviidae 15, Muscicapidae 19, Pachycephalidae 2, Motacillidae 5, Laniidae 1, Sturnidae 9, Nectariniidae 3, Dicaeidae 1, Zosteropidae 2, Fringillidae 9, Ploceidae 9. The 26 families were represented by 169 host species.

**Trouessartia** sp.

Trogonidae: **Harpactes duvauceli**.

Alcedinidae: **Ceyx erithacus**, **Halcyon chloris**, **H. coromanda**, **H. pileata**, **H. smyrnensis**.

Coraciidae: **Eurystomus orientalis**.

Capitonidae: **Megalaima franklini**, **Psilopogon pyrolophus**.

Eurylaimidae: **Eurylaimus javanicus**, **Serilophus lunatus**.

Hirundinidae: **Hirundo daurica**, **H. tahitica**.

Campephagidae: **Lalage nigra**.

Dicruridae: **Dicrurus adsimilis**, **D. aeneus**, **D. annectans**, **D. balicassius**, **D. hottentottus**, **D. leucophaeus**, **D. paradiseus**, **D. remifer**.

Oriolidae: **Oriolus chinensis**.

Corvidae: **Platylophus galericulatus**.

Paridae: **Aegithalos caudatus**, **Parus ater**.

Timaliidae: **Alcippe castaneiceps**, **A. morrisonia**, **A. nipalensis**, **Garrulax erythrocephalus**, **G. mitratus**, **Heterophasia melanoleuca**, **H. picoides**, **Leiothrix argentaurea**, **Macronus gularis**, **Malacopteron cinereum**, **Minla cyanouroptera**, **M. strigula**, **Napothera brevicaudata**, **N. epilepidotus**, **Stachyris chrysaea**, **S. maculata**, **S. nigriceps**, **S. nigricollis**, **S. poliocephala**, **S. ruficeps**, **Trichastoma abbotti**, **T. rostratum**, **Yuhina castaneiceps**.

Paradoxornithidae: **Paradoxornis webbiana**.

Pycnonotidae: **Criniger finschi**, **C. phaeocephalus**, **Hypsipetes amaurotis**, **H. criniger**, **H. madagascariensis**, **H. mccllellandii**, **H. philippinus**, **H. viridescens**, **Pycnonotus atriceps**, **P. blanfordi**, **P. brunneus**, **P. cafer**, **P. goiavier**, **P. jocosus**, **P. melanicterus**, **P. melanoleucos**, **P. plumosus**, **P. sinensis**.

Turdidae: **Brachypteryx leucophrys**, **B. montanus**, **Copsychus luzoniensis**, **C. malabaricus**, **C. pyrropygus**, **C. saularis**, **Enicurus leschenaulti**, **E. ruficapillus**, **E. schistaceus**, **Erithacus calliope**, **E. cyane**, **E. svecicus**, **Miomela diana**, **M. leucura**, **Miyophoneus coeruleus**, **M. glaucinus**, **Phoenicurus ochrurus**, **Saxicola ferrea**, **S. torquata**, **Tarsiger cyanurus**, **Turdus chrysolaus**, **T. obscurus**, **T. pallidus**, **Zoothera citrina**, **Z. dauma**, **Z. sibirica**.

Sylviidae: **Acrocephalus bistrigiceps**, **Cisticola juncidis**, **Locustella certhiola**, **L. fasciolata**, **L. lanceolata**, **Orthotomus sutorius**, **Phylloscopus borealis**, **P. davisoni**, **P. fuscatus**, **P. inornatus**, **Prinia flaviventris**, **P. subflava**, **Sylvia curruca**.



- Muscicapidae: *Culicicapa ceylonensis*, *Hypothymis azurea*, *Muscicapa banyumas*, *M. cyanomelana*, *M. grandis*, *M. hyperythra*, *M. indigo*, *M. moniliger*, *M. mugimaki*, *M. rufigastra*, *M. solitarius*, *M. sundara*, *M. thalassina*, *Rhipidura albicollis*, *R. cyaniceps*, *R. javanica*, *R. perlata*, *Terpsiphone cyanescens*, *T. paradisi*.
- Pachycephalidae: *Pachycephala cinerea*, *P. philippensis*.
- Motacillidae: *Anthus novaeseelandiae*, *Dendronanthus indicus*, *M. cinerea*.
- Laniidae: *Lanius nasutus*.
- Sturnidae: *Aplonis panayensis*, *Gracupica melanoptera*, *Sarcops calvus*, *Sturnus cineraceus*, *S. contra*, *S. javanicus*, *S. malabaricus*, *S. nigricollis*.
- Nectariniidae: *Aethopyga eximia*, *Anthreptes malacensis*, *Arachnothera longirostra*.
- Dicaeidae: *Dicaeum cruentatum*.
- Zosteropidae: *Zosterops japonica*, *Z. palpebrosa*.
- Fringillidae: *Emberiza aureola*, *E. elegans*, *E. fucata*, *E. rustica*, *E. rutila*, *E. spodocephala*, *E. variabilis*, *Eophona migratoria*, *Pyrrhula nipalensis*.
- Ploceidae: *Estrilda amandava*, *Lonchura leucogastroides*, *L. maja*, *L. punctulata*, *L. striata*, *Padda oryzivora*, *Ploceus philippinus*.
- Trouessartia appendiculata** (Berlese), 1884.  
Hirundinidae: *Hirundo rustica*.
- Trouessartia bifurcata** (Trouessart), 1885.  
Sylviidae: *Acrocephalus concinens*.
- Trouessartia crucifer** Gaud, 1957.  
Hirundinidae: *Hirundo rustica*.
- Trouessartia jedliczkai** (Zimmerman), 1894.  
Motacillidae: *Motacilla alba*.
- Trouessartia lonchurae** (Sugimoto), 1942.  
Ploceidae: *Lonchura leucogastra*, *L. malacca*.
- Trouessartia motacillae** Dubinin, 1952.  
Motacillidae: *Motacilla flava*.
- Trouessartia piscicauda** Gaud, 1957.  
Hirundinidae: *Riparia riparia*.
- Trouessartia pygoceras** (Sundevall), 1837.  
Sturnidae: *Sturnus tristis*.
- Trouessartia trouessarti** Oudemans, 1904.  
Sylviidae: *Acrocephalus arundinaceus*.  
*Uniscutalges* Orwig, 1968.  
Reported from Paridae 1 species.
- Uniscutalges** sp.  
Paridae: *Parus major*.

## ANALGIDAE

Mites found attached to feathers on living birds. Feed upon skin scales and feather debris. Most species undetermined.

**Analges** Nitzsch, 1818.

Reported from Coraciidae 1 species, Alaudidae 1, Dicruridae 1, Paridae 5, Sittidae 1, Timaliidae 10, Pycnonotidae 12, Turdidae 17, Sylviidae 2, Muscicapidae 10, Pachycephalidae 1, Motacillidae 5, Laniidae 1, Sturnidae 4, Nectariniidae 2, Zosteropidae 1, Fringillidae 15, Ploceidae 1. Species with wide range of hosts.

**Analges** sp.

Coraciidae: *Eurystomus orientalis*.

Alaudidae: *Galerida cristata*.

Dicruridae: *Dicrurus annectans*.

Paridae: *Aegithalos caudatus*, *Parus ater*, *P. major*, *P. palustris*, *P. varius*.

Sittidae: *Sitta europaea*.

Timaliidae: *Garrulax erythrocephalus*, *G. mitratus*, *Heterophasia melanoleuca*, *H. picaoides*, *Leiothrix argentauris*, *Macronus gularis*, *Minla cyanouroptera*, *Stachyris erythroptera*, *S. poliocephala*, *Trichastoma rostratum*.

Pycnonotidae: *Criniger finschi*, *C. phaeocephalus*, *Hypsipetes amaurotis*, *H. criniger*, *H. mcclllandii*, *H. viridescens*, *Pycnonotus cafer*, *P. finlaysoni*, *P. flavescens*, *P. goiavier*, *P. jocosus*, *P. melanicterus*.

Turdidae: *Brachypteryx leucophrys*, *B. montanus*, *Copsychus malabaricus*, *C. saularis*, *Enicurus leschenaulti*, *E. ruficapillus*, *Erithacus cyane*, *Myiomela diana*, *M. leucura*, *Miyophoneus coeruleus*, *Phoenicurus aureus*, *Turdus naumanni*, *T. obscurus*, *T. pallidus*, *Zoothera citrina*, *Z. dauma*, *Z. sibirica*.

Sylviidae: *Acrocephalus arundinaceus*, *Phragamaticola aedon*.

Muscicapidae: *Culicicapa ceylonensis*, *Muscicapa cyanomelana*, *M. grandis*, *M. hyperythra*, *M. indigo*, *M. mugimaki*, *M. rufigastra*, *M. sundara*, *Rhipidura albicollis*, *R. javanica*.

Pachycephalidae: *Pachycephala cinerea*.

Motacillidae: *Anthus hodgsoni*, *Dendronanthus indicus*, *Motacilla alba*, *M. cinerea*, *M. flava*.

Laniidae: *Lanius vittatus*.

Sturnidae: *Ampeliceps coronatus*, *Aplonis panayensis*, *Sarcops calvus*, *Sturnus nigricollis*.

Nectariniidae: *Arachnothera longirostra*, *A. magna*.

Zosteropidae: *Zosterops palpebrosa*.

Fringillidae: *Carduelis sinica*, *Carpodacus erythrinus*, *C. roseus*, *Emberiza aureola*, *E. cioides*, *E. elegans*, *E. fucata*, *E. rustica*, *E. rutila*, *E. spodocephala*, *E. variabilis*, *E. yessoensis*, *Fringilla montifringilla*, *Pyrrhula nipalensis*, *Uragus sibiricus*.

Ploceidae: *Lonchura maja*.

**Anhemialges** Gaud, 1958.

Reported from Picidae 1, Hirundinidae 3, Timaliidae 12, Pycnonotidae 1, Sylviidae 3, Nectariniidae 1, Zosteropidae 1, Fringillidae 1, Ploceidae 1.

**Anhemialges** sp.

Picidae: **Picus vittatus**.

Hirundinidae: **Delichon urbica**, **Hirundo rustica**, **H. tahitica**.

Timaliidae: **Alcippe castaneiceps**, **A. nipalensis**, **Garrulax erythrocephalus**, **Macronus gularis**, **M. ptilosus**, **Minla strigula**, **Napothera brevicaudata**, **Pellorneum ruficeps**, **Stachyris nigricollis**, **S. poliocephala**, **S. ruficeps**, **Yuhina castaniceps**.

Pycnonotidae: **Pycnonotus melanoleucos**.

Sylviidae: **Cettia squameiceps**, **Phylloscopus borealis**, **Seicercus burkii**.

Nectariniidae: **Hypogramma hypogrammica**.

Zosteropidae: **Zosterops palpebrosa**.

Fringillidae: **Emberiza rutila**.

Ploceidae: **Lonchura maja**.

**Berlesella** Trouessart, 1919.

Reported from Apodidae 4 species.

**Berlesella** sp.

Apodidae: **Chaetura gigantea**, **Collocalia esculenta**, **C. troglodytes**, **C. whiteheadi**.

**Dicamaralges** Gaud and Atyeo, 1967.

Reported from Picidae 1 species.

**Dicamaralges dasybrachius** Gaud and Atyeo, 1967.

Picidae: **Chrysocolaptes validus**.

**Diplaegidia** Hull, 1934.

Reported from Columbidae 1 species.

**Diplaegidia columbae** (Buchholz), 1869.

Columbidae: **Columba livia**.

**Hemialges** Trouessart, 1888.

Reported from Timaliidae 1 species, Turdidae 1, Muscicapidae 3, Ploceidae 1. All

higher passerine hosts.

**Hemialges** sp.

Timaliidae: **Alcippe nipalensis**.

Turdidae: **Brachypteryx leucophrys**.

Muscicapidae: **Rhipidura cyaniceps**, **R. javanica**, **Tersiphone paradisi**.

Ploceidae: **Lonchura leucogaster**.

**Megninia** Berlese, 1881.

Reported from Phasianidae 4 species, Turnicidae 1.

**Megninia** sp.

Phasianidae: **Argusianus argus**, **Lophura erythrothalma**, **Melanoperdix nigra**,

**Polyplectron inopinatum**.

Turnicidae: **Turnix suscitator**.

**Megniniella** Gaud, 1958.

Reported from Rallidae 6 species, Timaliidae 1.

**Megniniella** sp.

Rallidae: **Amauornis phoenicurus**, **Fulica atra**, **Gallinula chloropus**, **Porphyrio porphyrio**, **Porzana fusca**, **P. pusilla**.

Timaliidae: **Malacopteron cinereum**.

**Mesalgoides** Gaud and Atyeo, 1967.

Reported from Capitonidae 1, Picidae 8, Timaliidae 5, Pycnonotidae 1, Turdidae 5, Muscicapidae 1, Sturnidae 1, Nectariniidae 1, Fringillidae 4, Ploceidae 1.

**Mesalgoides** sp.

Capitonidae: **Megalaima franklini**.

Picidae: **Blythipicus pyrrhotis**, **Chrysocolaptes lucidus**, **Dendrocopos macei**, **D. kizuki**, **Dinopium javanense**, **Meiglyptes tukki**, **Micropternus brachyurus**, **Picus erythropygius**.

Timaliidae: **Alcippe castaneiceps**, **Heterophasia picaoides**, **Leiothrix argenteus**, **Minla cyanouroptera**, **M. strigula**.

Pycnonotidae: **Pycnonotus plumosus**.

Turdidae: **Brachypteryx leucophrys**, **Turdus chrysolaus**, **T. obscurus**, **T. pallidus**, **Zoothera sibirica**.

Muscicapidae: **Muscicapa grandis**.

Sturnidae: **Aplonis panayensis**.

Nectariniidae: **Aethopyga eximia**.

Fringillidae: **Emberiza aureola**, **E. fucata**, **E. rutila**, **Pyrrhula nipalensis**.

Ploceidae: **Lonchura malacca**.

**Metanalges** Trouessart, 1919.

Reported from Rallidae 1 species.

**Metanalges** sp.

Rallidae: **Rallus striatus**.

**Protalges** Trouessart, 1885.

Reported from Tytonidae 1 species.

**Protalges** sp.

Tytonidae: **Tyto alba**.

**Radfordalges** Gaud and Atyeo, 1967.

Reported from Eurylaimidae 3 species, Dicruridae 1.

**Radfordalges** sp.

Eurylaimidae: **Calyptomena viridis**, **Cymbirhynchus macrorhynchus**, **Eurylaimus javanicus**.

Dicruridae: **Dicrurus remifer**.

**Temnalges** Gaud and Atyeo, 1967

Reported from Rallidae 1 species.

**Temnalges** sp.

Rallidae: **Rallus striatus.**

**Therisalges** Gaud and Atyeo, 1967.

Reported from Cuculidae 1 species, Eurylaimidae 1, Sylviidae 2, Muscicapidae 1, Nectariniidae 1.

**Therisalges** sp.

Cuculidae: **Clamator coromandus.**

Eurylaimidae: **Cymbirhynchus macrorhynchus.**

Sylviidae: **Orthotomus ruficeps, O. sericeus.**

Muscicapidae: **Muscicapa sundara.**

Nectariniidae: **Anthreptes malaccensis.**

**Strelkoviacus** Dubinin, 1953.

Reported from Timaliidae 1 species, Pycnonotidae 1, Sylviidae 1, Muscicapidae 1, Sturnidae 1.

**Strelkoviacus** sp.

Timaliidae: **Stachyris poliocephala.**

Pycnonotidae: **Pycnonotus sinensis**

Sylviidae: **Prinia flaviventris.**

Muscicapidae: **Rhipidura cyaniceps.**

Sturnidae: **Sturnus nigricollis.**

**AVENZOARIIDAE**

Feather mites of worldwide distribution and many bizarre forms, Five genera, few species determined.

**Avenzoaria** Oudemans, 1905

Reported from Scolopacidae 8 species, Charadriidae 2.

**Avenzoaria** sp.

Scolopacidae: **Calidris ruficollis, C. subminuta, Numenius phaeopus, Tringa totanus,**  
Charadriidae: **Vanellus duvaucellii, V. leucurus.**

**Avenzoaria philomachii** Dubinin, 1951.

Scolopacidae: **Philomachus pugnax.**

Shorebird, from India,

**Avenzoaria tringae** Oudemans, 1904.

Scolopacidae: **Calidris alpinus, Tringa glareola, T. nebularia.**

**Bregatovia** Dubinin, 1951.

Reported from Scolopacidae 1 species.

**Bregatovia obtusolobata** Dubinin, 1951.

Scolopacidae: **Tringa nebularia**.

**Bychovskiata** Dubinin, 1951.

Reported from Charadriidae 4 species.

**Bychovskiata** sp.

Charadriidae: **Charadrius dominicus**.

**Bychovskiata charadrii** (Canestrini), 1878.

Charadriidae: **Charadrius dubius**, **C. hiaticulus**.

**Bychovskiata pseudocharadrii** Dubinin, 1951.

Charadriidae: **Charadrius mongolus**.

**Hemifreyana** Gaud and Mouchet, 1959.

Reported from Charadriidae 2 species.

**Hemifreyana** sp.

Charadriidae: **Vanellus duvaucelii**, **V. leucurus**.

**Pseudoavenzoaria** Dubinin, 1951.

Reported from Scolopacidae 1 species.

**Pseudoavenzoaria ochropodia** (Hull), 1934.

Scolopacidae: **Tringa ochropus**.

Shorebird, from India.

## EPIDERMOPTIDAE

**Microlichus** Trouessart and Neumann, 1888.

Reported from Sturnidae 1 species.

**Microlichus** sp.

Sturnidae: **Sturnus contra**.

## EUSTATHIIDAE

**Chauliacia** Oudemans, 1905.

Reported from Apodidae 3 species.

**Chauliacia** sp.

Apodidae: **Collocalia esculenta**, **C. troglodytes**, **C. whiteheadi**.

**Eustathia** Oudemans, 1905.

Reported from Hirundinidae 1 species.

**Eustathia** sp.

Hirundinidae: **Hirundo rustica**.

## FALCULIFERIDAE

**Falculifer** Railliet, 1896.

Reported from Columbidae 5 species.

**Falculifer** sp.

Columbidae: **Chalcophaps indica**, **Columba livia**, **Macropygia phasianella**,  
**Streptopelia bitorquata**, **S. chinensis**.

**Montshadskiana** Dubinin, 1951.

Reported from Charadriidae 1 species.

**Montshadskiana pluvialis** Dubinin, 1951.

Charadriidae: **Charadrius dominica**.

**Pterophagus** Megnin, 1877.

Reported from Columbidae 2 species.

**Pterophagus** sp.

Columbidae: **Columba livia**, **Streptopelia bitorquata**.

**Triphyllochaeta** Dubinin, 1956.

Reported from Charadriidae 1 species, Scolopacidae 1.

**Triphyllochaeta charadrii** (Dubinin), 1951.

Charadriidae: **Charadrius mongolus**.

**Triphyllochaeta utilae** (Dubinin), 1951.

Scolopacidae: **Tringa glareola**.

## FREYANIDAE

**Freyana** Haller, 1877.

Reported from Anatidae 6 species.

**Freyana** sp.

Anatidae: **Anas clypeata**, **A. crecca**, **A. querquedula**, **Anser anser**, **Nettapus coromandelianus**, **Sarkidiornis melanotos**.

**Freyanomorpha** Gaud, 1957.

Reported from Charadriidae 1 species.

**Freyanomorpha ambigua** Gaud, 1957.

Charadriidae: **Charadrius alexandrinus**.

Shorebird, from India.

## KRAMERELLIDAE

**Dermonoton** Gaud and Mouchet, 1959.

Reported from Columbidae 1 species, Strigidae 3, Tytonidae 1.

**Dermonoton** sp.

Columbidae: **Streptopelia bitorquata**.

Strigidae: **Otus bakkamoena**, **O. scops**, **O. spilocephalus**.

Tytonidae: **Tyto alba**.

**Kramerella** Trouessart, 1915.

Reported from Strigidae 1 species.

**Kramerella** sp.

Strigidae: **Otus bakkamoena**.

**PROCTOPHYLLODIDAE**

Feather mites of worldwide distribution with extensive parasitism among passerine hosts.

**Anisodiscus** Gaud and Mouchet, 1957.

Reported from Muscicapidae 1 species, Nectariniidae 2.

**Anisodiscus** sp.

Muscicapidae: **Muscicapa grandis**.

Nectariniidae: **Anthreptes malacensis**, **Nectarinia chalcostetha**.

**Dolichodectes** Park and Atyeo, 1971.

Reported from Pycnonotidae 7 species, Turdidae 3, Sylviidae 6.

**Dolichodectes** sp.

Pycnonotidae: **Hypsipetes amaurotis**, **H. criniger**, **H. madagascariensis**, **H. mclellandii**,  
**H. philippinus**, **H. viridescens**, **Pycnonotus blanfordi**.

Turdidae: **Copsychus luzoniensis**, **C. malabaricus**, **C. saularis**.

Sylviidae: **Acrocephalus arundinaceus**, **A. bistrigiceps**, **A. stentoreus**, **Hippolais caligata**, **Locustella certhiola**, **L. fasciolata**.

**Hadrophyllodes** Atyeo, 1971.

Reported from Nectariniidae 2 species.

**Hadrophyllodes grandelobus** (Gaud and Mouchet), 1957.

Nectariniidae: **Nectarinia jugularis**.

**Hadrophyllodes lonchophorus** (Trouessart and Neumann), 1888.

Nectariniidae: **Nectarinia chalcostetha**.

**Joubertophyllodes** Atyeo and Gaud, 1971.

Reported from Fringillidae 6 species.

**Joubertophyllodes ampullaceus** Atyeo and Gaud, 1971.

Fringillidae: **Emberiza aureola**.

**Joubertophyllodes modularis** (Berlese), 1894.

Fringillidae: **Emberiza cioides**, **E. rustica**, **E. spodocephala**.



**Joubertophyllodes bonjeani** Atyeo and Gaud, 1971.

Fringillidae: **Emberiza rutila**.

**Joubertophyllodes proximus** Atyeo and Gaud, 1971.

Fringillidae: **Emberiza yessoensis**.

**Monojoubertia** Radford, 1950.

Reported from Pycnonotidae 2 species, Sylviidae 1, Motacillidae 1, Nectariniidae 3, Dicaeidae 1, Fringillidae 2.

**Monojoubertia** sp.

Pycnonotidae: **Criniger pallidus**, **Pycnonotus plumosus**.

Sylviidae: **Orthotomus sutorius**.

Motacillidae: **Motacilla cinerea**.

Nectariniidae: **Aethopyga eximia**, **Anthreptes malacensis**.

Fringillidae: **Carduelis sinica**.

**Monojoubertia arachnotherae** Atyeo and Gaud, 1970.

Nectariniidae: **Arachnothera magna**.

**Monojoubertia hemiphylla** (Robin), 1877.

Fringillidae: **Fringilla montifringilla**.

**Monojoubertia parvisecurigera** Atyeo, 1971.

Dicaeidae: **Dicaeum** sp.

**Montesauria** Oudemans, 1905.

Reported from Capitonidae 1 species, Picidae 1, Alaudidae 3, Dicruridae 1, Corvidae 1, Timaliidae 15, Pycnonotidae 10, Aegithinidae 2, Turdidae 10, Sylviidae 12, Muscicapidae 4, Motacillidae 2, Sturnidae 11, Nectariniidae 1, Ploceidae 7.

A very large group of feather mites primarily found on the Passeriformes. Most species are undescribed.

**Montesauria** sp.

Capitonidae: **Megalaima franklini**.

Picidae: **Picus vittatus**.

Alaudidae: **Alauda gulgula**, **Galerida cristata**, **Mirafra javanica**.

Dicruridae: **Dicrurus adsimilis**.

Corvidae: **Garrulus glandarius**.

Timaliidae: **Alcippe castaniceps**, **A. poioicephala**, **Macronus gularis**, **M. ptilosus**, **Malacopteron magnum**, **Pellorneum albiventris**, **Stachyris leucotis**, **S. maculata**, **S. nigriceps**, **S. nigricollis**, **Timalia pileata**, **Trichastoma abbotti**, **T. bicolor**, **T. malaccense**, **T. rostratum**.

Pycnonotidae: **Criniger bres**, **C. finschi**, **C. pallidus**, **Pycnonotus brunneus**, **P. erythropthalmus**, **P. eutilotus**, **P. goiavier**, **P. melanoleucos**, **P. plumosus**, **P. zeylanicus**.

Aegithinidae: **Aegithina tiphia**, **Irena puella**.

Turdidae: *Saxicola jerdoni*, *Saxicoloides fulvicata*, *Turdus chrysolaus*, *T. merula*, *T. obscurus*, *T. rubricanus*, *Zoothera citrina*, *Z. dauma*, *Z. marginata*, *Z. sibirica*.

Sylviidae: *Acrocephalus arundinaceus*, *Cisticola juncidis*, *Locustella certhiola*, *Orthotomus atrogularis*, *O. ruficeps*, *O. sutorius*, *Phylloscopus borealis*, *P. davisoni*, *Prinia flaviventris*, *P. subflava*, *Seicercus burkii*, *Sylvia curruca*.

Muscicapidae: *Culicicapa ceylonensis*, *Muscicapa mugimaki*, *M. narcissina*, *Rhipidura javanica*.

Motacillidae: *Anthus hodgsoni*, *A. novaeseelandiae*.

Sturnidae: *Ampeliceps coronatus*, *Aplonis panayensis*, *Gracula religiosa*, *Gracupica melanoptera*, *Sarcops calvus*, *Sturnus contra*, *S. javanicus*, *S. nigricollis*, *S. sinensis*, *S. sturninus*, *S. tristis*.

Nectariniidae: *Aethopyga eximia*.

Ploceidae: *Lonchura leucogaster*, *L. leucogastroides*, *L. maja*, *L. malacca*, *L. punctulata*, *L. striata*, *Ploceus philippinus*.

*Neodectes* Park and Atyeo, 1971.

Reported from Pycnonotidae 2 species.

**Neodectes** sp.

Pycnonotidae: *Pycnonotus flavescens*, *P. goiavier*.

*Pedanodectes* Park and Atyeo, 1971.

Reported from Aegithinidae 2 species, Nectariniidae 7, Dicaeidae 4.

**Pedanodectes** sp.

Aegithinidae: *Chloropsis aurifrons*, *C. cyanopogon*.

Nectariniidae: *Aethopyga exima*, *A. saturata*, *Anthreptes malacensis*, *Arachnothera affinis*, *A. longirostra*, *A. magna*, *Hypogramma hypogrammica*.

Dicaeidae: *Dicaeum* sp., *D. cruentatum*, *Prionochilus maculatus*, *P. percussus*.

*Proctophyllodes* Trouessart and Megnin, 1883.

Reported from Picidae 1 species, Pittidae 1, Alaudidae 2, Campephagidae 2, Dicruridae 2, Oriolidae 1, Corvidae 1, Paridae 6, Sittidae 1, Cinclidae 1, Timalidae 19, Paradoxornithidae 1, Pycnonotidae 16, Turdidae 24, Sylviidae 18, Muscicapidae 20, Prunellidae 1, Motacillidae 7, Laniidae 4, Sturnidae 3, Dicaeidae 1, Nectariniidae 5, Zosteropidae 2, Fringillidae 14, Ploceidae 3.

**Proctophyllodes** sp.

Alaudidae: *Ammomanes phoenicuroides*.

Campephagidae: *Hemipus picatus*, *Lalage nigra*.

Dicruridae: *Dicrurus annectans*, *D. leucophaeus*.

Oriolidae: *Oriolus chinensis*.

Corvidae: *Platysmurus leucopterus*.

Paridae: *Aegithalos caudatus*, *Parus zanthogenys*.

Timaliidae: *Garrulax mitratus*, *G. poecilorhynchus*, *Heterophasia annectens*, *H. melanoleuca*, *Leiothrix argentauris*, *Malacopteron magnum*, *Minla cyanouroptera*, *M. strigula*, *Stachyris maculata*, *S. nigriceps*, *Trichastoma abbotti*, *T. rostratum*, *Yuhina castaniceps*.

Paradoxornithidae: *Paradoxornis webbiana*.

Pycnonotidae: *Criniger phaeocephalus*, *Hypsipetes criniger*, *H. madagascariensis*, *H. mclellandii*, *Pycnonotus brunneus*, *P. erythrophthalmus*, *P. jocosus*, *P. melanicterus*, *P. plumosus*.

Cinclidae: *Cinclus pallasii*.

Turdidae: *Brachypteryx montanus*, *Enicurus leschenaulti*, *E. schistaceus*, *Myiophoneus caeruleus*, *Turdus unicolor*, *Zoothera citrina*.

Solviidae: *Acrocephalus arundinaceus*, *A. agricola*, *Cettia pallidipes*, *C. squameiceps*, *Locustella lanceolata*, *Orthotomus sutorius*, *Phragmaticola aedon*, *Phylloscopus borealis*, *P. inornatus*, *P. tenellipes*, *Prinia flaviventris*, *Regulus regulus*, *Seicercus burkii*.

Muscicapidae: *Muscicapa hodgsoni*, *M. leucomelanura*, *M. monileger*, *M. parva*, *M. rufigastra*, *M. solitarius*, *M. westermanni*, *Rhinomyias gularis*, *Rhipidura superciliaris*.

Motacillidae: *Anthus novaeseelandiae*, *Motacilla citreola*.

Laniidae: *Lanius cristatus*, *L. nasutus*, *L. vittatus*.

Sturnidae: *Sturnus contra*, *S. ginginianus*, *S. pagodarum*.

Nectariniidae: *Arachnothera longirostra*, *A. magna*, *Hypogramma hypogrammica*, *Nectarinia chalcostetha*.

Dicaeidae: *Dicaeum cruentatum*.

Zosteropidae: *Zosterops japonica*.

Fringillidae: *Carduelis sinica*, *Carpodacus erythrinus*, *C. roseus*, *Emberiza aureola*, *E. cioides*, *E. elegans*, *E. fucata*, *E. rustica*, *E. variabilis*, *E. yessoensis*, *Uragus sibiricus*.

Ploceidae: *Petronia xanthocollis*.

**Proctophyllodes anthi** Vitzthum, 1861.

Picidae: *Jynx torquilla*. From Japan.

Motacillidae: *Anthus hodgsoni*.

Migrant pipit with collections from Japan, Taiwan, Philippines, Thailand.

**Proctophyllodes ateri** Fritsch, 1961.

Paridae: *Parus ater*.

Tit from woodlands in Korea.

**Proctophyllodes capensis** Atyeo and Braasch, 1966.

Fringillidae: *Pyrrhula nipalensis*.

Cloud forest species, from Malaya.

**Proctophyllodes capitatus** Atyeo and Braasch, 1966.

Nectariniidae: *Anthreptes malacensis*.

Coconut groves, of Malaya.

**Proctophyllodes caulifer** Trouessart, 1886.

Muscicapidae: **Hypothymis azurea.**

Turdidae: **Erithacus svecicus.**

**Proctophyllodes ceratophyllus** Atyeo and Braasch, 1966.

Zosteropidae: **Zosterops palpebrosa.**

From woodlands, of Taiwan.

**Proctophyllodes clavatus** Fritsch, 1961.

Sylviidae: **Sylvia curruca.**

**Proctophyllodes cotyledon** Trouessart, 1899.

Timaliidae: **Stachyris chrysaea.**

Turdidae: **Copsychus saularis, Enicurus ruficapillus, Myiomela leucura, Phoenicurus aureus, Saxicola ferrea, S. jerdoni, Tarsiger cyanurus.**

Sylviidae: **Seicercus montis.**

Muscicapidae: **Muscicapa banyumas, M. grandis, M. hyperythra, M. mugimaki, M. thalassina, Rhipidura albicollis, R. javanica.**

Forest species both palearctic and tropical.

**Proctophyllodes curtiphyllus** Atyeo and Braasch, 1966.

Timaliidae: **Alcippe poiocephala, Malacopteron cinereum.**

Lowland forest species, from Malaya.

**Proctophyllodes doleophyses** Gaud, 1957.

Turdidae: **Zoothera dauma, Zoothera sibirica.**

Sylviidae: **Phylloscopus collybita.**

**Proctophyllodes elegans** Atyeo and Braasch, 1966.

Muscicapidae: **Muscicapa sundara.**

Cloud forest flycatcher, from Malaya.

**Proctophyllodes glandarius** (Koch), 1841.

Fringillidae: **Emberiza rutila, Eophona migratoria.**

Palearctic migrants.

**Proctophyllodes hipposideros** Gaud, 1953.

Turdidae: **Phoenicurus ochrurus.**

**Proctophyllodes hylocichlae** Atyeo and Braasch, 1966.

Sylviidae: **Locustella ochotensis.**

Muscicapidae: **Hypothymis azurea.**

Warbler from Japan and forest flycatcher from the tropics.

**Proctophyllodes leptocaulus** Gaud, 1957.

Laniidae: **Lanius bucephalus.**

Farmland shrike from Korea and Japan.

- Proctophyllodes macedo** Vitzthum, 1922.  
 Motacillidae: **Dendronanthus indicus**.  
 Palearctic migrant wagtail, from Malaya.
- Proctophyllodes mcclurei** Atyeo and Braasch, 1966.  
 Timaliidae: **Garrulax erythrocephalus**.  
 Mountain forest babbler, from Thailand.
- Proctophyllodes megaphyllus** Trouessart, 1885.  
 Prunellidae: **Prunella montanella**.  
 Mountain glades, from Korea.
- Proctophyllodes microcaulus** Gaud, 1957.  
 Alaudidae: **Galerida cristata**.
- Proctophyllodes motacillae** Gaud, 1953.  
 Motacillidae: **Motacilla alba**, **M. cinerea**, **M. flava**.  
 Palearctic migrant wagtails.
- Proctophyllodes musicus** Vitzthum, 1922.  
 Turdidae: **Turdus naumanni**.  
 Palearctic migrant thrush, from Korea and Japan.
- Proctophyllodes orientalis** Gaud, 1953.  
 Ploceidae: **Passer flaveolus**.
- Proctophyllodes pennifer** (Trouessart and Neumann), 1888.  
 Turdidae: **Myiomela diana**, **M. leucura**.  
 Muscicapidae: **Muscicapa indigo**.  
 Cloud forest thrush, from Malaya.
- Proctophyllodes pittae** Atyeo and Braasch, 1966.  
 Pittidae: **Pitta moluccensis**.  
 Pitta from tropical forests.
- Proctophyllodes rubeculinus** (Koch), 1841.  
 Turdidae: **Erithacus cyane**.  
 Muscicapidae: **Terpsiphone paradisi**.  
 From Malayan mountain forests.
- Proctophyllodes stachyris** Atyeo and Braasch, 1966.  
 Timaliidae: **Macronus gularis**, **Stachyris poliocephala**.  
 Lowland forest babblers, from Malaya.
- Proctophyllodes stenophyllus** Gaud and Mouchet, 1957.  
 Pycnonotidae: **Hypsipetes amaurotis**, **H. philippinus**, **H. viridescens**, **Pycnonotus blanfordi**, **P. goiavier**, **P. sinensis**, **P. zeylanicus**.  
 Bulbuls from many latitudes.

**Proctophyllodes stylifer** (Buchholz), 1869.

Paridae: **Parus major, P. palustris, P. varius.**

Palearctic forest tits.

**Proctophyllodes truncatus** Robin, 1877.

Ploceidae: **Passer montanus.**

Tree Sparrow, from Taiwan and Thailand.

**Proctophyllodes vassilevi** Atyeo and Braasch, 1966.

Turdidae: **Erithacus cyane, E. calliope.**

Sylviidae: **Acrocephalus dumetorum.**

Palearctic migrant thrush, and warbler from Thailand.

**Proctophyllodes vitzhumi** Fritsch, 1961.

Sittidae: **Sitta europaea.**

Palearctic forest nuthatch, from Thailand.

**Proctophyllodes weigoldi** Vitzthum, 1922.

Turdidae: **Turdus chrysolaus, T. obscurus, T. pallidus.**

Palearctic migrant thrushes, from Japan and Taiwan.

**Proterothrix** Gaud, 1968.

Reported from Alcedinidae 8 species, Picidae 4, Eurylaimidae 2, Campephagidae 2, Dicruridae 6, Oriolidae 1, Corvidae 1, Timaliidae 16, Turdidae 8, Sylviidae 1, Muscicapidae 14, Pachycephalidae 1, Nectariniidae 2, Zosteropidae 1.

**Proterothrix** sp.

Alcedinidae: **Alcedo meninting, Ceyx erithacus, C. rufidorsus, Halcyon chloris, H. coromanda, H. pileata, H. smyrnensis, Lacedo pulchella.**

Picidae: **Blythipicus pyrrhotis, B. rubiginosus, Chrysocolaptes validus, Picus erythropygius.**

Eurylaimidae: **Calyptomena viridis, Cymbirhynchus macrorhynchus.**

Campephagidae: **Pericrocotus ethologus, Tephrodornis virgatus.**

Dicruridae: **Dicrurus adsimilis, D. annectans, D. hottentottus, D. leucophaeus, D. paradiseus, D. remifer.**

Oriolidae: **Oriolus xanthornus.**

Corvidae: **Platysmurus leucopterus.**

Timaliidae: **Alcippe castaneiceps, A. nipalensis, A. poiocephala, Garrulax erythrocephalus, G. mitratus, Heterophasia annectens, H. melanoleuca, H. picoides, Leiothrix argentauris, L. lutea, Liocichla steerei, Macronus gularis, M. ptilosus, Stachyris chrysaea, S. erythroptera, Yuhina castaniceps, Y. zantholeuca.**

Turdidae: **Brachypteryx leucophrys, B. montana, Erithacus calliope, E. cyane, Myiomela diana, Myiophoneus glaucinus, M. caeruleus, Turdus pallidus.**

Sylviidae: **Seicercus montis.**

Muscicapidae: *Hypothymis azurea*, *Muscicapa banyumas*, *M. grandis*, *M. indigo*,  
*M. rufigaster*, *M. sundara*, *Rhipidura albicollis*, *R. aureola*, *R. cyaniceps*, *R.*  
*javanica*, *R. perlata*, *R. superciliaris*, *Terpsiphone atrocaudata*, *T. paradisi*.

Pachycephalidae: *Pachycephala cinerea*.

Nectariniidae: *Anthreptes malacensis*, *Arachnothera longirostra*.

Zosteropidae: *Zosterops japonica*.

**Ptaismatophyllodes** Atyeo, 1971.

Reported from Campephagidae 1 species.

**Ptaismatophyllodes pumilus** Atyeo, 1971.

Campephagidae: *Lalage nigra*.

**Pterodectes** Robin, 1877.

Reported from Scolopacidae 1 species, Capitonidae 2, Corvidae 1, Paridae 1,  
Hirundinidae 1, Fringillidae 2.

**Pterodectes** sp.

Scolopacidae: *Numenius phaeopus*.

Capitonidae: *Megalaima franklini*, *Psilopogon pyrolophus*.

Corvidae: *Crypsirina temia*.

Paridae: *Parus ater*.

Fringillidae: *Emberiza rustica*, *E. rutila*.

**Pterodectes rutilus** Robin, 1877.

Hirundinidae: *Hirundo rustica*.

## PSOROPTIDAE

**Psoroptoides** Trouessart, 1919.

Reported from Bucerotidae 1 species.

**Psoroptoides** sp.

Bucerotidae: *Berenicornis comatus*.

Forest species, from Malaya.

## PTEROLICHIDAE

Feather mites the genera of which are reported from nonpasserines. Most species undetermined.

**Ardeacarus** Dubinin, 1956.

Reported from Ardeidae 1 species.

**Ardeacarus** sp.

Ardeidae: *Ixobrychus sinensis*.

**Coccylichus** Gaud, 1966.

Reported from Cuculidae 2 species.

**Coccylichus** sp.

Cuculidae: *Cacomantis variolosus*, *Surniculus lugubris*.

**Coraciacarus** Dubinin, 1956.

Reported from Cuculidae 2 species, Accipitridae 2, Falconidae 1, Meropidae 2.

**Coraciacarus** sp.

Accipitridae: **Accipiter badius**, **Spizaetus cirrhatus**.

Falconidae: **Microhierax caerulescens**.

Cuculidae: **Phoenicophaeus superciliosus**.

Meropidae: **Merops superciliosus**, **M. viridis**.

**Coraciacarus cuculi** (Megnin and Trouessart), 1884.

Cuculidae: **Clamator coromandus**.

A migrant cuckoo, from Thailand.

**Gabucinia** Oudemans, 1950.

Reported from Campephagidae 1 species.

**Gabucinia** sp.

Campephagidae: **Lalage nigra**.

**Grallobia** Hull, 1934.

Reported from Rallidae 7 species.

**Grallobia** sp.

Rallidae: **Amaurornis phoenicurus**, **Fulica atra**, **Gallinula chloropus**, **Porzana fusca**,  
**P. pusilla**, **P. tabuensis**, **Rallus striatus**.

**Grallolichus** Gaud, 1960.

Reported from Rallidae 5 species.

**Grallolichus** sp.

Rallidae: **Amaurornis phoenicurus**, **Gallixrex cinerea**, **Porphyrio porphyrio**, **Porzana fusca**, **Rallus striatus**.

**Pseudalloptinus** Dubinin, 1956.

Reported from Psittacidae 1 species.

**Pseudalloptinus** sp.

Psittacidae: **Psittacula longicauda**.

**Pterolichus** Robin, 1868.

Reported from Phasianidae 4 species.

**Pterolichus** sp.

Phasianidae: **Argusianus argus**, **Lophura erythrothalma**, [**Melanoperdix nigra**,  
**Polyplectron inopinatum**].

**Ptiloxenus** Hull, 1934.

Reported from Charadriidae 1 species.

**Ptiloxenus** sp.

Charadriidae: **Charadrius dubius**.



**Sokoloviana** Dubinin, 1956.

Reported from Charadriidae 1 species.

**Sokoloviana** sp.

Charadriidae: **Charadrius dubius**.

## PTERONYSSIDAE

**Bonnetella** Trouessart, 1924.

Reported from Pandionidae 1 species.

**Bonnetella fusca** (Nitzsch), 1818.

Pandionidae: **Pandion haliaetus**.

**Bdellorhynchus** Trouessart, 1885.

Reported from Anatidae 3 species.

**Bdellorhynchus polymorphus** Trouessart, 1885.

Anatidae: **Anas clypeata**, **A. querquedula**, **Nettapus coromandelianus**.

**Mouchetia** Gaud, 1961.

Reported from Timaliidae 7 species, Zosteropidae 1.

**Mouchetia** sp.

Timaliidae: **Alcippe castaneiceps**, **Garrulax erythrocephalus**, **Heterophasia melanoleuca**, **H. picaoides**, **Leiothrix argentaurea**, **Stachyris maculata**, **S. nigriceps**.

Zosteropidae: **Zosterops palpebrosa**.

**Pteronyssoides** Hull, 1931.

Reported from Capitonidae 1 species, Picidae 2, Hirundinidae 3, Dicruridae 2, Oriolidae 1, Paridae 2, Timaliidae 2, Pycnonotidae 5, Turdidae 4, Sylviidae 1, Muscicapidae 2, Motacillidae 1, Sturnidae 8, Fringillidae 1, Ploceidae 5. A very cosmopolitan genus.

**Pteronyssoides** sp.

Capitonidae: **Psilopogon pyrolophus**.

Picidae: **Blythipicus rubiginosus**, **Picus vittatus**.

Hirundinidae: **Delichon urbica**, **Hirundo rustica**, **H. tahitica**.

Dicruridae: **Dicrurus annectans**, **D. paradiseus**.

Oriolidae: **Oriolus chinensis**.

Paridae: **Parus major**, **P. varius**.

Timaliidae: **Garrulax erythrocephalus**, **Minla strigula**.

Pycnonotidae: **Hypsipetes maclellandii**, **Pycnonotus blanfordi**, **P. cafer**, **P. goiavier**,

**P. plumosus**.

Turdidae: **Copsychus malabaricus**, **C. saularis**, **Myiomela diana**, **Turdus pallidus**.

Sylviidae: **Acrocephalus arundinaceus**.

Muscicapidae: **Rhipidura albicollis**, **R. javanica**.

Motacillidae: *Anthus novaeseelandiae*.

Sturnidae: *Ampeliceps coronatus*, *Aplonis panayensis*, *Sarcops calvus*, *Sturnus cineraceus*, *S. contra*, *S. malabaricus*, *S. nigricollis*, *S. tristis*.

Fringillidae: *Emberiza rustica*.

Ploceidae: *Lonchura leucogaster*, *L. maja*, *L. malacca*, *L. punctulata*, *Ploceus philippinus*.

*Pteronyssus* Trouessart, 1915.

Reported from Turnicidae 1 species, Alcedinidae 2, Capitonidae 2, Picidae 6, Hirundinidae 5, Dicruridae 7, Oriolidae 1, Timaliidae 11, Pycnonotidae 19, Aegithinidae 1, Turdidae 3, Sylviidae 8, Muscicapidae 3, Motacillidae 3, Sturnidae 1, Nectariniidae 4, Zosteropidae 2, Fringillidae 4, Ploceidae 3. Of 86 species of hosts in 19 families 11 were from 4 non - passerine families.

*Pteronyssus* sp.

Turnicidae: *Turnix suscitator*.

Alcedinidae: *Halcyon chloris*, *H. smyrnensis*.

Capitonidae: *Psilopogon pyrolophus*, *Megalaima corvina*.

Picidae: *Chrysocolaptes lucidus*, *C. validus*, *Dendrocopos kizuki*, *D. macei*, *Dinopium javanense*, *Picus vittatus*.

Hirundinidae: *Delichon urbica*, *Hirundo daurica*, *H. rustica*, *H. tahitica*, *Riparia riparia*.

Dicruridae: *Dicrurus adsimilis*, *D. annectans*, *D. balicassius*, *D. hottentottus*, *D. leucophaeus*, *D. paradiseus*, *D. remifer*.

Oriolidae: *Oriolus chinensis*.

Timaliidae: *Alcippe morrisonia*, *A. nipalensis*, *A. poiocephala*, *Garrulax mitratus*, *Pellorneum ruficeps*, *Stachyris nigriceps*, *S. poliocephala*, *S. ruficeps*, *Trichastoma malaccense*, *T. rostratum*, *Yuhina castaniceps*.

Pycnonotidae: *Hypsipetes amaurotis*, *H. criniger*, *H. madagascariensis*, *H. maclellandii*, *H. philippinus*, *H. viridescens*, *Pycnonotus atriceps*, *P. aurigaster*, *P. blanfordi*, *P. cafer*, *P. erythrophthalmus*, *P. finlaysoni*, *P. flavescens*, *P. goiavier*, *P. jocosus*, *P. melanicterus*, *P. melanoleucus*, *P. plumosus*, *P. sinensis*.

Aegithinidae: *Aegithina tiphia*.

Turdidae: *Copsychus malabaricus*, *Erithacus calliope*, *Saxicola torquata*.

Sylviidae: *Acrocephalus arundinaceus*, *Cisticola juncidis*, *Locustella fasciolata*, *Orthotomus atrogularis*, *O. sericeus*, *Prinia flaviventris*, *P. subflava*, *Sylvia curruca*.

Muscicapidae: *Culicicapa ceylonensis*, *Hypothymis azurea*, *Rhipidura perlata*.

Motacillidae: *Anthus hodgsoni*, *A. novaeseelandiae*, *Motacilla flava*.

Sturnidae: *Aplonis panayensis*.

Nectariniidae: *Anthreptes malacensis*, *Arachnothera affinis*, *A. magna*, *Nectarinia jugularis*.

Zosteropidae: *Zosterops palpebrosa*, *Z. japonica*.

Fringillidae: *Carduelis sinica*, *Emberiza elegans*, *E. rustica*, *Eophona migratoria*.

Ploceidae: *Lonchura leucogaster*, *L. punctulata*, *Petronia xanthocollis*.

**Zachvatkinia** Dubinin, 1949

Reported from Laridae 1 species.

**Zachvatkinia** sp.

Laridae: **Sterna bergii**.

Sea gull, from India.

**PYROGLYPHIDAE**

**Dermatophagoides** Bogdanov, 1864.

Reported from Ploceidae 1 species.

**Dermatophagoides** sp.

Ploceidae: **Lonchura fuscans**.

**VEXILLARIIDAE**

**Calaobia** Gaud and Mouchet, 1959.

Reported from Bucerotidae 1 species.

**Calaobia** sp.

Bucerotidae: **Anthracoseros malayanus**. From Malaya.

**Membranolobus**. Dubinin, 1956.

Reported from Bucerotidae 1 species.

**Membranolobus** sp.

Bucerotidae: **Anthracoseros malayanus**. From Malaya.

**Oustaletia** Trouessart, 1885.

Reported from Bucerotidae 1 species.

**Oustaletia** sp.

Bucerotidae: **Anorrhinus galeritus**.

**Pterocolurus** Gaud and Mouchet, 1959.

Reported from Bucerotidae 1 species.

**Pterocolurus** sp.

Bucerotidae: **Anthracoseros malayanus**.

**Vexillaria** Gaud and Mouchet, 1959.

Reported from Bucerotidae 1 species.

**Vexillaria** sp.

Bucerotidae: **Anthracoseros malayanus**.

**XOLALGIDAE**

**Analloptes** Trouessart, 1885.

Reported from Rallidae 1 species.

**Analloptes** sp.

Rallidae: **Fulica atra.**

**Ingrassia** Oudemans. 1905.

Reported from Anatidae 4 species, Charadriidae 3, Scolopacidae 4, Jacanidae 1,  
All non - passerine hosts.

**Ingrassia** sp.

Anatidae: **Aythya fuligula**, **A. nyroca**, **Netta rufina**, **Sarkidiornis melanotos**,  
Charadriidae: **Charadrius dominica**, **C. dubius**, **Vanellus leucurus**.

Scolopacidae: **Limosa limosa**, **Philomachus pugnax**, **Calidris testaceus**, **Capella minima.**

Jacanidae: **Metopidius indicus.**

**Ingrassiella** Dubinin, 1956.

Reported from Timaliidae 6, Turdidae 4, Muscicapidae 2.

**Ingrassiella** sp.

Timaliidae: **Heterophasia picaoides**, **Leiothrix argentauris**, **Minla cyanouroptera**,  
**M. strigula**, **Napothera brevicaudata**, **Stachyris nigriceps.**

Turdidae: **Brachypteryx leucophrys**, **Myiomela leucura**, **Turdus obscurus**, **T. pallidus.**

Muscicapidae: **Muscicapa hyperythra**, **Rhipidura javanica.**

**Leptosphyra** Hull, 1934.

Reported from Rallidae 1 species.

**Leptosphyra** sp.

Rallidae: **Porzana fusca.**

**Pteralloptes** Trouessart, 1884.

Reported from Rallidae 1 species.

**Pteralloptes** sp.

Rallidae: **Porzana tabuensis.**

**Xolalges** Trouessart, 1885.

Reported from Alcedinidae 1 species, Capitonidae 1, Campephagidae 1, Dicruridae 3,  
Timaliidae 4, Pycnonotidae 4, Turdidae 3, Sylviidae 3, Muscicapidae 2, Sturnidae 5,  
Nectariniidae 2, Fringillidae 1, Ploceidae 1.

**Xolalges** sp.

Alcedinidae: **Ceyx erithacus.**

Capitonidae: **Psilopogon pyrolophus.**

Campephagidae: **Lalage nigra.**

Dicruridae: **Dicrurus hottentottus**, **D. paradiseus**, **D. leucophaeus.**

Timaliidae: **Minla cyanouroptera**, **M. strigula**, **Stachyris maculata**, **S. nigricollis.**

Pycnonotidae: **Criniger finschi**, **Pycnonotus goiavier**, **P. cafer**, **P. melanoleucos.**

Turdidae: **Brachypteryx leucophrys**, **Turdus obscurus**, **Zoothera sibirica.**

Sylviidae: **Orthotomus ruficeps**, **Phylloscopus trivirgatus**, **Seicercus montis.**

Muscicapidae: **Muscicapa sundara**, **Rhipidura javanica.**

Sturnidae: **Aplonis panayensis**, **Sturnus contra**, **S. javanicus**, **S. nigricollis** **S. tristis.**

Nectariniidae: **Anthreptes malacensis**, **Arachnothera longirostris.**

Fringillidae: **Emberiza fucata.**

Ploceidae: **Lonchura malacca.**

## INSECTA

### MALLOPHAGA

Mallophaga are present on most birds and the relationships with and to these hosts have been of value in evolutionary studies of both forms. Dr. K.C. Emerson who has reviewed the present collections has prepared the following notes about the order.

Mallophaga are parasitic on all species of birds and on some species of mammals, but not man. The life cycle, from egg through three nymphal stages to adult, is spent on the host. The ecological environments upon the host, which are relatively stable, determine the distribution of each species of parasite. The number of species of Mallophaga found on a bird will vary from two to more than ten, while the majority have five. The ecological niches occupied by the genera are: (1) the head and neck regions, where the lice tend to be short and fat-bodied and cling to the feathers with heavy mandibles, and where they are safe from the bird's beak (2) the wing and back regions, where the lice tend to be long and slender with long legs to facilitate rapid movement across or through the feathers to avoid the bird's beak; and (3) rapid running forms found on the body, head, neck or wings which seldom attach firmly to feathers. Each ecological niche may be occupied by more than one species or genus. Two other ecological niches are also known, but they are so specialized that their occurrence is not widely distributed: inside the pouch of the Pelecaniform birds; and inside the large quills of birds in the orders Procellariiformes, Galliformes, Psittaciformes, and Charadriiformes.

### EPIDEMIOLOGICAL RELATIONSHIPS

The species (Ischnocera) which are usually firmly attached to the feathers in ecological niches (1) and (2) feed entirely on feathers. It is doubtful that these species are involved in the transmission of disease between hosts. Populations of lice, when abnormally high, will denude some of the feather shafts, and cause intense irritation by movement. Young and sick birds usually are more heavily infested than healthy adults.

Those Mallophaga (Amblycera) which are body lice, feed on blood, mucus, and serum. Some are equipped with piercing mouthparts, and others obtain blood from wounds created by their mandibles. Very little work has been done on the transmission of disease by these species but to date the following have been reported; (1) Intermediate host for a filarial worm in Swifts, cestode in dogs and a filarial worm in dogs. (2) Virus of Eastern Equine Encephalomyelitis has been isolated in a species of Mallophaga common on galliform birds. (3) *Bedsonia* organisms have been isolated in a species also on galliform birds.

The role or importance of Mallophaga in the transmission of diseases between hosts remains to be explored. There has been little interest in this area, because they do not feed on man and are considered to be of little medical importance. So few people can properly identify Mallophaga that lice pooled for virus isolation usually are composed of those species which do not feed on blood. As interest in wildlife diseases increases, and more work is done on their epizootology, a better understanding of the role of Mallophaga in disease transmission will probably result.

## MALLOPHAGA AND AVIAN EVOLUTION

Our present knowledge of the systematics of Mallophaga has reached the stage where it is very useful in assisting with the development of a better understanding of the relationship of species or groups of species of birds. As birds evolved from a common stock, the Mallophaga also evolved, but at a slower pace. This occurred because the environmental change imposed upon the parasite was less than that imposed on the host. The food supply for the parasite (composition of the feathers, blood, serum etc.) and the temperature and humidity of its environment probably remained more nearly stable than did the environmental changes which influenced change in the hosts. The picture is somewhat complicated by the fact that today we sometimes find both primary and secondary infestations of Mallophaga on a host species. This parasitism arose at different times in the evolution of the host and most specialists in Mallophaga can recognize these differences and so advise the ornithologist.

Most species of Mallophaga are restricted to a single species of host. Other relationships also exist between the parasites and the higher taxonomic categories. Examples of these are as follows: (1) A number of species are restricted to a single host genus rather than a single species of host. Examples are: *Trinoton aculeatum* Piaget 1855, a large body louse found on Tree Ducks of the genus *Dendrocygna*; and *Laemobothrion tinnunculi* (Linnaeus, 1758), a large body louse found on hosts of the genus *Falco* (Gyr Falcon, Falcon, Kestrel and Sparrow Hawk). (2) Birds of more than one genus, which obviously are closely related, may share a common parasite. *Ciconiphilus cygni* Price and Beer, 1965, a small body louse, is found on the Swans (Mute, Whooper, Whistling and Trumpeter). *Ciconiphilus pectiniventris* (Harrison, 1916) is found on Brants and Geese of the genera *Branta*, *Philacte*, *Anser* and *Chen*. In these two examples, hosts relationships above the generic level are evidenced by the lice they harbor. (3) Many genera of lice are restricted to hosts of only one family. However, only few species are widely distributed on hosts of a family. *Ciconiphilus decimfasciatus* (Boisduval and Lacordaire, 1835) is a small body louse found on Herons, Egrets, and Bitterns of the genera *Ardea*, *Bubulus*, *Dichromanassa*, *Casmerodius*, *Egretta*, *Hydranassa*, *Nycticorax*, *Nyctanassa* and *Botaurus*. *Laemobothrion glutinans* Nitzsch, 1861 is a large body louse found on the Turkey Vulture, the Black Vulture and the California Condor. *Brueelia straminea* (Denny, 1842) is a wing shaft louse found on Flickers, Sapsuckers and Woodpeckers of the genera *Colaptes*, *Centurus*, *Melanerpes*, *Asyndesmus*, *Sphyrapticus* and *Dendrocopos*. In each example given, the relationship exhibited by a grouping of hosts into a family is confirmed by the lice. (4) The number of species of Mallophaga that can be found on hosts of more than one family within an order are few. *Ancistrona vagelli* (J.C. Fabricius, 1787) is a large body louse found on hosts of the order Procellariiformes. It has been found to date on hosts of the genera *Daption*, *Fulmar*, *Puffinus*, *Pterodroma*, *Pelagodroma*, and *Oceanites*. *Ricinus marginatus* (Children, 1836) is a large body louse found on the hosts of families Cotingidae and Tyrannidae. It has been collected from hosts of the genera *Platypsaris*, *Tyrannus*, *Muscivora*, *Myiarchus*, *Sayornis*, *Empidonax*, *Contopus* and *Pyrocephalus*. There are also a few species which may occur on hosts of more than one family in the Galliformes.

## OTHER ECOLOGICAL RELATIONSHIPS

The influence of geography on the distribution of bird species is recognized; however, the influence of geography on the distribution of Mallophaga within the range of hosts is not well understood. The Barn Owl, **Tyto alba**, is found in many parts of the world. In North America, Australia, New Zealand and Southeast Asia it harbors **Strigiphilus aitkeni** Clay, 1966. In Europe, Africa and the Middle East it harbors **Strigiphilus rostratus** (Burmeister, 1838). We have no data on which parasite species appears in China, Japan and Siberia. The morphological differences between these two species of Mallophaga are far greater than those of the subspecies of **Tyto alba** found in these locations.

The Brown Booby, **Sula leucogaster**, and the Red footed Booby, **Sula sula**, both occur on the east and west coasts of North America. Regardless of where these hosts occur, they harbor **Eidmanniella albescens** (Piaget, 1880) and **Pectinopygus annulatus** (Piaget, 1880). In addition to these parasites, the birds found on the east coast harbor **Pectinopygus garbei** (Pessoa and Guimaraes, 1935), while those found on the west coast have **Pectinopygus sulae** (Rudow, 1869). This relationship exists even in Panama where the distance between flocks of the same species is not great. There are many other examples.

The commonest geographical relationship seen is that of a species limited in distribution to that of its host which has a restricted range.

In some way the size of the host may be a controlling factor in the type of Mallophagan infestation.

Species of the genus **Falcolipeurus** can be found on the quills of the primaries of the larger birds in the Falconiformes. Apparently members of the genus cannot survive on the smaller birds. Species of the genus have to date been recorded in North America from hosts of the Cathartidae, Accipitridae (**Rostrhamus**, **Aquila**, and **Haliaeetus**) and Falconidae (**Caracara**). Species within the genus **Falcolipeurus** are fairly host specific, but occurrence of a genus on hosts seems to be dependent upon host size since hosts of three families within the Falconiformes harbor these parasites.

**Saemundssonina tringae** (O. Fabricius, 1780) is a parasite found on the head and neck region of many small species of Charadriiformes. It has been recorded in North America from the host genera **Arenaria**, **Calidris**, **Erolia**, **Limnodromus** and **Ereunetes**. The list of hosts could probably be enlarged if collections were available from other small birds not listed.

Following domestication of a host its parasites may become less specific in their host relationships. The original host for **Menopon gallinae** (Linnaeus, 1758) apparently was the wild chicken. The original host for **Menacanthus stramineus** (Nitzsch, 1818) apparently was the wild turkey. Since domestication of these two hosts, both species can be found on any gallinaceous host raised in association with barnyard flocks. In some cases the two parasites may occur in limited numbers on domestic ducks and geese. Also in some regions of the world these parasites are now established in many species of wild gallinaceous hosts.

A similar situation probably exists with the parasite **Colpocephalum turbinatum** Denny, 1842. This parasite, originally found on doves and pigeons, can now be found on kites, hawks, owls and eagles, where it is now established.

There is some evidence that host color may effect host selection by a parasite. Species of **Ardeicola**, found on the primaries of hosts of the order Ciconiiformes, appear to be host specific, with one exception. Recently it has been found that **Ardeicola expallidus** Blagoveshtchensky, 1940, a parasite first found on the Little Egret, **Egretta garzetta**, is also found on the common Egret, **Casmerodius albus**; the Cattle Egret, **Bubulcus ibis**; and the Snowy Egret, **Leucophoyx thula**. The only criteria for this distribution apparently is color of the host.

### PHILOPTERIDAE

A large family of worldwide distribution. Fourty - eight genera and 180 species represented in these collections.

**Acidoproctus** Piaget, 1878.

Reported from Anatidae 1 species.

**Acidoproctus emersoni** Timmerman, 1962.

Anatidae: **Dendrocygna javanica**.

A tree duck, from Thailand.

**Alcedoecus** Clay and Meinertzhagen, 1939.

Reported from Alcedinidae 8 species.

**Alcedoecus** sp.

Alcedinidae: **Halcyon sancta**.

**Alcedoecus annulatus annulatus** Ansart, 1956.

Alcedinidae: **Halcyon smyrnensis**.

Open country kingfisher, from Hong Kong, Malaya and Thailand.

**Alcedoecus annulatus orientalis** Tendeiro, 1965.

Alcedinidae: **Ceyx erithacus**.

Lowland forest kingfisher, from Malaya.

**Alcedoecus constrictus** Tendeiro, 1965.

Alcedinidae: **Halcyon pileata**.

Migrant farmyard kingfisher, from Hong Kong.

**Alcedoecus incisus** Tendeiro, 1965.

Alcedinidae: **Lacedo pulchella**.

Forest kingfisher, from Thailand.

**Alcedoecus latigenitalis** Eichler, 1944.

Alcedinidae: **Halcyon chloris**.

Coastal and mangrove kingfisher, from Philippines, Malaya, Indonesia.



**Alcedoecus mystacinus** (Nitzsch), 1866.

Alcedinidae: **Halcyon chloris**, **H. coromanda**.

Lowland kingfishers, from Malaya.

**Alcedoecus sumatranus** Eichler, 1944.

Alcedinidae: **Pelargopsis capensis**.

River kingfisher, from Thailand.

**Alcedoffula** Clay and Meinertzhagen, 1939.

Reported from Alcedinidae 6 species.

**Alcedoffula** sp.

Alcedinidae: **Ceyx cyanopectus**.

**Alcedoffula alcedinis** (Denny), 1842.

Alcedinidae: **Alcedo atthis**.

Common migrant lowland kingfisher, from Korea.

**Alcedoffula brehili** Tendeiro, 1967.

Alcedinidae: **Alcedo meninting**.

Lowland forest kingfisher, from Malaya.

**Alcedoffula carvalholi** Tendeiro, 1967.

Alcedinidae: **Alcedo euryzoma**.

Lowland forest kingfisher, from Malaya.

**Alcedoffula ceycis** Tendeiro, 1967.

Alcedinidae: **Ceyx rufidorsus**, **C. erithacus**.

Lowland forest kingfishers, from Malaya.

**Anaticola** Clay, 1936.

Reported from Anatidae 9 species.

**Anaticola anseris** (Linne), 1758.

Anatidae: **Anser anser**, **A. indicus**.

Geese, from India.

**Anaticola coloratus** (Piaget), 1880.

Anatidae: **Sarkidiornis melanotos**.

Comb duck, from India.

**Anaticola crassicornis** (Scopoli), 1763.

Anatidae: **Anas acuta**, **A. clypeata**, **A. crecca**, **A. penelope**, **A. strepera**, **Netta rufina**.

Ducks from India.

**Anatoecus** Cummings, 1916.

Reported from Phoenicopteridae 1 species, Anatidae 1.

**Anatoecus sp.**

Phoenicopteridae: **Phoeniconaias minor.**

Anatidae: **Nettapus coromandelianus.**

Cotton teal, from Thailand, and the Lesser Flamingo, from India.

**Aquanirmus** Clay and Meinertzhagen, 1939.

Reported from Podicipedidae 1 species.

**Aquanirmus bahli** Tandan, 1951.

Podicipedidae: **Podiceps ruficollis.**

Grebe, from India.

**Ardeicola** Clay, 1936.

Reported from Ardeidae 5 species, Ciconiidae 1.

**Ardeicola sp.**

Ardeidae: **Butorides striatus.**

**Ardeicola expallidus** Blagoveshtchensky, 1940.

Ardeidae: **Ardeola ibis, Egretta garzetta.**

Cattle Egret, from Taiwan and Little Egret, from Thailand.

**Ardeicola goisagi** Uchida, 1953.

Ardeidae: **Nycticorax nycticorax.**

Night heron, from Japan

**Ardeicola ixobrychae** Tuff, 1970.

Ardeidae: **Ixobrychus cinnamomeus.**

Bittern, from Thailand.

**Ardeicola lepidus** (Nitzsch), 1866.

Ciconiidae: **Anastomus oscitans.**

Open-billed stork, from Thailand.

**Auricotes** Keler, 1939.

Reported from Columbidae 1 species.

**Auricotes sp.**

Columbidae: **Ducula carola.**

**Brueelia** Keler, 1936.

Reported from Trogonidae 1 species, Meropidae 3, Capitonidae 1, Picidae 2, Eurylaimidae 1, Pittidae 1, Hirundinidae 4, Campephagidae 1, Dicruridae 5, Oriolidae 1, Corvidae 3, Certhiidae 1, Timaliidae 22, Paradoxornithidae 1, Pycnonotidae 5, Aegithinidae 2, Turdidae 13, Sylviidae 3, Muscicapidae 4, Motacillidae 2, Sturnidae 9, Fringillidae 6, Ploceidae 5.

**Brueelia sp.**

Trogonidae: **Harpactes ardens.**

Meropidae: **Merops leschenaulti, M. philippinus, M. viridis.**

Capitonidae: **Megalaima faiostriata.**

Picidae: **Gecinulus grantia.**

Eurylaimidae: **Serilophus lunatus.**

Pittidae: **Pitta phayrei.**

- Hirundinidae: *Delichon urbica*, *Hirundo daurica*, *H. rustica*, *H. tahitica*.
- Campephagidae: *Hemipus picatus*.
- Dicruridae: *Dicrurus adsimilis*, *D. balicassius*, *D. hottentottus*, *D. leucophaeus*, *D. paradiseus*.
- Oriolidae: *Oriolus chinensis*.
- Certhiidae: *Rhabdornis mystacalis*.
- Timaliidae: *Actinodura ramsayi*, *Alcippe castaneiceps*, *A. morrisonia*, *A. poiocephala*, *Garrula erythrocephalus*, *G. leucolophus*, *G. mitratus*, *G. ruficollis*, *Heterophasia melanoleuca*, *Leiothrix argentauris*, *Liocichla ripponi*, *Macronus gularis*, *Minla cyanouroptera*, *M. strigula*, *Myzornis pyrrhoura*, *Pomatorhinus erythrogenys*, *P. ferruginosus*, *P. ochraceiceps*, *P. schisticeps*, *Pteruthius flaviscapis*, *Stachyris nigriceps*, *Trichastoma tickelli*.
- Paradoxornithidae: *Paradoxornis atrosuperciliaris*.
- Pycnonotidae: *Criniger pallidus*, *Hypsipetes amaurotis*, *H. philippinus*, *Pycnonotus aurigaster*, *P. goiavier*.
- Aegithinidae: *Chloropsis aurifrons*, *Irena puella*.
- Turdidae: *Copsychus malabaricus*, *C. saularis*, *Erithacus brunnea*, *E. calliope*, *Myiomela leucura*, *Saxicola jerdoni*, *Turdus cardis*, *T. hortulorum*, *T. naumanni*, *T. pallidus*, *Zoothera citrina*, *Z. dixonii*.
- Sylviidae: *Cettia acanthizoides*, *Locustella fasciolata*, *Megalurus palustris*.
- Muscicapidae: *Muscicapa banyumas*, *M. moniliger*, *Philentoma pyrrhoptera*, *Rhipidura javanica*.
- Motacillidae: *Motacilla cinerea*.
- Sturnidae: *Ampeliceps coronatus*, *Gracupica melanoptera*, *Sarcops calvus*, *Sturnus contra*, *S. nigricollis*, *S. sinensis*, *S. tristis*.
- Fringillidae: *Carduelis sinica*, *Carpodacus nipalensis*, *C. roseus*, *Emberiza aureola*, *E. spodocephala*.
- Ploceidae: *Lonchura leucogaster*, *L. leucogastroides*, *L. malacca*, *L. punctulata*, *Padda oryzivora*.
- Brueelia acutangulata** (Piaget), 1880.  
Sturnidae: *Gracula religiosa*.  
Hill Myna, from Thailand.
- Brueelia daumae** (Clay), 1936.  
Turdidae: *Zoothera dauma*.  
Forest ground thrush, from Japan.
- Brueelia domestica** (Kellogg and Chapman), 1899.  
Hirundinidae: *Hirundo rustica*.  
House swallow overwintering in Thailand.
- Brueelia fulmeki** Eichler, 1957.  
Sturnidae: *Aplonis panayensis*.  
Starling of man disturbed areas, from Philippines.

- Brueelia fuscopleura** (Blagoveshtchensky), 1951.  
 Sturnidae: **Sturnus tristis**.  
 Farmyard starling.
- Brueelia glandarii** (Denny), 1842  
 Corvidae: **Garrulus glandarius**.  
 Woodland jay, from northern Thailand.
- Brueelia gracilis** (Burmeister), 1838.  
 Hirundinidae: **Delichon urbica**.  
 House martin, from Japan.
- Brueelia junco** (Giebel), 1874.  
 Fringillidae: **Coccothraustes coccothraustes**.  
 Palearctic woodland hawfinch, from Korea.
- Brueelia kratochavili** Balat, 1958.  
 Motacillidae: **Motacilla flava**.  
 Migrant palearctic wagtail, from Korea and Thailand.
- Brueelia saliemi saliemi** Ansari, 1957.  
 Corvidae: **Corvus splendens**.  
 House crow, from India.
- Brueelia saliemi mollii** Ansari, 1957.  
 Corvidae: **Corvus macrorhynchos**.  
 Jungle crow, from Thailand.
- Brueelia straminea** (Denny), 1842.  
 Picidae: **Dendrocopos major**.  
 Deciduous woodland woodpecker, from Korea.
- Buceronirmus** Hopkins, 1941.  
 Reported from Bucerotidae 2 species.
- Buceronirmus albescens** (Piaget), 1890.  
 Bucerotidae: **Anthracoceros albirostris**.  
 Lowland forest hornbill, from Nepal.
- Buceronirmus cephalotus** (Nitzsch), 1866.  
 Bucerotidae: **Buceros bicornis**.  
 Primary forest hornbill, from Thailand.
- Capraiella** Conci, 1941.  
 Reported from Coraciidae 1 species.
- Capraiella subcuspidata** (Burmeister), 1838.  
 Coraciidae: **Eurystomus orientalis**.  
 Migrant roller, from Philippines.
- Carduceps** Clay and Meinertzhagen, 1939.  
 Reported from Scolopacidae 12 species.

- Carduiceps cingulatus cingulatus** Denny, 1842.  
Scolopacidae: **Limosa limosa**.  
Shorebird, from India.
- Carduiceps complexinus** (Kellogg and Chapman), 1899.  
Scolopacidae: **Calidris alba**.
- Carduiceps fulvofasciatus** (Grube), 1851.  
Scolopacidae: **Xenus cinereus**.  
Shorebird, from Philippines and Thailand.
- Carduiceps meinertzhageni** Timmermann, 1954.  
Scolopacidae: **Calidris alpina**.  
Shorebird, from Taiwan.
- Carduiceps zonarius** (Nitzsch), 1866.  
Scolopacidae: **Calidris canutus**, **C. ruficollis**, **C. temmincki**, **C. testaceus**, **C. subminuta**,  
**Limicola falcinellus**, **Tringa stagnatilis**.  
Shorebirds, from Philippines and Thailand.  
**Columbicola** Ewing, 1929.  
Reported from Columbidae 12 species.
- Columbicola** sp.  
Columbidae: **Phapitreron leucotis**, **Streptopelia bitorquata**.
- Columbicola cavifrons** (Taschenberg), 1882.  
Columbidae: **Ducula aenea**.  
Mountain forest fruit pigeon, from Thailand.
- Columbicola deboomi** Tendeiro, 1969.  
Columbidae: **Phapitreron leucotis**.  
Forest fruit pigeon, from Philippines.
- Columbicola elbeli elbeli** Tendeiro, 1962.  
Columbidae: **Treron sphenurus**, **T. vernans**.
- Columbicola exilicornis** (Piaget), 1880.  
Columbidae: **Macropygia phasianella**, **M. unchall**.  
Forest doves, from Thailand.
- Columbicola guimaraesi** Tendeiro, 1962.  
Columbidae: **Chalcophaps indica**, **Columba vitiensis**.  
A forest ground dove from Philippines, and wild pigeon from Bhutan.
- Columbicola mjobergi** Eichler, 1943.  
Columbidae: **Geopelia striata**.  
A farmland ground dove, from Philippines.
- Columbicola turturis** (Uchida), 1917.  
Columbidae: **Streptopelia orientalis**.  
Palearctic farmland dove, from Korea.

- Columbicola veigasimoni** Tendeiro, 1967.  
 Columbidae: **Phapitreron amethystina**, **P. leucotis**.  
**Craspedorrhynchus** Keler, 1938.  
 Reported from Accipitridae 6 species.
- Craspedorrhynchus** sp.  
 Accipitridae: **Aquila heliaca**, **Butastur indicus**.
- Craspedorrhynchus aquilinus** (Denny), 1842.  
 Accipitridae: **Aquila chrysaetos**.  
 Eagle, from Korea.
- Craspedorrhynchus pachypus** (Giebel), 1874.  
 Accipitridae: **Haliastur indus**.  
 Brahminy Kite, from Thailand.
- Craspedorrhynchus platystomus** (Burmeister), 1838.  
 Accipitridae: **Buteo buteo**.  
 Brushland hawk, from Korea.
- Craspedorrhynchus spathulatus** (Giebel), 1874.  
 Accipitridae: **Milvus migrans**.  
 Lowland kite, from Malaya.  
**Cuclogaster** Carriker, 1936.  
 Reported from Phasianidae 2 species.
- Cuclogaster** sp.  
 Phasianidae: **Perdica argoondah**.
- Cuclogaster cinereus** (Nitzsch), 1866.  
 Phasianidae: **Coturnix chinensis**.  
 Grassland quail, from Philippines.  
**Cuculicola** Clay and Meinertzhagen, 1939.  
 Reported from Cuculidae 5 species.
- Cuculicola** sp.  
 Cuculidae: **Clamator jacobinus**.  
 From India.
- Cuculicola coromandus** (Rudow), 1869.  
 Cuculidae: **Clamator coromandus**.  
 Migrant brushland cuckoo, from Thailand.
- Cuculicola hardayali** Somadder and Tandan, 1970.  
 Cuculidae: **Phoenicophaeus tristis**.  
 Malcoha from forests of Thailand.
- Cuculicola philippensis** Somadder and Tandan, 1970.  
 Cuculidae: **Centropus sinensis**, **C. melanops**.  
 Brushland cuckoos.

**Cuculicola sinensis** Somadder and Tandan, 1970.

Cuculidae: **Centropus sinensis**.

**Cuculoecus** Ewing, 1926.

Reported from Cuculidae 2 species.

**Cuculoecus** sp.

Cuculidae: **Cacomantis merulinus**, **Cuculus saturatus**.

**Cummingsiella** Cummings, 1916.

Reported from Scolopacidae 2 species.

**Cummingsiella aurea** Hopkins, 1949.

Scolopacidae: **Scolopax rusticola**.

Woodcock, from Thailand.

**Cummingsiella ovalis** (Scopoli), 1763.

Scolopacidae: **Numenius arquata**.

Shorebird.

**Degeeriella** Neuman, 1906.

Reported from Accipitridae 13 species, Falconidae 1.

**Degeeriella** sp.

Accipitridae: **Accipiter soloensis**, **A. trivirgatus**, **Spilornis cheela**.

**Degeeriella beaufacies** Ansari, 1955.

Accipitridae: **Butastur indicus**, **B. teesa**.

Forest hawks, from Taiwan and Nepal.

**Degeeriella elani** Tendeiro, 1955.

Accipitridae: **Circus melanoleucos**.

A harrier of open fields, from Thailand.

**Degeeriella fulva** (Giebel), 1874.

Accipitridae: **Aquila nipalensis**, **Buteo buteo**.

Hawks, from Thailand and Korea.

**Degeeriella nisus frater** (Piaget), 1880.

Accipitridae: **Accipiter badius**, **A. virgatus**.

Woodland sparrow hawks, from Thailand.

**Degeeriella nisus vagans** (Giebel), 1874.

Accipitridae: **Accipiter gentilis**.

**Degeeriella regalis deignani** Clay, 1958.

Accipitridae: **Haliastur indus**.

Brahminy Kite, from Thailand.

**Degeeriella regalis regalis** (Giebel), 1874.

Accipitridae: **Milvus migrans**.

Kite, from Malaya.

**Degeeriella rufa rufa** (Burmeister), 1838.

Falconidae: **Falco tinnunculus**.

Falcon, from Nepal.

**Emersoniella** Tendeiro, 1965.

Reported from Alcedinidae 3 species.

**Emersoniella halcyonis** Tendeiro, 1965.

Alcedinidae: **Halcyon concreta**, **H. hombroni**, **H. lindsayi**.

Lowland forest kingfishers, from Sarawak, Malaya, and Philippines.

**Falcolipeurus** Bedford, 1931

Reported from Accipitridae 1 species.

**Falcolipeurus suturalis** (Rudow), 1869.

Accipitridae: **Aquila chrysaetos**.

Eagle, from Korea.

**Falcolius** Clay, 1956.

Reported from Falconidae 1 species.

**Falcolius samarensis** Clay, 1956.

Falconidae: **Microhierax erythrogenys**.

Falconet of brushlands, from Philippines.

**Fulicoffula** Clay and Meinertzhagen, 1938.

Reported from Rallidae 2 species, Heliornithiidae 1.

**Fulicoffula** sp.

Rallidae: **Porzana pusilla**.

**Fulicoffula lurida** (Nitzsch), 1818.

Rallidae: **Fulica atra**.

Coot, from India.

**Fulicoffula personata** Emerson and Price, 1967.

Heliornithiidae: **Heliopais personata**.

Finfoot, a marsh bird, from Thailand.

**Goniocotes** Burmeister, 1838.

Reported from Phasianidae 4 species.

**Goniocotes** sp.

Phasianidae: **Arborophila cambodiana**, **A. charltonii**, **A. rufugularis**, **Lophura leucomelana**.



**Goniodes** Nitzsch, 1818.

Reported from Phasianidae 7 species.

**Goniodes** sp.

Phasianidae: **Lophura leucomelana**, **L. erythrophthalma**.

**Goniodes astrocephalus** Burmeister, 1838.

Phasianidae: **Ccturnix chinensis**.

Grassland quail, from Philippines.

**Goniodes chloropus** Emerson and Elbel, 1957.

Phasianidae: **Arborophila charltonii**.

Forest partridge, from Thailand.

**Goniodes curvicornis** (Nitzsch), 1866.

Phasianidae: **Argusianus argus**.

Lowland forest pheasant, from Malaya.

**Goniodes dentatus** (Rudow), 1870.

Phasianidae: **Lophura leucomelana**.

Forest pheasant, from Nepal.

**Goniodes diardi** Clay, 1940.

Phasianidae: **Lophura diardi**.

Forest pheasant, from Thailand.

**Goniodes indicus** (Kellogg and Paine), 1944.

Phasianidae: **Arborophila rufogularis**.

Mountain forest tree partridge, from Thailand.

**Goniodes ocellatus** Rudow, 1869.

Phasianidae: **Lophura leucomelana**.

Forest pheasant, from Nepal.

**Goniodes processus** Kellogg and Paine, 1914.

Phasianidae: **Arborophila rufogularis**.

Mountain forest tree partridge, from Thailand.

**Halipeurus** Thompson, 1936.

Reported from Procellariidae 1 species.

**Halipeurus** sp.

Procellariidae: **Puffinus leucomelas**.

**Halipeurus angusticeps** (Piaget), 1880.

Procellariidae: **Puffinus leucomelas**.

Shearwater, from Japan.

**Lipeurus** Nitzsch, 1818.

Reported from Phasianidae 4 species.

**Lipeurus** sp.

- Phasianidae: **Bambusicola fytchii**.  
High mountain partridge, from Thailand.
- Lipeurus caponis** (Linne), 1758.  
Phasianidae: **Argusianus argus**.  
Lowland forest pheasant, from Malaya.
- Lipeurus introductus** Kellogg, 1896.  
Phasianidae: **Lophura leucomelana**.  
Forest pheasant, from Thailand.
- Lipeurus lewisi** Elbel and Price, 1970.  
Phasianidae: **Caloperdix oculatea**.  
Lowland forest tree partridge, from Thailand.
- Lunaceps** Clay and Meinertzhagen, 1939.  
Reported from Scolopacidae 16 species.
- Lunaceps** sp.  
Scolopacidae: **Arenaria interpres**, **Calidris alpina**, **C. ruficollis**, **C. subminuta**,  
**C. tenuirostris**, **Limosa limosa**, **Xenus cinereus**.
- Lunaceps falcinellus** Timmermann, 1954.  
Scolopacidae: **Limicola falcinellus**.  
Shorebird, from Thailand.
- Lunaceps holophaeus actophilus** (Kellogg and Chapman), 1899.  
Scolopacidae: **Calidris alba**.
- Lunaceps holophaeus drosti** Timmermann, 1954.  
Scolopacidae: **Calidris canutus**, **C. ruficollis** **C. tenuirostris**.  
Shorebirds, from Thailand.
- Lunaceps holophaeus holophaeus** (Burmeister), 1838.  
Scolopacidae: **Philomachus pugnax**.  
Ruff, from India.
- Lunaceps holophaeus** Timmermann, 1968.  
Scolopacidae: **Calidris testaceus**.  
Shorebird.
- Lunaceps limosella limosella** Timmermann, 1954.  
Scolopacidae: **Limosa lapponica**.  
Shorebird, from India.
- Lunaceps numenii lissmanni** Timmermann, 1954.  
Scolopacidae: **Numenius minutus**.  
Shorebird, from Philippines.

- Luniceps numenii numenii** (Denny), 1842.  
Scolopacidae: **Numenius arquata**.
- Luniceps numenii phaeopi** (Denny), 1842.  
Scolopacidae: **Numenius phaeopus**.  
Shorebird, from Japan, Philippines and Thailand.  
**Meropoecus** Eichler, 1940.  
Reported from Meropidae 3 species.
- Meropoecus** sp.  
Meropidae: **Merops leschenaulti**, **Nyctiornis athertoni**
- Meropoecus capri** Conci, 1941.  
Meropidae: **Merops orientalis**.  
Open country bee-eater, from Thailand.
- Meropoecus smithi** Emerson and Elbel, 1957.  
Meropidae: **Merops leschenaulti**.  
Brushland and forest bee-eater, from Thailand.  
**Mulcticola** Clay and Meinertzhagen, 1938.  
Reported from Caprimulgidae 1 species.
- Mulcticola deignani** Emerson and Elbel, 1957.  
Caprimulgidae: **Caprimulgus macrurus**.  
Open-country night-jar, from Thailand.  
**Neophilopterus** Cummings, 1916.  
Reported from Ciconiidae 2 species.
- Neophilopterus completus** (Nitzsch), 1866.  
Ciconiidae: **Anastomus oscitans**.  
Stork colony, from Thailand.
- Neophilopterus phillipsi** Hajela, 1970.  
Ciconiidae: **Ibis leucocephalus**.  
Stork, from India.  
**Nitzschiella** Keler, 1939.  
Reported from Columbidae 8 species.
- Nitzschiella** sp.  
Columbidae: **Chalcophaps indica**, **Phapitreron leucotis**.
- Nitzschiella doreyana** Eichler, 1950.  
Columbidae: **Macropygia unchall**.  
Mountain forest cuckoo-dove, from Thailand.
- Nitzschiella emersoni** Tendeiro, 1969.  
Columbidae: **Columba vitiensis**.

- Nitzschiella elbeli** Tendeiro, 1969.  
Columbidae: **Columba punicea**.  
Lowland wood pigeon, from Thailand.
- Nitzschiella lativentris** (Uchida), 1916.  
Columbidae: **Streptopelia chinensis**.  
Farmyard dove.
- Nitzschiella orientalis** Tendeiro, 1969.  
Columbidae: **Streptopelia orientalis**.  
Farmland dove, from Thailand.
- Nitzschiella piriformis** Tendeiro, 1969.  
Columbidae: **Chalcophaps indica**.  
Forest ground dove, from Thailand.
- Nitzschiella streptopeliae** Carriker, 1949.  
Columbidae: **Streptopelia bitorquata**.  
Open country dove, from Philippines.
- Oxylipeurus** Mjoberg, 1910.  
Reported from Phasianidae 5 species.
- Oxylipeurus** sp.  
Phasianidae: **Arborophila charltonii**.  
Forest tree partridge, from Thailand.
- Oxylipeurus dentatus** (Sugimoto), 1934.  
Phasianidae: **Gallus gallus**.  
Wild chicken, from Thailand.
- Oxylipeurus formosanus** (Uchida), 1917.  
Phasianidae: **Arborophila cambodiana**.  
Forest tree partridge, from Thailand.
- Oxylipeurus songprakobi** Elbel and Price, 1970.  
Phasianidae: **Caloperdix oculatea**.  
Forest partridge, from Thailand.
- Oxylipeurus unicolor** (Piaget), 1880.  
Phasianidae: **Arborophila cambodiana**, **A. rufogularis**.  
Forest tree partridges, from Thailand.
- Packyskelotes** Keler, 1939.  
Reported from Phasianidae 1 species.
- Packyskelotes orthopleurus** (Nitzsch), 1874.  
Phasianidae: **Argusianus argus**.  
Lowland forest pheasant, from Malaya.

**Paroncoporus** Harrison, 1916.

Reported from Bucerotidae 1 species.

**Paroncoporus** sp.

Bucerotidae: **Anthracoceros albirostris**.

Forest hornbill, from Thailand.

**Pectinopygus** Mjoberg, 1910.

Reported from Pelecanidae 1 species, Phalacrocoracidae 4.

**Pectinopygus** sp.

Pelecanidae: **Pelecanus philippensis**.

Phalacrocoracidae: **Phalacrocorax fuscicollis**.

**Pectinopygus gyricornis** (Denny), 1842.

Phalacrocoracidae: **Phalacrocorax carbo**.

Common cormorant, from Thailand.

**Pectinopygus makundi** Tandan, 1952.

Phalacrocoracidae: **Phalacrocorax niger**.

River cormorant, from India.

**Pectinopygus setosus** (Piguet), 1880.

Phalacrocoracidae: **Phalacrocorax sulcirostris**.

Cormorant, from Java.

**Penenirmus** Clay and Meinertzhagen, 1938.

Reported from Capitonidae 4 species, Picidae 9, Alaudidae 1, Sylviidae 2.

**Penenirmus** sp.

Capitonidae: **Megalaima asiatica**, **M. australis**.

Picidae: **Dendrocopos atratus**, **D. kizuki**, **Ficumnus innominatus**, **Picus chlorolophus**,  
**P. flavinucha**.

Sylviidae: **Cettia acanthizoides**, **Phylloscopus davisoni**.

**Penenirmus auritus** (Scopoli), 1763.

Picidae: **Dendrocopus leucotus**, **Picus miniaceus**.

Forest woodpeckers, from Japan and Malaya.

**Penenirmus hibari** (Uchida), 1949.

Alaudidae: **Alauda arvensis**.

Opencountry lark, from Taiwan.

**Penenirmus pici** (Fabricius, J.C.), 1798.

Picidae: **Dinopium javanense**, **Picus canus**, **P. erythropygius**, **P. flavinucha**.

Forest woodpeckers, from Thailand.

**Penenirmus rafflesi** Dalgleish, 1967.

Capitonidae: **Megalaima rafflesi**.

Lowland forest barbet, from Malaya.

**Penenirmus zeylanicus** Dalglish, 1967.

Capitonidae: **Megalaima zeylanica**.

Forest barbet, from Malaya.

**Philopterus** Nitzsch, 1818.

Reported from Trogonidae 2 species, Eurylaimidae 1, Pittidae 8, Alaudidae 1, Hirundinidae 4, Campephagidae 1, Dicruridae 3, Corvidae 3, Cinclidae 1, Timaliidae 2, Pycnonotidae 5, Turdidae 5, Sylviidae 5, Muscicapidae 4, Prunellidae 1, Laniidae 2, Nectariniidae 1, Fringillidae 10.

**Philopterus** sp.

Trogonidae: **Harpactes diardi**, **H. duvauceli**.

Eurylaimidae: **Calyptomena viridis**.

Pittidae: **Pitta erythrogaster**,

Alaudidae: **Mirafra javanica**.

Hirundinidae: **Hirundo daurica**.

Campephagidae: **Hemipus picatus**.

Dicruridae: **Dicrurus hottentottus**, **D. leucophaeus**, **D. paradiseus**.

Corvidae: **Cyanopica cyana**, **Garrulus glandarius**.

Timaliidae: **Garrulax erythrocephalus**, **G. canorus**.

Pycnonotidae: **Criniger bres**, **C. ochraceus**, **C. phaeocephalus** **Hypsipetes philippinus**,  
**Pycnonotus atriceps**.

Cinclidae: **Cinclus pallasii**.

Turdidae: **Copsychus malabaricus**, **Erithacus calliope**, **Turdus cardis**, **T. naumanni**,  
**Zoothera citrina**.

Sylviidae: **Acrocephalus arundinaceus**, **Bradypterus thoracicus**, **Locustella fasciolata**, **Phylloscopus borealis**, **P. schwarzi**.

Muscicapidae: **Hypothymis azurea**, **Muscicapa zanthopygia**, **Rhipidura cyaniceps**,  
**Terpsiphone paradisi**.

Prunellidae: **Prunella montanella**.

Laniidae: **Lanius bucephalus**, **L. cristatus**.

Nectariniidae: **Arachnothera affinis**.

Fringillidae: **Carpodacus erythrinus**, **C. nipalensis**, **Emberiza cioides**, **E. elegans**,  
**E. fucata**, **E. rutila**, **E. spodocephala**, **Fringilla montifringilla**, **Mycerobras melanozanthus**, **Pyrrhula erythaca**.

**Philopterus claviformis** (Piaget), 1885.

Pittidae: **Pitta oatesi**, **P. sordida**, **P. caerulea**, **P. cyanea**, **P. moluccensis**, **P. quajana**,  
**P. soror**.

Forest edge species, from Thailand and Malaya.

**Philopterus coarctatus** (Scopoli), 1763.

Laniidae: **Lanius bucephalus**.

Migrant shrike, from Taiwan.

**Philopterus excisus** Nitzsch, 1818.

Hirundinidae: **Pseudochelidon sirintarae**.

River Martin, from Thailand.

**Philopterus excisus excisus** Nitzsch, 1818.

Hirundinidae: **Delichon urbica**.

House Martin, from Japan and Thailand.

**Philopterus excisus microsomaticus** Tandan, 1955.

Hirundinidae: **Hirundo rustica**.

House swallow, from Japan.

**Philopterus extraneus** (Piaget), 1885.

Corvidae: **Corvus macrorhynchos**.

Crow of cultivated land, from Thailand.

**Philopterus rapax** (Zlotorzyczka), 1964.

Fringillidae: **Fringilla montifringilla**.

Woodland finch, from Korea.

**Picicola** Clay and Meinertzhagen, 1938.

Reported from Pittidae 1 species, Picidae 2.

**Picicola** Sp.

Pittidae: **Pitta erythrogaster**.

**Picicola candidus** (Nitzsch), 1866.

Picidae: **Picus canus**.

Lowland forest woodpecker, from Thailand.

**Picicola snodgrassi** (Kellogg), 1896.

Picidae: **Dendrocopos major**.

Woodland woodpecker, from Korea.

**Quadriceps** Clay and Meinertzhagen, 1939.

Reported from Rostratulidae 1, Charadriidae 8, Scolopacidae 9, Recurvirostridae 1, Glareolidae 2, Laridae 8, Phalaropodidae 1.

**Quadriceps** sp.

Laridae: **Larus brunneiceps**, **L. ichthyæetus**, **Sterna sumatrana**.

Scolopacidae: **Xenus cinereus**.

**Quadriceps anagrapsus** (Nitzsch), 1866.

Laridae: **Chlidonias leucopterus**.

Coastal gull, from Thailand.

- Quadriceps assimilis assimilis** (Piaget), 1880.  
Charadriidae: **Charadrius peroni**, **C. asiaticus**.  
Shorebirds, from Philippines.
- Quadriceps assimilis major** (Kellogg), 1899.  
Charadriidae: **Charadrius alexandrinus**, **C. mongolus**.  
Shorebirds, from Taiwan, Philippines, Thailand.
- Quadriceps assimilis pallasi** Timmermann, 1953.  
Charadriidae: **Charadrius mongolus**.
- Quadriceps assimilis ptyadis** (Seguy), 1949.  
Charadriidae: **Charadrius leschenaulti**.  
Shorebird, from Philippines, and Thailand.
- Quadriceps bicuspis** (Nitzsch), 1874.  
Charadriidae: **Charadrius dubius**.  
Shorebird, from Philippines and Thailand.
- Quadriceps charadrii orarius** (Kellogg), 1896.  
Charadriidae: **Charadrius dominicus**.  
Shorebird, from Philippines, Thailand, Malaya.
- Quadriceps conformis** (Blagoveshtchensky), 1940.  
Scolopacidae: **Heteroscelus incanus**, **Tringa totanus**.  
Shorebirds, from Philippines, Thailand.
- Quadriceps connexus** (Kellogg and Mann), 1912.  
Phalaropodidae: **Phalaropus lobatus**.
- Quadriceps dasi** Tandan, 1952.  
Charadriidae: **Vanellus indicus**.  
Marshland lapwing, from Thailand.
- Quadriceps ellipticus** (Nitzsch), 1866.  
Glareolidae: **Glareola pratincola**, **G. lactea**.  
Open country birds, Swallow-plovers, from Thailand and Malaya, and from India.
- Quadriceps furvus** (Burmeister), 1838.  
Scolopacidae: **Tringa erythropus**.  
Marshland sandpiper, from India.
- Quadriceps griseus** (Rudow), 1869.  
Laridae: **Hydroprogne caspia**.  
Tern, from Thailand.
- Quadriceps hemichrous** (Nitzsch), 1866.  
Recurvirostridae: **Himantopus himantopus**.  
Shorebird of marshlands, from Thailand.



- Quadriceps insignis** Timmermann, 1951.  
 Laridae: **Sterna aurantia**.  
 River tern, from Thailand.
- Quadriceps legatus** Timmermann, 1952.  
 Laridae: **Sterna anaethetus**.  
 Coastal tern, from Thailand.
- Quadriceps lyallpurensis** Ansari, 1951.  
 Scolopacidae: **Tringa ochropus**.  
 From India.
- Quadriceps obscurus** (Burmeister), 1838.  
 Scolopacidae: **Tringa glareola**, **T. stagnatilis**.  
 Riceland sandpipers, from Philippines, Thailand.
- Quadriceps ochropi** (Denny), 1842.  
 Scolopacidae: **Tringa ochropus**, **T. glareola**.  
 Sandpipers, from Thailand and India.
- Quadriceps pagasti** Eichler, 1951.  
 Laridae: **Chlidonias leucopterus**.  
 Seagull, from Thailand.
- Quadriceps quadrisetaceus** (Piaget), 1880.  
 Rostratulidae: **Rostratula benghalensis**.  
 Painted Snipe, from marshes of Philippines.
- Quadriceps ravus** (Kellogg), 1899.  
 Scolopacidae: **Actitis hypoleucos**, **Tringa nebularia**.  
 Common sandpipers, from Korea, Philippines, Thailand.
- Quadriceps semifissus semifissus** Nitzsch, 1866.  
 Recurvirostridae: **Himantopus himantopus**.  
 Shorebird, from Thailand.
- Quadriceps separatus** (Kellogg and Kuwana), 1902.  
 Laridae: **Anous stolidus**.  
 Seabird, from Thailand.
- Quadriceps similis** (Giebel), 1866.  
 Scolopacidae: **Tringa nebularia**.  
 Shorebird, from India.
- Quadriceps strepsilaris** (Denny), 1842.  
 Scolopacidae: **Arenaria interpres**.  
 Turnstone, from Japan and Philippines.
- Rallicola** Johnston and Harrison, 1911.  
 Reported from Rallidae 12 species, Jacanidae 1, Cuculidae 3.

**Rallicola** sp.

Rallidae: **Amaurornis olivaceus**, **A. phoenicurus**, **Crex crex** **Rallina eurizonoides**,  
**Rallus mirificus**.

**Rallicola ferrisi** Emerson, 1955.

Rallidae: **Gallicrex cinerea**.  
Marsh bird, from Philippines.

**Rallicola fulicae** (Denny), 1842.

Rallidae: **Fulica atra**.  
Coot, from India.

**Rallicola gracilentus** Clay, 1953.

Rallidae: **Rallus torquatus**.  
Rail from Philippines.

**Rallicola indicus** Emerson and Elbel, 1961.

Jacaniidae: **Metipodius indicus**.  
Marsh bird, from India.

**Rallicola minutus** (Nitzsch), 1866.

Rallidae: **Gallinula chloropus**.  
Marsh bird, from Philippines.

**Rallicola ortyometrae affinis** (Piaget), 1880.

Rallidae: **Rallus striatus**.  
From Philippines.

**Rallicola ortyometrae clayae** Tandan, 1951.

Rallidae: **Amaurornis phoenicurus**.  
Marsh bird, from Malaya.

**Rallicola ortyometrae ortyometrae** (Schrank), 1781.

Rallidae: **Crex crex**.  
From Philippines.

**Rallicola tabuensis** Emerson, 1966.

Rallidae: **Porzana tabuensis**.  
Marsh bird, from Philippines.

**Rallicola thompsoni** Tendeiro, 1965.

Rallidae: **Porphyrio porphyrio**.  
Marsh bird, from India.

**Rallicola unguiculatus** (Piaget), 1880.

Cuculidae: **Centropus sinensis**, **C. toulou**, **C. viridis**.  
Brushland coucals, from Malaya and Philippines.

**Rhynonirmus** Thompson, 1935.

Reported from Scolopacidae 1 species, Cuculidae 1.

**Rhynonirmus** sp.

Scolopacidae: **Capella megala**.

**Rhynonirmus kingi** Emerson and Price, 1970.

Cuculidae: **Carpococeyx renauldi**.

Ground Cuckoo, from Thailand.

**Saemundssonina** Timmermann, 1935.

Reported from Procellariidae 1 species, Charadiidae 3, Scolopacidae 2, Laridae 11.

**Saemundssonina** sp.

Laridae: **Chlidonias leucoptera**, **Hydroprogne caspia**, **Sterna bergii**, **S. sumatrana**.

**Saemundssonina chenamycha** (Seguy), 1949.

Charadiidae: **Charadrius leschenaulti**, **C. mongolus**.

Shorebirds, from Thailand.

**Saemundssonina conica conica** (Denny), 1842.

Charadiidae: **Charadrius dominicus**.

Shorebird, from Philippines.

**Saemundssonina gelochelidoni** Touleshkov, 1959.

Laridae: **Gelochelidon nilotica**.

Coastal Tern, from Thailand.

**Saemundssonina hopkinsi** Clay, 1949.

Laridae: **Sterna aurantia**.

Tern, from Thailand.

**Saemundssonina lari** (O. Fabricius), 1780.

Laridae: **Larus brunneicephalus**, **L. ridibundus**.

Seagulls, from Thailand.

**Saemundssonina meridiana** Timmermann, 1950.

Laridae: **Sterno anaethetus**.

Tern, from Thailand.

**Saemundssonina orientalis** (Uchida), 1949.

Procellariidae: **Puffinus leucomelas**.

Shearwater, from Japan.

**Saemundssonina platygaster platygaster** (Denny), 1842.

Charadiidae: **Charadrius mongolus**.

Shorebird.

**Saemundssonina platygaster frater** (Giebel), 1874.

Scolopacidae: **Actitis hypoleucos**.

Migrant, rice field Sandpiper, from Philippines.

**Saemundssonina scolopacis phaeopodis** (Shrank), 1803.

Scolopacidae: **Numenius phaeopus**.

Shorebird, from Philippines.

**Saemundssonina sterna** (Linne), 1758.

Laridae: **Sterna dougallii**, **S. hirundo**.

Terns, from Thailand.

**Saemundssonina tringae** (O. Fabricius), 1780.

Scolopacidae: **Actitis hypoleucos**.

Migrant field Sandpiper, from Philippines.

**Strigiphilus** Mjöberg, 1910.

Reported from Strigidae 14 species, Tytonidae 2.

**Strigiphilus** sp.

Strigidae: **Bubo coromandus**.

**Strigiphilus aitkeni** Clay, 1966.

Tytonidae: **Tyto alba**.

Barn owl, from Thailand.

**Strigiphilus bramae** (Qadri), 1935.

Strigidae: **Athene brama**, **Ketupa zeylonensis**.

Owls, from Thailand.

**Strigiphilus heterogenitalis** Emerson and Elbel, 1957.

Strigidae: **Glaucidium brodiei**, **Ninox philippensis**, **N. scutulata**, **Otus bakkamoena**,  
**O. scops**, **O. spilocephalus**.

Woodland owls, from Philippines and Thailand.

**Strigiphilus ketupae** Emerson and Elbel, 1957.

Strigidae: **Ketupa ketupu**, **K. zeylonensis**, **Ninox philippensis**, **Bubo philippensis**,  
**Strix leptogrammica**, **S. seloputo**.

Woodland owls, from Philippines, Thailand.

**Strigiphilus macrogenitalis** Emerson and Elbel, 1957.

Strigidae: **Glaucidium cuculoides**.

Mountain forest owl, from Thailand.

**Strigiphilus marshalli** Clay, 1966.

Tytonidae: **Phodilus badius**.

Lowland owl, from Thailand.

**Strigiphilus siamensis** Emerson and Elbel, 1957.

Strigidae: **Glaucidium brodiei**.

Mountain forest owl, from Thailand.

**Strigiphilus tuleskovi** Balat, 1958.

Strigidae: **Otus bakkamoena**, **O. scops**.

Forest owls, from Thailand.

**Sturnidoecus** Eichler, 1944.

Reported from Eurylaimidae 1 species, Pycnonotidae 3, Turdidae 2, Sylviidae 1, Sturnidae 5, Nectariniidae 1, Ploceidae 2.

**Sturnidoecus** sp.

Eurylaimidae: **Serilophus lunatus**.

Pycnonotidae: **Pycnonotus goiavier**, **P. melanicterus**, **P. sinensis**.

Turdidae: **Turdus chrysolaus**, **T. obscurus**.

Sylviidae: **Cettia acanthizoides**.

Sturnidae: **Aplonis panayensis**, **Sarcops calvus**.

Nectariniidae: **Arachnothera affinis**.

Ploceidae: **Lonchura punctulata**.

**Sturnidoecus avinus** Ansari, 1968.

Sturnidae: **Sturnus tristis**.

Farmyard starling.

**Sturnidoecus banno** Ansari, 1968.

Sturnidae: **Sturnus ginginianus**.

Farmyard starling, from India.

**Sturnidoecus capensis** (Giebel), 1874.

Sturnidae: **Sturnus contra**.

Farmland starling, from Thailand.

**Sturnidoecus ruficeps** (Nitzsch), 1866.

Ploceidae: **Passer montanus**.

Farmyard and city sparrow, from Taiwan.

**Trabeculus** Rubow, 1866.

Reported from Procellariidae 1 species.

**Trabeculus hexakon** (Waterstan), 1914.

Procellariidae: **Puffinus leucomelas**.

Shearwater, from Philippines.

**Turnicola** Clay and Meinertzhagen, 1939.

Reported from Turnicidae 3 species.

**Turnicola** sp.

Turnicidae: **Turnix tanki**.

Grassland quail.

**Turnicola angustissimus** (Giebel), 1866.

Turnicidae: **Turnix suscitator**.

Quail, from Taiwan.

**Turnicola nigrolineatus** (Piaget), 1880.

Turnicidae: **Turnix sylvatica**.

Grassland quail, from Taiwan.

**Upupicola** Clay and Meinertzhagen, 1939.

Reported from Upupidae 1 species.

**Upupicola upupae** (Schrank), 1803.

Upupidae: **Upupa epops**.

Farmland bird, from India

### LAEMOBOTHRIIDAE

This family was not well represented in the collections. Species were reported only from hawks and rails. One genus, 5 species.

**Laemobothrion** Nitzsch, 1818.

Reported from Accipitridae 5 species, Falconidae 1, Rallidae 2.

**Laemobothrion atrum** (Nitzsch), 1818.

Rallidae: **Fulica atra**.

Rail.

**Laemobothrion chloropodis** (Schrank), 1803.

Rallidae: **Gallinula chloropus**.

Marsh bird, from Philippines.

**Laemobothrion maximum** (Scopoli), 1763.

Accipitridae: **Accipiter gentilis**, **Butastur indicus**, **B. teesa**, **Ictinaetus malayensis**.

Forest hawks, from Malaya, Thailand.

**Laemobothrion tinnunculi** (Linne), 1758.

Falconidae: **Falco tinnunculus**.

Open country falcon, from Hong Kong, Nepal.

**Laemobothrion vulturius** (J.C. Fabricius), 1775.

Accipitridae: **Aquila heliaca**.

### MENOPONIDAE

A very large and diverse family with many large genera not yet completely reviewed. Twenty-seven genera, 114 species represented.

**Actornithophilus** Ferris, 1916.

Reported from Rostratulidae 1 species, Charadriidae 7, Scolopacidae 24, Recurvirostridae 1, Glareolidae 1, Laridae 4.

**Actornithophilus** sp.

Scolopacidae: **Calidris testaceus**, **Xenus cinereus**, **Capella minima**, **Heteroscelus incanus**, **Limosa limosa**, **Tringa glareola**.

- Actornithophilus bicolor** (Piaget), 1880.  
Scolopacidae: **Arenaria interpres**.  
Shorebird, from Japan, Philippines.
- Actornithophilus erinaceus** Timmermann, 1954.  
Rostratulidae: **Rostratula benghalensis**.  
Shorebird, from Philippines.
- Actornithophilus flumineus** Clay, 1962.  
Scolopacidae: **Actitis hypoleucos**.  
Riceland sandpiper, from Korea, Philippines,
- Actornithophilus himantopi** Blagoveshtchensky, 1951.  
Recurvirostridae: **Himantopus himantopus**.  
Marsh bird, from India.
- Actornithophilus hoplopteri** (Mjöberg), 1910.  
Charadriidae: **Vanellus indicus**.  
Lowland lapwing, from Thailand.
- Actornithophilus incisus** (Piaget), 1880.  
Laridae: **Anous stolidus**.  
Seabird, from Thailand.
- Actornithophilus limosae** (Kellogg), 1908.  
Scolopacidae: **Limosa lapponica**.  
Shorebird, from India.
- Actornithophilus ocellatus** (Rudow), 1860.  
Scolopacidae: **Numenius phaeopus**.  
Shorebird, from India.
- Actornithophilus ochraceus** (Nitzsch), 1818.  
Charadriidae: **Charadrius alexandrinus**, **C. dominicus**, **C. dubius**, **C. leschenaulti**,  
**C. mongolus**, **C. peroni**.  
Shorebirds, from Taiwan, Philippines.
- Actornithophilus paludosus** Clay, 1962.  
Scolopacidae: **Tringa nebularia**.  
Rice field Sandpiper, from Philippines.
- Actornithophilus patellatus** (Piaget), 1890.  
Scolopacidae: **Numenius arquata**.  
From India.
- Actornithophilus piceus piceus** Denny, 1842.  
Laridae: **Sterna bergii**, **S. hirundo**, **S. sumatrana**.  
Terns, from Thailand.

**Actornithophilus pustulosus** (Piaget), 1880.

Scolopacidae: **Philomachus pugnax**.

Shorebird, from India.

**Actornithophilus sedes** Eichler, 1944.

Glareolidae: **Glareola pratincola**.

Swallow plover, from Thailand.

**Actornithophilus totani** (Schrank), 1803.

Scolopacidae: **Tringa erythropus**, **T. totanus**.

Shorebirds, from India

**Actornithophilus umbrinus** (Burmeister), 1838.

Scolopacidae: **Calidris alba**, **C. alpina**, **C. canutus**, **C. ruficollis**, **C. subminuta**,  
**C. temmincki**, **C. tenuirostris**, **C. testaceus**.

Shorebirds, from Philippines, Thailand and India.

**Amyrsidea** Ewing, 1927

Reported from Phasianidae 4 species.

**Amyrsidea elbeli** Emerson and Stojanovich, 1963.

Phasianidae: **Arborophila cambodiana**.

Forest tree partridge, from Thailand

**Amyrsidea oculeae** Price and Elbel, 1969

Phasianidae: **Caloperdix oculea**.

Forest partridge, from Thailand.

**Amyrsidea polytrichae** (Eichler), 1947.

Phasianidae: **Argusianus argus**.

Lowland to submontane forest pheasant, from Malaya.

**Amyrsidea uniseriata** (Piaget), 1880.

Phasianidae: **Lophura leucomelana**.

Mountain pheasant, from Thailand.

**Amyrsidea ventralis** (Nitzsch), 1866.

Phasianidae: **Argusianus argus**.

Lowland to submontane forest pheasant, from Malaya.

**Austromenopon** Bedford, 1939.

Reported from Charadriidae 3 species, Scolopacidae 13, Recurvirostridae 1, Laridae 1,  
Glareolidae 1.

**Austromenopon** sp.

Charadriidae: **Charadrius leschenaulti**.

Scolopacidae: **Actitis hypoleucos**, **Arenaria interpres**, **Calidris alba**, **Heteroscelus**  
**incanus**, **Limicola falcinellus**, **Tringa glareola**, **T. stagnatilis**, **T. totanus**,  
**Xenus cinereus**.



Glareolidae: **Glareola pratincola.**

**Austromenopon aegialitidis** (Durrant), 1906.

Charadriidae: **Charadrius dubius, C. leschenaulti, C. mongolus.**

Shorebirds, from Philippines.

**Austromenopon alpinum** Timmermann, 1954.

Scolopacidae: **Calidris alpina.**

Shorebird, from Taiwan.

**Austromenopon crocatum** (Nitzsch), 1866.

Scolopacidae: **Numenius arquata, N. minutus.**

Shorebirds, from Philippines, India.

**Austromenopon himantopi** Timmermann, 1954.

Recurvirostridae: **Himantopus himantopus.**

**Austromenopon phaeopodis** (Schrank), 1802.

Scolopacidae: **Numenius phaeopus.**

Shorebird, from Japan, Philippines.

**Austromenopon transversum** (Denny), 1842.

Laridae: **Larus ridibundus.**

Seagull, from Japan.

**Bucerophagus** Bedford, 1929.

Reported from Bucerotidae 1 species.

**Bucerophagus forcipatus** (Nitzsch), 1874

Bucerotidae: **Buceros bicornis.**

Primary forest hornbill, from Thailand.

**Ciconiphilus** Bedford, 1939.

Reported from Ardeidae 6 species, Ciconiidae 1.

**Ciconiphilus** sp.

Ardeidae: **Butorides striatus.**

**Ciconiphilus decimfasciatus** (Boisduval and Lacordaire), 1835.

Ardeidae: **Ardea cinerea, Ardeola ibis, Egretta garzetta, Ixobrychus cinnamomeus,**

**Nycticorax nycticorax.**

From Heron colonies in Taiwan, Korea.

**Ciconiphilus quadripustulatus** (Burmeister), 1838.

Ciconiidae: **Anastomus oscitans.**

Stork colony, from Thailand.

**Colpocephalum** Nitzsch, 1818.

Reported from Pelecanidae 1 species, Ciconiidae 2, Accipitridae 10, Falconidae 1, Phasianidae 2, Columbidae 1, Tytonidae 2, Picidae 7, Corvidae 3.

**Colpocephalum** sp.

Accipitridae: **Ictinaetus malayensis**.

**Colpocephalum apivorus** Tendeiro, 1958.

Accipitridae: **Pernis ptilorhynchus**.

Honey Buzzard, from Thailand, India.

**Colpocephalum appendiculatum** Nitzsch, 1866.

Phasianidae: **Argusianus argus**.

Primary forest pheasant, from Malaya.

**Colpocephalum chloropi** Price and Beer, 1964.

Phasianidae: **Arborophila charltonii**.

Forest partridge, from Thailand.

**Colpocephalum ecaudati** Price and Beer, 1963.

Accipitridae: **Milvus migrans**.

Migrant kite, from Malaya.

**Colpocephalum emersoni** Price, 1964.

Tytonidae: **Phodilus badius**.

Lowland owl, from Malaya.

**Colpocephalum eucarenum** Burmeister, 1838.

Pelecanidae: **Pelecanus philippensis**.

Pelican.

**Colpocephalum flavescens** (Haan), 1829.

Accipitridae: **Haliaeetus pelagicus**.

Sea-eagle from Japan.

**Colpocephalum fregili** Denny, 1842.

Corvidae: **Corvus enca**, **C. macrorhynchus**, **C. splendens**.

Crows, from Philippines, Thailand, India.

**Colpocephalum harterti** Price, 1964.

Picidae: **Mulleripicus pulverulentus**.

Forest woodpecker, from Thailand.

**Colpocephalum impressum** Rudow, 1866.

Accipitridae: **Aquila nipalensis**.

Eagle, from India.

**Colpocephalum indi** Price and Beer, 1963.

Accipitridae: **Haliastur indus**.

Brahminy kite, from India, Thailand.

**Colpocephalum javensis** Price, 1966.

Picidae: **Dryocopus javensis**.

**Colpocephalum leucocephali** Price and Beer, 1965.

Ciconiidae: **Ibis leucocephalus**.

From India.

**Colpocephalum nanum** Piaget, 1890.

Accipitridae: **Accipiter gentilis**.

**Colpocephalum occipitale** (Nitzsch), 1866.

Ciconiidae: **Anastomus oscitans**.

Open-billed Stork colony, from Thailand.

**Colpocephalum oscitansi** Price and Beer, 1965.

Ciconiidae: **Anastomus oscitans**.

Resident stork, from Thailand.

**Colpocephalum pulverulenti** Price, 1964.

Picidae: **Mulleripicus pulverulentus**, **Dryocopus javensis**.

Woodpeckers, from Philippines.

**Colpocephalum tirkham** (Ansari), 1951.

Picidae: **Picus canus**, **P. squamatus**, **Dendrocopus leucotos**.

Woodpeckers, from Thailand, India, Korea.

**Colpocephalum trachelioti** Price and Beer, 1963.

Accipitridae: **Aegyptius monachus**.

Vulture, from Hong Kong.

**Colpocephalum turbinatum** Denny, 1842.

Accipitridae: **Haliastur indus**, **Milvus migrans**, **M. lineatus**, **Pseudogyps bengalensis**,

**Pernis ptilorhynchus**.

Tytonidae: **Tyto alba**.

Columbidae: **Columba livia**.

Hawks, from Philippines, Thailand and India, owl from Thailand, and the Domestic pigeon, from Thailand.

**Colpocephalum zerfae** Ansari, 1965.

Falconidae: **Falco tinnunculus**.

Falcon, from India.

**Comatomenopon** Uchida, 1920.

Reported from Ardeidae 1 species.

**Comatomenopon ibis** Emerson, 1965.

Ardeidae: **Ardeola ibis**.

Cattle egrets, from Thailand.

**Cuculiphilus** Uchida, 1926.

Reported from Cuculidae 8 species.

- Cuculiphilus fasciatus** (Scopoli), 1763.  
Cuculidae: **Cuculus canorus**.  
Cuckoo, from Thailand.
- Cuculiphilus fasciiventris** Carriker, 1955.  
Cuculidae: **Eudynamys scolopacea**.
- Cuculiphilus snodgrassi** (Kellogg and Kuwana), 1902.  
Cuculidae: **Cacomantis merulinus**, **C. sonnerati**, **Clamator jacobinus**, **Phaenicophaeus diardi**, **Surniculus lugubris**.  
Forest cuckoos, from Philippines, Indonesia and India.
- Cuculiphilus upsak** Ansari, 1951.  
Cuculidae: **Cuculus sparverioides**.  
Parasitic Cuckoo, from Thailand.  
**Dennyus** Neumann, 1906.  
Reported from Apodidae 12 species.
- Dennyus** sp.  
Apodidae: **Collocalia vestita**.
- Dennyus clayae** Nakagawa, 1959.  
Apodidae: **Apus pacificus**.  
Migrant swift, from Thailand.
- Dennyus distinctus** Ferris, 1916.  
Apodidae: **Collocalia esculenta**, **C. inexpectata**, **C. troglodytes**.  
Colonial swiftlets, from Malaya, Thailand, Philippines.
- Dennyus elliotti** Ledger, 1970.  
Apodidae: **Collocalia whiteheadi**.  
Colonial swiftlet, from Philippines.
- Dennyus emersoni** Ledger, 1970.  
Apodidae: **Collocalia brevirostris**.  
Cave swiftlet, from Thailand.
- Dennyus giganteus** Emerson and Price, 1968.  
Apodidae: **Chaetura gigantea**.  
Spinetail swift, from Philippines.
- Dennyus hirundinis** (Linne), 1761.  
Apodidae: **Apus acuticaudus**, **A. affinis**.  
Swifts, from Thailand and S.E. Asia.
- Dennyus medwayi** Ledger, 1970.  
Apodidae: **Collocalia gigas**.  
Cave swiftlet, from Malaya.

**Dennyus thompsoni** Ledger, 1970.

Apodidae: **Collocalia whiteheadi**, **C. brevirostris**, **C. maxima**.

Cave swiftlets from Philippines, Thailand, Sarawak.

**Eomenopon** Harrison, 1915.

Reported from Psittacidae 1 species.

**Eomenopon ryani** Price, 1969.

Psittacidae: **Trichoglossus johnstoniae**.

Mountain forest parrot, from Philippines.

**Eureum** Nitzsch, 1818.

Reported from Apodidae 1 species.

**Eureum salangane** Eichler, 1942.

Apodidae: **Collocalia esculenta**.

Cave swiftlet, from Malaya.

**Falcomenopon** Emerson and Elbel, 1958.

Reported from Falconidae 2 species.

**Falcomenopon boonsongi** (Emerson and Elbel), 1958.

Falconidae: **Microhierax caerulescens**.

Brushland falcon, from Thailand.

**Falcomenopon erythrogegens** Price, 1965.

Falconidae: **Microhierax erythrogegens**.

Brushland falconet, from Philippines.

**Franciscola** Conci, 1942.

Reported from Psittacidae 1 species.

**Franciscola thompsoni** Price and Beer, 1967.

Psittacidae: **Cacatua haematuropygia**.

Parrot, from Palawan.

**Heleonomus** Ferris, 1916.

Reported from Gruidae 2 species.

**Heleonomus abdominalis** (Piaget), 1880.

Gruidae: **Grus vipio**.

Migrant crane, from Japan.

**Heleonomus macilentus** (Nitzsch), 1866.

Gruidae: **Grus nigricollis**.

Crane, from Southern China.

**Hohorstiella** Eichler, 1940.

Reported from Columbidae 1 species.

**Hohorstiella** sp.

Columbidae: **Ducula carola**.

Fruit pigeon.

**Holomenopon** Eichler, 1941.

Reported from Anatidae 1 species.

**Holomenopon leueoxanthum** (Burmeister), 1838.

Anatidae: **Sarkidionis melanotos**.

Duck, from India.

**Kelerimenopon** Conci, 1942.

Reported from Megapodidae 1 species, Psittacidae 1, Pittidae 2.

**Kelerimenopon (K.) minus** (Piaget), 1880.

Megapodidae: **Megapodius freycinet**.

Megapodes of the coastal islands of the Philippines.

**Kelerimenopon psittaculae** Price and Emerson 1966.

Psittacidae: **Psittacula alexandri**.

Forest parakeet, from northern Thailand.

**Kelerimenopon thompsoni** (Emerson and Stojanovich), 1965.

Pittidae: **Pitta erythrogaster**, **P. sordida**.

Forest pittas, from Philippines.

**Kurodaia** Uchida, 1926.

Reported from Accipitridae 3 species, Strigidae 11, Tytonidae 1.

**Kurodaia deignani** Elbel and Emerson, 1960.

Strigidae: **Glaucidium brodiei**, **G. cuculoides**, **Otus bakkamoena**.

Lowland and mountain forest owls, from Thailand.

**Kurodaia fulvofasciata** (Piaget), 1880.

Accipitridae: **Accipiter badius**, **A. trivirgatus**, **Buteo buteo**.

Sparrow hawks, from woodlands of Thailand; broad-winged hawk, from India.

**Kurodaia panjabensis** (Ansari), 1951.

Strigidae: **Athene brama**.

Forest edge owl, from India.

**Kurodaia platyclypeatum** (Piaget), 1887.

Strigidae: **Asio otus**, **Otus bakkamoena**, **O. scops**, **O. spilocephalus**, **Ketupa ketupu**,

**Ninox philippensis**, **N. scutulata**, **Strix leptogrammica**.

Owls, from Japan, Taiwan, Thailand, Philippines.

**Kurodaia subpachygaster** (Piaget), 1880.

Tytonidae: **Tyto alba**.

Barn owl, from Thailand.

**Machaerilaemus** Harrison, 1915.

Reported from Fringillidae 2 species.

**Machaerilaemus** sp.

Fringillidae: **Emberiza rustica**, **E. rutila**.

Finches, from Korea.

**Menacanthus** Neumann, 1912.

Reported from Phasianidae 3 species, Turnicidae 1, Rallidae 1, Cuculidae 2, Alcedinidae 1, Picidae 1, Pittidae 1, Alaudidae 2, Dicruridae, 1, Oriolidae 1, Corvidae 2, Paridae 2, Timaliidae 5, Pycnonotidae 7, Turdidae 4, Sylviidae 10, Motacillidae 2, Laniidae 5, Sturnidae 3, Nectariniidae 4, Zosteropidae 1, Fringillidae 2.

**Menacanthus** sp.

Phasianidae: **Arborophila atrogularis**, **Coturnix chinensis**, **Francolinus pondicerianus**.

Turnicidae: **Turnix suscitator**.

Rallidae: **Porzana cinerea**.

Cuculidae: **Cacomantis variolosus**, **Chrysococcyx malayanus**.

Alcedinidae: **Halcyon smyrnensis**

Pittidae: **Pitta erythrogaster**.

Alaudidae: **Galerida cristata**.

Dicruridae: **Dicrurus paradiseus**.

Oriolidae: **Oriolus xanthornus**

Corvidae: **Crypsirina occipitalis**.

Timaliidae: **Actinodura morrisoniana**, **Garrulax erythrocephalus**, **Macronus gularis**, **Trichastoma abbotti**, **Turdoides striatus**.

Pycnonotidae: **Hypsipetes philippinus**, **Pycnonotus aurigaster**, **P. cafer**, **P. finlaysoni**, **P. goiavier**, **P. sinensis**, **Spizixos canifrons**.

Turdidae: **Copsychus saularis**, **Erithacus calliope**, **E. cyane**, **Zoothera marginata**.

Sylviidae: **Acrocephalus arundinaceus**, **Cettia diphone**, **Locustella fasciolata**, **L. lanceolata**, **L. ochotensis**, **Phylloscopus fuscatus**, **P. occipitalis**, **Prinia flaviventris**, **P. subflava**, **Seicercus burkii**.

Motacillidae: **Anthus hodgsoni**, **Dendronanthus indicus**.

Laniidae: **Lanius bucephalus**, **L. cristatus**, **L. nasutus**, **L. tephronotus**, **L. vittatus**.

Sturnidae: **Sarcops calvus**, **Sturnus ginginianus**, **S. sturninus**.

Nectariniidae: **Aethopyga gouldiae**, **Arachnothera longirostris**, **A. magna**, **A. robusta**.

Zosteropidae: **Zosterops japonica**.

Fringillidae: **Carpodacus roseus**, **Emberiza spodocephala**.

- Menacanthus abdominalis** (Piaget), 1880.  
 Phasianidae: **Coturnix chinensis**.  
 Riceland quail, from Philippines.
- Menacanthus alaudae** (Schrank), 1776.  
 Alaudidae: **Alauda arvensis**.  
 Skylark, open fields, from Taiwan.
- Menacanthus koreae** Carriker, 1967.  
 Picidae: **Picus canus**.  
 Woodpecker, from Korea.
- Menacanthus nogoma** (Uchida), 1926.  
 Turdidae: **Erithacus calliope**.  
 Woodland migrant thrush, from Hong Kong.
- Menacanthus sinuatus** Burmeister, 1838.  
 Paridae: **Parus ater**, **P. major**.  
 Woodland tits, from Korea.
- Menacanthus tibialis** (Piaget), 1885.  
 Corvidae: **Cyanopica cyana**.  
 Woodland jay, from Korea.
- Menopon** Nitzsch, 1818.  
 Reported from Phasianidae 2 species.
- Menopon gallinae** (Linne), 1758.  
 Phasianidae: **Gallus gallus**, **Lophura erythrophthalma**.  
 Forest pheasants, from Malaya, Thailand.
- Meromenopon** Clay and Meinertzhagen, 1941.  
 Reported from Meropidae 4 species, Coraciidae 1.
- Meromenopon** sp.  
 Meropidae: **Merops orientalis**, **M. philippinus**, **M. superciliosus**, **M. viridis**.  
 Coraciidae: **Eurystomus orientalis**.
- Myrsidea** Waterston, 1915.  
 Reported from Cuculidae 1 species, Alcedinidae 2, Capitonidae 4, Picidae 2, Eurylaimidae 4, Pittidae 1, Alaudidae 1, Hirundinidae 4, Campephagidae 4, Dicruridae 6, Oriolidae 1, Corvidae 5, Sittidae 2, Cinclidae 1, Timaliidae 47, Paradoxornithidae 3, Pycnonotidae 35, Aegithinidae 3, Turdidae 20, Sylviidae 5, Muscicapidae 19, Pachycephalidae 2, Motacillidae 3, Laniidae 4, Sturnidae 14, Nectariniidae 4, Zosteropidae 3, Fringillidae 2, Ploceidae 12.
- Myrsidea** sp.  
 Alcedinidae: **Halcyon chloris**, **H. smyrnensis**.  
 Capitonidae: **Megalaima asiatica**, **M. franklini**, **M. haemacephala**, **M. mystacophanes**.



Picidae: *Micropternus brachyurus*, *Picus vittatus*.

Eurylaimidae: *Calyptomena viridis*, *Cymbirhynchus macrorhynchos*, *Eurylaimus javanicus*, *Serilophus lunatus*.

Pittidae: *Pitta erythrogaster*.

Alaudidae: *Mirafra javanica*.

Hirundinidae: *Delichon urbica*, *Hirundo rustica*, *H. tahitica*, *Pseudochelidon sirintarae*.

Campephagidae: *Lalage nigra*, *Pericrocotus flammeus*, *Tephrodornis virgatus*.

Dicruridae: *Dicrurus adsimilis*, *D. aeneus*, *D. hottentottus*, *D. paradiseus*, *D. remifer*.

Oriolidae: *Oriolus chinensis*.

Corvidae: *Corvus macrorhynchos*, *C. splendens*, *Crypsirina occipitalis*.

Sittidae: *Sitta europa*, *S. frontalis*.

Timaliidae: *Actinodura ramsayi*, *Alcippe brunneicauda*, *A. castaneiceps*, *A. morrisonia*, *A. poioicephala*, *Gampsorhynchus rufulus*, *Garrulax chinensis*, *G. erythrocephalus*, *G. leucolophus*, *G. merulinus*, *G. ruficollis*, *G. strepitans*, *Heterophasia capistrata*, *H. melanoleuca*, *Leiothrix argentauris*, *L. lutea*, *Liocichla ripponi*, *L. steerei*, *Macronus gularis*, *Malacopteron cinereum*, *M. magnirostre*, *Minla cyanouroptera*, *M. strigula*, *Myzornis pyrrhoura*, *Napothera brevicaudata*, *Pellorneum albiventris*, *P. capistratum*, *P. ruficeps*, *Pomatorhinus erythrogenys*, *P. ferruginosus*, *P. schisticeps*, *Ptilocichla falcata*, *Stachyris chrysaea*, *S. erythroptera*, *S. maculata*, *S. nigriceps*, *S. nigricollis*, *S. poliocephala*, *S. ruficeps*, *S. rufifrons*, *Trichastoma abbotti*, *T. malaccense*, *T. tickelli*, *Turdoides caudatus*, *T. malcolmi*, *T. striatus*, *Yuhina flavicollis*, *Y. zantholeuca*.

Paradoxornithidae: *Paradoxornis gularis*, *P. nipalensis*, *P. webbiana*.

Pycnonotidae: *Criniger bres*, *C. flaveolus*, *C. ochraceus*, *C. pallidus*, *C. phaeocephalus*, *Hypsipetes amaurotis*, *H. charlottae*, *H. flavala*, *H. madagascariensis*, *H. malaccensis*, *H. meclellandii*, *H. philippinus*, *H. propinquus*, *H. siquijorensis*, *H. thompsoni*, *Pycnonotus atriceps*, *P. aurigaster*, *P. blanfordi*, *P. cafer*, *P. cyaniventris*, *P. erythrophthalmus*, *P. eutilotus*, *P. flavescens*, *P. goiavier*, *P. jocosus*, *P. luteolus*, *P. melanicterus*, *P. melanoleucos*, *P. simplex*, *P. sinensis*, *P. urostictus*, *Spizixos canifrons*.

Aegithinidae: *Chloropsis cochinchinensis*, *C. hardwickii*, *Irena puella*.

Turdidae: *Brachypteryx leucophrys*, *Copsychus malabaricus*, *Enicurus ruficapillus*, *Erithacus calliope*, *E. cyane*, *Monticola rufiventris*, *Myiomela diana*, *Myiophoneus caeruleus*, *Phoenicurus aureus*, *Rhyacornis fuliginosus*, *Tarsiger cyanurus*, *Turdus hortulorum*, *T. pallidus*, *Zoothera cinerea*, *Z. dauma*, *Z. interpres*, *Z. sibirica*.

Sylviidae: *Acrocephalus arundinaceus*, *Cettia diphone*, *Orthotomus cucullatus*, *Phylloscopus pulcher*, *Seicercus albogularis*.

Muscicapidae: *Hypothymis azurea*, *Muscicapa banyumas*, *M. concreta*, *M. grandis*,  
*M. hyperythra*, *M. monileger*, *M. panayensis*, *M. solitaria*, *M. sundara*, *M.*  
*tickelliae*, *M. vivida*, *Philentoma pyrrhoptera*, *P. velatum*, *Rhiomyias*  
*olivacea*, *Rhipidura albicollis*, *R. cyaniceps*, *R. javanica*, *Terpsiphone*  
*cyanescens*, *T. paradisi*.

Pachycephalidae: *Pachycephala cinerea*, *P. philippinensis*.

Motacillidae: *Anthus hodgsoni*, *Motacilla flava*.

Laniidae: *Lanius bucephalus*, *L. cristatus*, *L. nasutus*, *L. schach*, *L. tephronotus*.

Sturnidae: *Ampeliceps coronatus*, *Gracula religiosa*, *Gracupica melanoptera*,  
*Sarcops calvus*, *Sturnus contra*, *S. ginginianus*, *S. javanicus*,  
*S. maharattensis*, *S. malabaricus*, *S. nigricollis*, *S. sinensis*, *S. tristis*.

Nectariniidae: *Aethopyga nipalensis*. *Arachnothera affinis*, *A. longirostris*,  
*Hypogramma hypogrammica*.

Zosteropidae: *Zosterops erythropleura*, *Z. japonica*, *Z. palpebrosa*.

Fringillidae: *Carpodacus erythrinus*, *Emberiza elegans*.

Ploceidae: *Erythrura prasina*, *Lonchura leucogaster*, *L. leucogastroides* *L. maja*,  
*L. malabarica*, *L. malacca*, *L. punctulata*, *L. striata*, *Padda oryzivora*,  
*Passer montanus*, *Ploceus philippinus*.

**Myrsidea amandava** Clay, 1970.

Ploceidae: **Estrilda amandava**.

**Myrsidea breviventris** (Piaget), 1880.

Sturnidae: **Gracupica melanoptera**.

Coconut grove starling, from Bali.

**Myrsidea chiapensis** Zavaleta, 1944.

Muscicapidae: **Hypothymis azurea**.

Forest flycatcher, from Taiwan.

**Myrsidea cyanopycae** Uchida, 1926.

Corvidae: **Cyanopica cyana**.

Farmyard jay, from Korea.

**Myrsidea cyrtostigma** (Kellogg and Chapman), 1902.

Cuculidae: **Surniculus lugubris**.

Dicruridae: **Dicrurus leucophaeus**.

Ploceidae: **Lonchura leucogastroides**, **L. punctulata**.

A parasitic Cuckoo, Drongo, and Munia, all forest edge species, from Indonesia.

**Myrsidea dukhunensis** Ansari, 1951.

Motacillidae: **Motacilla alba**.

Streamside Wagtail, from Korea.

**Myrsidea franciscoloi** Conci, 1942.

Cinclidae: **Cinclus pallasii**.

Mountain stream dipper, from Korea.

- Myrsidea grandiceps** (Piaget), 1880.  
 Corvidae: **Corvus enca**.  
 Crow, from Philippines.
- Myrsidea invadens** (Kellogg and Chapman), 1902.  
 Sturnidae: **Sturnus tristis**.  
 Farmyard and city myna, from Thailand.
- Myrsidea ishizawai** Uchida, 1926.  
 Turdidae: **Zoothera dauma**.  
 Migrant ground thrush, from Japan, Thailand.
- Myrsidea pungens** (Piaget), 1890.  
 Sturnidae: **Aplonis panayensis**.  
 Migrant starling of cultivated areas, from Malaya, Philippines.
- Myrsidea pycnonoti** Eichler, 1947.  
 Pycnonotidae: **Hypsipetes amaurotis**, **H. criniger**, **H. philippinus**, **H. siquijorensis**,  
**Pycnonotus blanfordi**, **P. cafer**, **P. finlaysoni**, **P. flavescens**, **P. goiavier**,  
**P. jocosus**, **P. sinensis**, **P. zeylanicus**.  
 A bulbul parasite widespread among species and geographically, Taiwan, Hong Kong, Philippines, Malaya, Thailand, Indonesia, Bhutan.
- Myrsidea rustica** (Giebel), 1874.  
 Hirundinidae: **Hirundo rustica**, **H. tahitica**.  
 A widespread swallow, from Korea, Malaya, Thailand, Indonesia, and a local swallow, from Malaya.
- Myrsidea sindianus** Ansari, 1955.  
 Dicruridae: **Dicrurus balicassia**, **D. hottentottus**, **D. paradiscus**.  
 Drongos, from Philippines, Malaya and Thailand.
- Myrsidea srivastava** Clay, 1969.  
 Ploceidae: **Lonchura malabarica**.  
 Open country munia, from India.
- Myrsidea sultanpurensis** Ansari, 1951.  
 Turdidae: **Myiophoneus caeruleus**.  
 Ground thrush, from Hong Kong.
- Myrsidea takayamai** Uchida, 1926.  
 Campephagidae: **Pericrocotus divaricatus**.  
 Migrant forest minivet, from Korea.
- Myrsidea thoracica** (Giebel), 1874.  
 Turdidae: **Turdus chrysolaus**, **T. obscurus**, **T. pallidus**.  
 Migrant forest thrushes, from Japan, Taiwan, Philippines, Thailand.

**Myrsidea trithorax** (Piaget), 1885.

Corvidae: **Corvus macrorhynchos**.

Crow, from Thailand.

**Procellariphaga** Eichler, 1949.

Reported from Procellariidae 1 species.

**Procellariphaga longthoracica** (Piaget), 1880.

Procellariidae: **Puffinus leucomelas**.

Shearwater, from Japan.

**Procellariphaga paulula** (Kellogg and Chapman), 1899.

Procellariidae: **Puffinus leucomelas**.

Shearwater, Japan, Philippines.

**Pseudomenopon** Mjoberg, 1910.

Reported from Podicipedidae 1 species, Rallidae 8, Scolopacidae 1, Rostratulidae 1.

**Pseudomenopon** sp.

Podicipedidae: **Podiceps ruficollis**.

Rallidae: **Amaurornis phoenicurus**, **Porzana cinerea**, **P. fusca**, **Rallina eurizonoides**,

**Rallus torquatus**.

Scolopacidae: **Capella megala**.

**Pseudomenopon mendesi porphyrii** Tendeiro, 1965.

Rallidae: **Porphyrio porphyrio**.

**Pseudomenopon pilosum** (Scopoli), 1763.

Rallidae: **Fulica atra**, **Gallinula chloropus**.

Marsh birds, from Philippines, India.

**Pseudomenopon rostratulae** Bedford, 1919.

Rostratulidae: **Rostratula benghalensis**.

Painted snipe, from marshes, Philippines.

**Somaphantus** Paine, 1914.

Reported from Phasianidae 1 species.

**Somaphantus kingi** Emerson and Price, 1967.

Phasianidae: **Arborophila charltoni**.

Tree partridge, from Thailand.

**Trinoton** Nitzsch, 1818.

Reported from Anatidae 6 species.

**Trinoton emersoni** Clay, 1963.

Anatidae: **Dendrocygna javanica**.

Whistling Teal, from Thailand.

**Trinoton querquedulae** (Linne), 1758.

Anatidae: **Anas acuta**, **A. clypeata**; **A. crecca**, **A. penelope**, **A. strepera**.  
Ducks, from India.

## RICINIDAE

Passerine infesting lice represented by one genus and 5 species.

**Ricinus** DeGeer, 1778.

Reported from Oriolidae 1 species, Timaliidae 3, Turdidae 2, Pycnonotidae 1, Sylviidae 1, Muscicapidae 5, Fringillidae 5.

**Ricinus** sp.

Oriolidae: **Oriolus xanthornus**.

Timaliidae: **Heterophasia melanoleuca**, **Stachyris chrysaea**.

Turdidae: **Brachypteryx leucophrys**.

Sylviidae: **Phylloscopus reguloides**.

Muscicapidae: **Culicicapa ceylonensis**, **Muscicapa leucomelanura**, **Terpsiphone paradisi**.

Fringillidae: **Carpodacus nipalensis**, **Emberiza aureola**.

**Ricinus elongatus** (Olfers), 1816

Turdidae: **Turdus naumanni**.

Farmland migrant thrush, from Korea.

**Ricinus fringillae** (DeGeer), 1778.

Fringillidae: **Emberiza elegans**, **E. rustica**, **E. rutila**.

Brushland migrant finches, from Korea, Japan.

**Ricinus mugimaki** (Uchida), 1915.

Muscicapidae: **Rhipidura cyaniceps**.

Forest flycatcher, from Philippines.

**Ricinus tinctus** Harrison, 1916.

Timaliidae: **Trichostoma rostratum**

Lowland forest babbler, from Malaya.

**Ricinus tugarinovi** Blagoveshtchensky, 1951.

Pycnonotidae: **Hypsipetes criniger**.

Muscicapidae: **Rhipidura javanica**, **Terpsiphone paradisi**.

Forest bulbuls and flycatchers, from Malaya.

## HEMIPTERA

### CIMICIDAE

One bedbug nest parasite was found on one swift.

**Paracimex** Kiretschenko, 1913 (1914).

Reported from Apodidae 1 species.

**Paracimex chaeturus** Ueshima, 1968.

Apodidae: **Chaetura gigantea**.

A spine-tail swift, from Philippines.

### SIPHONAPTERA CERATOPHYLLIDAE

Fleas are rarely found on a bird free from the nest, but may be common in the nests of colonial species, represented by one genus and one species.

**Callopsylla** Wagner, 1934.

Reported from Hirundinidae 1 species.

**Callopsylla (Orneacus) waterstoni** (Jordan), 1925.

Hirundinidae: **Delichon urbica**.

From nesting colony, Japan.

### DIPTERA CERATOPOGONIDAE

Small flies commonly found attacking birds in the nest or while asleep in a roost. Some species known to be vectors of **Haemoproteus** infections in birds. Three genera and one species collected.

**Culicoides** Latreille, 1808.

Reported from Timaliidae 1 species, Muscicapidae 1, Nectariniidae 1.

**Culicoides malayae** Macfie, 1937.

Timaliidae: **Yuhina zantholeuca**.

Muscicapidae: **Rhipidura albicollis**.

Nectariniidae: **Arachnothera longirostra**.

Forest birds, from Thailand.

**Forcipomyia** Meigen, 1818.

Reported from Timaliidae 1 species.

**Forcipomyia** sp.

Timaliidae: **Turdoides caudatus**.

A ground babbler, from India.

**Leptoconops** Skuse, 1890.

Reported from Muscicapidae 1 species.

**Leptoconops** sp.

Muscicapidae: **Saxicoloides fulicata**.

Brushland flycatcher, from India.

### NYCTERIBIIDAE

Nycteribiidae are parasitic exclusively on bats. The occurrence on birds is probably accidental.

**Eucampsipoda Kolenati, 1857.**

Reported from Pittidae 1 species.

**Eucampsipoda inermis** Theodor, 1955.

Pittidae: **Pitta erythrogaster.**

Bird migrating at night over Dalton Pass, Philippines.

**HIPPOBOSCIDAE**

T.C. Maa examined the Hippoboscidae collected in these studies and has prepared a summary of the species known from Asia. In this section the order in which the species are presented is that of Maa rather than in alphabetical order as in other sections. The collection records are added to his summaries.

Hippoboscidae, generally known as louseflies, are parasitic on various birds and certain mammals. About 200 species have been described and recorded from different parts of the world. Listed below are the bird-infesting forms known to occur in the Asian countries covered by the Migratory Animal Pathological Survey program, viz Korea, Japan, Taiwan, Hong Kong, Philippines, Thailand, Malaya, Singapore, Borneo, Java, India, Bhutan and Nepal. Represented in these collections by 10 genera and 52 species. Muscicapidae (sensu lato) refers to the current usage of this family to include five other families as subfamilies.

**Ornithoica** Rondani, 1878.

Reported from Accipitridae 1 species, Cuculidae 3, Rallidae 1, Tytonidae 1, Strigidae 6, Podargidae 1, Alcedinidae 3, Meropidae 1, Coraciidae 1, Bucerotidae 1, Capitonidae 1, Picidae 1, Eurylaimidae 1, Pittidae 4, Dicruridae 2, Oriolidae 1, Corvidae 2, Pycnonotidae 1, Timaliidae 13, Turdidae 9, Sylviidae 3, Muscicapidae 5, Laniidae 1, Nectariniidae 1, Zosteropidae 1.

**Ornithoica (Ornithoica) unicolor** Speiser, 1900.

From W. Pakistan to Borneo, with a single record from Japan. Chiefly on Strigidae.

Tytonidae: **Phodilus badius.**

Strigidae: **Asio otus, Glaucidium brodiei, Otus bakkamoena, O. scops, O. spilocephalus.**

Podargidae: **Batrachostomus hodgsoni.**

Pittidae: **Pitta cyanea, P. soror.**

Corvidae: **Cissa thalassina.**

Timaliidae: **Stachyris maculata.**

Forest birds, from Thailand, Malaya.

**Ornithoica (Ornithoica) rabori** Maa, 1966.

Philippines. Chiefly on Pycnonotidae, Muscicapidae (sensu lato), Oriolidae, Dicruridae.

Dicruridae: **Dicrurus balicassius.**

Pycnonotidae: **Pycnonotus goiavier.**

Drongo and bulbul, from Philippines.

**Ornithoica (Ornithoica) bistativa** Maa, 1966.

From Iran to Borneo. Chiefly on Pittidae, Pycnonotidae, Muscicapidae (sensu lato).

Cuculidae: **Centropus toulou**.

Alcedinidae: **Alcedo meninting**, **Ceyx erithacus**.

Meropidae: **Merops viridis**.

Capitonidae: **Megalaima franklini**.

Eurylaimidae: **Psarisomus dalhousiae**,

Pittidae: **Pitta cyanea**, **P. sordida**, **P. soror**.

Dicruridae: **Dicrurus paradiseus**.

Oriolidae: **Oriolus chinensis**.

Corvidae: **Cissa thalassina**, **Platylophus galericulatus**.

Timaliidae: **Alcippe castaneiceps**, **A. poiocephala**, **Garrulax erythrocephalus**, **G. mitratus**, **G. strepitans**, **Napothera brevicaudata**, **Pellorneum ruficeps**, **Pomatorhinus schisticeps**, **Stachyris maculata**, **S. nigriceps**, **Trichastoma malaccense**.

Turdidae: **Copsychus malabaricus**, **C. saularis**, **Erithacus cyane**, **Hodgsonius phoenicuroides**, **Myiomela leucura**.

Sylviidae: **Phylloscopus inornatus**.

Muscicapidae: **Muscicapa banyumas**, **M. hainana**, **M. tickelliae**, **Rhinomyias umbratilis**, **Terpsiphone paradisi**.

Laniidae: **Lanius schach**.

Nectariniidae: **Arachnothera longirostra**.

Zosteropidae: **Zosterops erythropleura**.

Mostly forest hosts from Philippines, Malaya, Thailand, Indonesia, India.

**Ornithoica (Ornithoica) philippinensis** Ferris, 1927.

Philippines. Chiefly on Pittidae, Muscicapidae (sensu lato).

None taken in the MAPS collections.

**Ornithoica (Ornithoica) tridens** Maa, 1966.

Taiwan, China proper. Chiefly on Muscicapidae (sensu lato), Corvidae.

Turdidae: **Turdus hortulorum**.

Migrant thrush, from Hong Kong.

**Ornithoica (Ornithoica) momiyamai** Kishida, 1932.

Japan. Chiefly on Muscicapidae (sensu lato).

Turdidae: **Turdus cardis**, **Zoothera sibirica**.

Ground thrushes, from Japan.

**Ornithoica (Ornithoica) simplicis** Maa, 1966.

Found sporadically from Taiwan, Vietnam, Malaya, Borneo and New Guinea.

Chiefly on Muscicapidae (sensu lato).

Cuculidae: **Centropus toulou**, **C. sinensis**.



Capitonidae: **Megalaima franklini**.

Timaliidae: **Alcippe nipalensis**.

Unrelated hosts, from Malaya.

**Ornithoica (Ornithoica) exilis** (Walker), 1861.

From Nepal to Mariana, Fiji and Samoan Islands. Chiefly on Accipitridae, Psittacidae, Cuculidae, Strigidae, Alcedinidae, Picidae, Sturnidae, Dicruridae, Corvidae.

Rallidae: **Rallus striatus**.

Cuculidae: **Centropus viridis**.

Strigidae: **Glaucidium brodiei**, **Ninox scutulata**.

Alcedinidae: **Haleyon lindsayi**.

Coraciidae: **Eurystomus orientalis**.

Pittidae: **Pitta erythrogaster**.

Dicruridae: **Dicrurus balicassius**, **D. paradiseus**.

Turdidae: **Myiophoneus caeruleus**.

Sylviidae: **Locustella ochotensis**.

Unrelated hosts, from wide geographical range, Philippines, Malaya, Thailand.

**Ornithoica (Lobolepis) submicans** Maa, 1963.

Philippines. On Bucerotidae.

None reported from MAPS collections.

**Ornithoica (Lobolepis) curvata** Maa, 1963.

From Ceylon to Borneo. Chiefly on Cuculidae, Bucerotidae, Picidae.

Accipitridae: **Circus melanoleucos**.

Cuculidae: **Centropus sinensis**.

Bucerotidae: **Anthracoceros albirostris**.

Picidae: **Picus vittatus**.

Timaliidae: **Garrulax leucolophus**.

Sylviidae: **Phragmaticola aedon**.

Unrelated hosts, from Malaya, Thailand.

**Ornithophila** Rondani, 1879.

Reported from Cuculidae 1 species, Strigidae 2, Meropidae 3, Alcedinidae 1, Capitonidae 1, Pittidae 2, Hirundinidae 1, Dicruridae 3, Oriolidae 1, Paridae 1, Timaliidae 5, Pycnonotidae 5, Turdidae 6, Sylviidae 2, Muscicapidae 5, Pachycephalidae 1, Motacillidae 1, Sturnidae 2, Zosteropidae 1, Fringillidae 2, Ploceidae 3.

**Ornithophila metallica** (Schiner), 1864.

Widespread in Ethiopian, Oriental and Australian regions and southern part of Palaearctic region. Chiefly on Coraciidae, Alcedinidae, Pycnonotidae, Muscicapidae (sensu lato), Sturnidae, Dicruridae, Corvidae.

Cuculidae: **Chrysococcyx xanthorhynchus**.

Strigidae: **Otus bakkamoena**, **O. scops**.

Meropidae: **Merops leschenaulti**, **M. viridis**.

Alcedinidae: **Halcyon concreta**.

Capitonidae: **Megalaima franklini**.

Pittidae: **Pitta moluccensis**, **P. sordida**.

Hirundinidae: **Hirundo rustica**.

Dicruridae: **Dicrurus hottentottus**, **D. paradiseus**, **D. remifer**.

Oriolidae: **Oriolus traillii**.

Paridae: **Parus monticolus**.

Timaliidae: **Actinodura ramsayi**, **Garrulax strepitans**, **Heterophasia annectens**,  
**Napothera brevicaudata**, **Pellorneum ruficeps**.

Pycnonotidae: **Hypsipetes flavala**, **Pycnonotus blanfordi**, **P. goiavier**, **P. jocosus**,  
**P. sinensis**.

Turdidae: **Copsychus malabaricus**, **C. saularis**, **Erithacus calliope**, **E. cyane**,  
**Myiomela leucura**, **Turdus hortulorum**.

Sylviidae: **Acrocephalus stentoreus**, **Phylloscopus fuscatus**.

Muscicapidae: **Muscicapa banyumas**, **M. grandis**, **M. hainana**, **M. monileger**, **M.**  
**rubeculoides**.

Pachycephalidae: **Pachycephala philippensis**.

Motacillidae: **Motacilla alba**.

Sturnidae: **Sturnus nigricollis**, **S. tristis**.

Zosteropidae: **Zosterops japonica**.

Fringillidae: **Emberiza cioides**, **E. rustica**.

Ploceidae: **Lonchura punctulata**, **Passer montanus**, **Ploceus philippinus**.

A parasite with a very broad spectrum of hosts and wide distribution, Korea, Japan,  
Taiwan, Hong Kong, Philippines, Thailand, Malaya, Indonesia.

**Ornithomya** Latreille, 1802.

Reported from Columbidae 1 species, Cuculidae 1, Tytonidae 1, Strigidae 5,  
Podargidae 1, Trogonidae 1, Hirundinidae 5, Certhiidae 1, Timaliidae 1, Pycnonotidae 1,  
Turdidae 5, Muscicapidae 1, Sylviidae 1, Fringillidae 5.

**Ornithomya avicularia aobatonis** Matsumura, 1905.

Japan, Korea. Chiefly on Accipitridae, Muscicapidae (sensu lato), Corvidae.

Strigidae: **Asio otus**, **O. scops**.

Pycnonotidae: **Hypsipetes amaurotis**.

Turdidae: **Zoothera sibirica**.

Sylviidae: **Acrocephalus arundinaceus**.

Fringillidae: **Emberiza rutila**, **E. spodocephala**, **E. tristrami**.

Unrelated hosts, from Korea, Japan.

**Ornithomya fuscipennis** Bigot, 1885.

From Assam to Australia. Chiefly on Accipitridae, Columbidae, Strigidae,  
Podargidae, Trogonidae, Alcedinidae, Muscicapidae (sensu lato).

Columbidae: **Chalcophaps indica.**

Cuculidae: **Cuculus sparverioides.**

Tytoniidae: **Phodilus badius.**

Strigidae: **Glaucidium brodiei, Otus bakkamoena, O. scops, O. spilocephalus.**

Podargidae: **Batrachostomus hodgsoni.**

Trogonidae: **Harpactes erythrocephalus.**

Timaliidae: **Garrulax erythrocephalus.**

Turdidae: **Erithacus calliope, Myiophoneus caeruleus, Turdus obscurus, Zoothera dauma.**

Muscicapidae: **Muscicapa grandis.**

Hosts of tropical forests, Taiwan, Malaya, Thailand.

**Ornithomya chloropus extensa** Maa, 1967.

Japan, Korea, Taiwan. Chiefly on Fringillidae.

Fringillidae: **Carpodacus vinaceus, Emberiza rutila, Fringilla montifringilla.**

Migrant finches, from Korea, Japan, Taiwan.

**Ornithomya apelta** Maa, 1969.

Philippines, New Guinea, Solomon Is. On Zosteropidae.

Not represented in the MAPS collections.

**Ornithomya candida** Maa, 1967.

Japan. On Muscicapidae (sensu lato).

Not represented in the MAPS collections.

**Ornithomya biloba** Dufour, 1827.

Widespread in Palaearctic region, occurring seasonally in Thailand, Malaya, etc.  
On Hirundinidae.

Hirundinidae: **Hirundo daurica, H. tahitica.**

Swallows, from Malaya, Thailand.

**Ornithomya comosa** Austen, 1930.

India to Malaya, Korea. On Hirundinidae.

Hirundinidae: **Hirundo daurica, H. rustica, H. tahitica, Riparia paludicola, R. riparia.**

Swallows, from Korea, Nepal, Malaya, Thailand.

**Ornithomya** sp.

Certhiidae: **Certhia discolor.**

Creeper, from Bhutan.

**Crataerina** von Olfers, 1816.

Reported from Hirundinidae 2 species.

**Crataerina obtusipennis** Austen, 1926.

Malaya, Mongolia. No host record, probably on Apodidae.

Not reported from MAPS collections.

**Crataerina hirundinis** (Linnaeus), 1758.

Widespread in Palaearctic region, occurring seasonally in Taiwan. On Hirundinidae.

Hirundinidae: **Delichon urbica**.

House martin, from Japan.

**Crataerina** sp.

Hirundinidae: **Delichon nipalensis**.

Swallow, from Bhutan.

**Myophthiria** Rondani, 1875.

None represented in the MAPS collections.

**Myophthiria reduvioides** Rondani, 1875.

Borneo. On Apodidae (**Collocalia**).

**Myophthiria capsoides** Rondani, 1878.

Philippines. On Apodidae (**Collocalia**).

**Ornithoetona** Speiser, 1902.

Reported from Ardeidae 1 species, Accipitridae 3, Phasianidae 1, Columbidae 4, Picidae 1, Hirundinidae 1, Pycnonotidae 2, Timaliidae 3.

**Ornithoetona australasiae** (Fabricius), 1805.

From Malaya to Solomon Is., with a single record from Japan.

Chiefly on Muscicapidae (sensu lato).

Timaliidae: **Leiothrix argentauris**, **Alcippe nipalensis**, **A. poiocephala**.

Pycnonotidae: **Hypsipetes viridescens**.

Mountain forest babblers, and a bulbul, from Thailand.

**Ornithoetona soror** Ferris, 1926.

Borneo. On Muscicapidae (sensu lato), Dicruridae.

Not in MAPS collections.

**Ornithoetona plicata** (von Olfers), 1816.

From Madagascar to Fiji, Samoan and Tonga Islands. Chiefly on Accipitridae, Columbidae, Psittacidae.

Ardeidae: **Gorsachius melanolophus**.

Accipitridae: **Accipiter badius**, **A. virgatus**, **Aviceda jerdoni**.

Phasianidae: **Arborophila cambodiana**.

Columbidae: **Chalcophaps indica**, **Macropygia phasianella**, **Phapitreron leucotis**,

**Ptilinopus leclancheri**.

Picidae: **Dryocopus javensis**.

Hirundinidae: **Hirundo tahitica**.

Pycnonotidae: **Pycnonotus melanicterus**.

Forest hosts from Philippines, Malaya, Thailand.

**Icosta** Speiser, 1905.

Reported from Phalacrocoracidae 2 species, Ardeidae 3, Ciconiidae 1, Accipitridae 7, Columbidae 2, Cuculidae 6, Rallidae 2, Rostratulidae 1, Capitonidae 2, Pittidae 3, Hirundinidae 1, Campephagidae 1, Dicruridae 5, Corvidae 1, Pycnonotidae 3, Aegithinidae 1, Turdidae 7, Sylviidae 1, Muscicapidae 2, Laniidae 2, Motacillidae 1, Ploceidae 5.

**Icosta (Ornithopus) maquilingensis** (Ferris), 1924.

Burma, Thailand, Indo-China, Taiwan, Java, Philippines, Borneo.

Normally on Phasianidae.

Columbidae: **Chalcophaps indica**.

Ground Dove, from Philippines.

**Icosta (Ornithopus) sensilis sensilis** Maa, 1969.

East Pakistan, Burma, Thailand, Malaya, Philippines. Chiefly on Cuculidae, Pycnonotidae, Muscicapidae (sensu lato).

Cuculidae: **Centropus toulou**, **C. viridis**.

Hirundinidae: **Hirundo tahitica**.

Pycnonotidae: **Pycnonotus goavier**, **P. melanicterus** **P. sinensis**.

Turdidae: **Brachypteryx montana**, **Copsychus saularis**, **Erithacus calliope**.

Laniidae: **Lanius colluriodes**, **L. cristatus**.

Motacillidae: **Motacilla alba**.

Ploceidae: **Ploceus philippinus**.

Unrelated hosts from widely separated localities. Grassland or forest edge species. Hong Kong, Philippines, Malaya, Thailand.

**Icosta (Ornithopus) sensilis reducta** Maa, 1969.

India. On Corvidae.

Not represented in the MAPS collections.

**Icosta (Ornithopus) lonchurae** Maa, 1969.

Taiwan, Thailand, Malaya, Philippines. Normally on Ploceidae (**Lonchura**).

Cuculidae: **Centropus toulou**.

Corvidae: **Urocissa erythrorhyncha**.

Sylviidae: **Acrocephalus arundinaceus**.

Muscicapidae: **Rhipidura javanica**.

Ploceidae: **Lonchura leucogaster**, **L. malacca**, **L. punctulata**, **L. striata**, **Ploceus philippinus**.

Grassland inhabitants, from Philippines, Thailand, Malaya.

**Icosta (Icosta) wenzli** Maa, 1969.

Philippines. Normally on Psittacidae.

Not represented in the MAPS collections.

**Icosta (Icosta) elbeli** Maa, 1969.

From Assam to Philippines, Borneo. Normally on Cuculidae.

Cuculidae: **Cacomantis merulinus**, **Centropus sinensis**.

Brushland cuckoos, from Thailand.

**Icosta (Icosta) tarsata** Maa, 1969.

Thailand. Probably normally on Turdidae (**Myiophoneus**).

Pycnonotidae: **Pycnonotus melanicterus**.

Turdidae: **Myiophoneus caeruleus**.

Forest edge thrush and bulbul from Thailand.

**Icosta (Icosta) trita** (Speiser), 1905.

From Burma to Taiwan. Normally on Capitonidae (**Megalaima**).

Capitonidae: **Megalaima franklini**, **M. virens**.

Muscicapidae: **Muscicapa banyumas**.

Forest Barbets and flycatcher, from Thailand.

**Icosta (Icosta) fenestella** Maa, 1969.

From Burma to Philippines, Komodo. Chiefly on Muscicapidae (sensu lato),  
Dicruridae, Corvidae.

Pittidae: **Pitta cyanea**, **P. sordida**.

Campephagidae: **Pericrocotus ethologus**.

Dicruridae: **Dicrurus annectans**, **D. hottentottus**, **D. leucophaeus**, **D. paradiseus**,  
**D. remifer**.

Aegithinidae: **Irena puella**.

Turdidae: **Monticola cinclorhynchus**, **Saxicola ferrea**, **Zoothera citrina**.

Birds of various forest habitats in Malaya, Thailand and India.

**Icosta (Icosta) chalcopolpra** (Speiser), 1904.

From Burma to Solomon Is., Australia. Chiefly on Accipitridae, Psittacidae,  
Columbidae.

Accipitridae: **Accipiter badius**, **A. gentilis**, **A. nisus**, **A. trivirgatus**, **A. virgatus**.

Columbidae: **Chalcophaps indica**, **Treron sphenurus**.

Cuculidae: **Cuculus saturatus**.

Hawks, doves and cuckoos, from the forests of Thailand.

**Icosta (Icosta) longipalpis** (Macquart), 1835.

From E. Pakistan to Philippines, Java. Normally on Accipitridae, particularly  
genus **Spilornis**.

Accipitridae: **Accipiter trivirgatus**, **Aquila nipalensis**, **Ictinaetus malayensis**.

Hawks, from Thailand.

- Icosta (Icosta) acromialis tuberculata** (Ferris), 1927.  
Philippines. Normally on Sturnidae, Corvidae.  
Not taken in the MAPS collections.
- Icosta (Icosta) corvina** Maa, 1969.  
Ceylon, India. Burma. Normally on Corvidae (**Corvus**).  
Not represented in the MAPS collections.
- Icosta (Icosta) bicorna** (Ferris), 1927.  
Philippines. Normally on Bucerotidae.  
Not represented in the MAPS collections.
- Icosta (Icosta) spinosa** Maa, 1969.  
Thailand, Laos. Normally on Bucerotidae (**Anthracoceros**).  
Not in MAPS collections.
- Icosta (Icosta) bucerotina** Maa, 1969.  
Thailand. Normally on Bucerotidae.  
Not in MAPS collections.
- Icosta (Ardmoeca) ardeae ardeae** (Macquart), 1835.  
Widespread in Old World. Normally on Ardeidae.  
Phalacrocoracidae: **Phalacrocorax sulcirostris**.  
Ardeidae: **Ardeola ibis**, **Dupetor flavicollis**, **Ixobrychus cinnamomeus**.  
Cormorant, from Indonesia. Cattle egret, from Taiwan, and bitterns, from Malaya and Thailand.
- Icosta (Ardmoeca) holoptera omnisetosa** Maa, 1969.  
Malaya, China (Mainland), Philippines, New Guinea. Normally on Rallidae.  
Rallidae: **Rallina eurizonoides**, **R. fasciata**.  
Rostratulidae: **Rostratula benghalensis**.  
Cuculidae: **Cacomantis variolosus**.  
Pittidae: **Pitta moluccensis**, **P. sordida**.  
Laniidae: **Lanius cristatus**.  
Unrelated hosts from Philippines and Malaya.
- Icosta (Ardmoeca) macclurei** Maa, 1969.  
Thailand, Java. Normally on Ciconiidae.  
Ardeidae: **Ardea cinerea**  
Phalacrocoracidae: **Phalacrocorax pygmeus**, **P. sulcirostris**.  
Ciconiidae: **Anastomus oscitans**.  
Open-billed Stork, from Thailand; cormorants, and heron from Indonesia.  
**Phthona** Maa, 1969.  
Reported from Falconidae 1 species, Charadriidae 1.

**Phthona modesta** (Maa), 1963.

Thailand, Sumatra, Java. Normally on Falconidae (**Microhierax**)

Not represented in MAPS collections.

**Phthona nigrata** (Speiser). 1905.

Philippines. Normally on Falconidae (**Microhierax**).

Falconidae: **Microhierax erythrogenys**.

Charadriidae: **Charadrius leschenaulti**.

Brushland falconet and shorebird, from Philippines.

**Phthona leptoptera** (Maa), 1963.

From Assam to Vietnam. Normally on Falconidae (**Microhierax**).

Not noted in MAPS collections.

Genus **Pseudolynchia** Bequaert, 1926.

Reported from Accipitridae 1 species, Columbidae 3, Cuculidae 1, Caprimulgidae 2.

**Pseudolynchia garzettae** (Rondani), 1879.

Ethiopian Africa, southern Europe, Thailand, Taiwan Philippines.

Normally on Strigidae, Caprimulgidae.

Caprimulgidae: **Caprimulgus affinis**, **C. macrurus**.

Nightjars, from Philippines, Thailand.

**Pseudolynchia canariensis** (Macquart), 1840.

Nearly cosmopolitan. Normally on Accipitridae, Falconidae, Pteroclididae, Columbidae in Old World; exclusively on domestic pigeons in New World.

Accipitridae: **Buteo buteo**.

Columbidae: **Streptopelia bitorquata**, **S. senegalensis**, **Treron vernans**.

Cuculidae: **Cacomantis variolosus**.

A hawk, doves and cuckoo, from Philippines and India.

Genus **Olfersia** Leach, 1817.

Not represented in MAPS collections.

**Olfersia fossulata** Macquart, 1843.

Philippines, Indonesia (Wetter I.); widespread in New World.

Chiefly on Phalacrocoracidae, Sulidae, Pelecanidae, Laridae.

**Olfersia aenescens** C.G. Thomson, 1869.

Pantropical in the oceans. Normally on Diomedeidae, Procellariidae, Phaethontidae, Sulidae, Laridae.

**Olfersia spinifera** (Leach), 1817.

Pantropical in the oceans. Normally of Fregatidae.



## OTHER ARTHROPODS FOUND ON BIRDS

Many species of arthropods other than those known to be parasitic on birds were found upon them during these collections. Many were probably accidental, but others were taken often enough to suggest that they may either ride on the birds or have some other reason for being there. These incidental or accidental specimens were as follows.

Pseudoscorpionida, Cheliferidae, **Apocheriridium minutissimum** Beier: Accipitridae, **Ictinaetus malayensis**. Phasianidae, **Polyplecton inopinatum**. Alcedinidae, **Ceyx erithacus**. All collections from Malaya. Probably a nest predator with is occasionally found among the feathers of the birds. Hosts unrelated and not occupying the same environments.

Collembola, Entomobryidae, **Entomobrya nivalis** Linne: Fringillidae, **Pyrrhula nipalensis**. Forest finch, from Taiwan. Isotomidae, **Isotomurus palustris** Miller: Fringillidae, **Pyrrhula nipalensis**, from Taiwan. **Lepidocyrtus** sp. Pycnonotidae: **Pycnonotus finlaysoni**. A forest edge bulbul, from Thailand. These insects may have jumped or fallen unnoticed onto the paper at the time the collections were made.

Thysanoptera, Thripidae, **Microcephalothrips abdominalis** (Crawford), 1910. Turdidae: **Erithacus svecicus**, from India. Probably accidentally riding on this small thrush.

Psocoptera, Liposcelidae, **Embidopsocus trichurensis** Menon, 1942. Columbidae: **Chalcophaps indica**. A forest ground dove, from Philippines. **Liposcelis** near **bostrychophilus**. Anatidae: **Netta rufina**. Collected from a duck in India. Muscicapidae: **Muscicapa hyperythra**. Forest edge flycatcher, from Thailand **Liposcelis entomophilus** (Enderlein), 1907. Dicruridae: **Dicrurus hottentottus**. Forest drongo, from Philippines. Atropidae: **Lepinotus reticulatus** Enderlein, 1905. Fringillidae: **Emberiza fucata**, **E. rutila**. Brushland finches. Collections made in late summer and fall in Korea. Peripsocidae. **Ectopsocopsis cryptomeriae** (Enderlein), 1907. Alcedinidae: **Alcedo atthis**. Summer resident river kingfisher in Korea. Enough collections of psocids have now accumulated from birds to suggest that they are not purely accidental in occurrence. There may be some feeding or dispersal relationship which remains to be demonstrated.

Diptera, Simuliidae, **Simulium indicum** Baker. Strigidae: **Otus bakkamoena**. A small woodland owl. These flies were collected by McClure in Thailand. They were feeding beneath the body feathers. Flies of this family are known vectors of **Leucocytozoon** blood parasites. Calliphoridae, **Protocalliphora** sp. Hirundinidae: **Hirundo rustica**. Collections made from House Swallow nestlings in Korea. A nest parasite. Ephydriidae, **Discocerina** sp. Rostratulidae: **Rostratula benghalensis**. Snipe, from Philippines. Probably accidental.

Coleoptera, Orthoperidae. **Orthoperus** sp. Stephens, 1829. Timaliidae: **Pomatorhinus ochraceiceps**. A forest babbler, from Thailand, probably accidental. Carabidae, **Bembidion** sp. Latreille, 1802. Ciconiidae, **Anastomus oscitans**. Stork nestlings, from Thailand. Probably crawled on the bird from nest debris. Bruchidae. **Callosbruchus maculatus** (Fabricius), 1775. Pycnonotidae: **Pycnonotus jocosus**. Forest edge bulbul, from Thailand. probably accidental.

Hymenoptera, Ceraphronidae, **Ceraphron** sp. Jurine, 1807. Muscicapidae: **Muscicapa grandis**. Mountain forest flycatcher, from Thailand, probably accidental. Formicidae, **Lasius umbratus** (Nylander), 1846. Turdidae: **Turdus chrysolaus**. Migrant thrush, from Japan. **Monomorium** sp. Muscicapidae: **Rhipidura javanica**. Sturnidae: **Sarcops calvus**. A brushland flycatcher and starling, from Philippines. **Monomorium pharaonis** (Linne), 1758. Sylviidae: **Acrocephalus arundinaceus**. Migrant reed warbler, from Malaya. **Pheidole** sp. Turdidae. Migrant thrush, from Hong Kong. Ants crawl upon animals so it is not unexpected to find them on birds.

## THE HOSTS AND THEIR PARASITES

Following is a list of the bird species that were examined for ectoparasites and their parasites. In this list the birds are arranged phylogenetically by families and alphabetically within the families. Avian phylogeny follows that of Austin (1961). English vernacular names follow those of the MAPS checklist which is a compilation of current usage. Abbreviations refer to the parasites; Ch. - Chigger, M. - Mite, T. Tick, Ma. - Mallophaga, H. - Hippoboscidae, FM. - Feather Mite.

### PODICIPEDIDAE

**Podiceps ruficollis** (Pallas). Little Grebe.

Ma. **Aguanirmus bahli**, **Pseudomenopon** sp.



### PROCELLARIIDAE

**Puffinus leucomelas** (Temminck). Streaked Shearwater.

T. **Ixodes philipi**.

Ma. **Halipeurus** sp., **H. angusticeps**, **Procellariphaga longithoracica**, **P. paulula**, **Saemundssonina orientalis**, **Trabeculus hexakon**.

### PELECANIDAE

**Pelecanus philippensis** Gmelin. Spotted-billed Pelican.

Ma. **Colpocephalum eucarenum**, **Pectinopygus** sp.

### PHALACROCORACIDAE

**Phalacrocorax carbo** Linne. Common Cormorant.

Ma. **Pectinopygus gyricornis**.

**Phalacrocorax fuscicollis** Stephen. Indian Shag.

Ma. **Pectinopygus** sp.

**Phalacrocorax niger** (Vieillot). Little Cormorant.

Ma. **Pectinopygus makundi**.

**Phalacrocorax pygmeus** (Vieillot). Pygmy Cormorant.

H. **Icosta macclurei**.

**Phalacrocorax sulcirostris** (Brandt). Little Black Cormorant.

H. **Icosta ardeae ardeae**, **I. macclurei**.

Ma. **Pectinopygus setosus**.

## ARDEIDAE

**Ardea cinerea** Linne. Gray Heron.

H. **Icosta macclurei**.

Ma. **Ciconiphilus decimfasciatus**.

**Ardeola ibis** (Linne). Cattle Egret.

Ma. **Ardeicola expallidus**, **Ciconiphilus decimfasciatus**, **Comatomenopon ibis**.

H. **Icosta ardeae ardeae**.

**Butorides striatus** (Linne). Little Green Heron.

Ma. **Ardeicola** sp., **Ciconiphilus** sp.

**Dupetor flavicollis** (Latham). Black Bittern.

T. **Amblyomma geoemydae**.

Ch. **Schoengastia vieta**, **Toritrombicula densipiliata**, **Eutrombicula wichmanni**.

H. **Icosta ardeae ardeae**.

**Egretta garzetta** (Linne). Little Egret.

Ma. **Ardeicola expallidus**, **Ciconiphilus decimfasciatus**.

**Gorsachius melanolophus** (Raffles). Tiger Bittern.

Ch. **Leptotrombidium deliense**.

H. **Ornithoetona plicata**.

**Ixobrychus cinnamomeus** (Gmelin). Cinnamon Bittern.

Ch. **Blankaartia acuscutellaris**, **Leptotrombidium** sp.

FM. **Bicentralges orientalis**.

Ma. **Ardeicola ixobrychae**, **Ciconiphilus decimfasciatus**.

H. **Icosta ardeae ardeae**.

**Ixobrychus sinensis** (Gmelin). Chinese Little Bittern.

FM. **Ardeacarus** sp.

Ch. **Blankaartia acuscutellaris**.

**Nycticorax nycticorax** (Linne). Black-crowned Night Heron.

T. **Argas (P.) robertsi**

Ma. **Ardeicola goisagi**, **Ciconiphilus decimfasciatus**.

## CICONIIDAE

**Anastomus oscitans** (Boddaert). Open-billed Stork.

M. **Ornithonyssus bursa.**

T. **Argas robertsi.**

Ma. **Ardeicola lepidus, Ciconiphilus quadripustulatus, Colpocephalum occipitale, C. oscitansi, Neophilopterus completus.**

H. **Icosta macclurei.**

**Ibis leucocephalus** (Pennant). Painted stork.

Ma. **Neophilopterus phillipsi, Colpocephalum leucocephali.**

## PHOENICOPTERIDAE

**Phoeniconaias minor** (Geoffroy). Lesser Flamingo.

Ma. **Anatoecus sp.**

## ANATIDAE

**Anas acuta** Linne. Pintail.

Ma. **Anaticola crassicornis, Trinoton querquedulae.**

**Anas clypeata** Linne. Shoveller.

FM. **Bdellorhynchus polymorphus, Freyana sp.**

Ma. **Anaticola crassicornis, Trinoton querquedulae.**

**Anas crecca** Linne. Teal.

FM. **Freyana sp.**

Ma. **Anaticola crassicornis, Trinoton querquedulae.**

**Anas penelope** Linne. European Widgeon.

Ma. **Anaticola crassicornis, Trinoton querquedulae.**

**Anas querquedula** Linne. Garganey Teal.

FM. **Freyana sp., Bdellorhynchus polymorphus.**

**Anas strepera** Linne. Gadwall.

Ma. **Anaticola crassicornis, Trinoton querquedulae.**

**Anser anser** (Linne). Graylag Goose.

FM. **Freyana sp.**

Ma. **Anaticola anseris.**

**Anser indicus** (Latham). Bar-headed Goose.

Ma. **Anaticola anseris.**

**Aythya fuligula** Linne. Tufted Duck.

FM. **Ingrassia sp.**

**Aythya nyroca** (Güldenstädt). White-eyed Pochard.

FM. **Ingrassia sp.**

**Dendrocygna javanica** (Horsfield). Whistling Teal.

Ma. **Acidoproctus emersoni, Trinoton emersoni.**

**Netta rufina** (Pallas). Red-crested Pochard.

FM. **Ingrassia** sp.

Ma. **Anaticola crassicornis**.

**Nettapus coromandelianus** (Gmelin). Cotton Teal.

FM. **Freyana** sp., **Bdellorhynchus polymorphus**, **Brephosceles** sp.

Ma. **Anatoecus** sp.

**Sarkidiornis melanotos** (Pennant). Comb Duck.

FM. **Ingrassia** sp., **Freyana** sp.

Ma. **Anaticola coloratus**, **Holomenopon leucoxanthum**.

## ACCIPITRIDAE

**Accipiter badius** (Gmelin). Shikra Goshawk.

FM. **Coraciacarus** sp.

Ma. **Degeeriella nisus frater**, **Kurodaia fulvofasciata**.

H. **Icosta chalcolampra**, **Ornithoctona plicata**.

**Accipiter gentilis** (Linne). Goshawk.

T. **Ixodes** sp.

H. **Icosta chalcolampra**.

Ma. **Colpocephalum nanum**, **Degeeriella nisus vagans**, **Laemobothrion maximum**.

**Accipiter nisus** (Linne). Sparrow Hawk.

H. **Icosta chalcolampra**.

**Accipiter soloensis** (Horsfield). Chinese Goshawk.

Ma. **Degeeriella** sp.

**Accipiter trivirgatus** (Temminck). Crested Goshawk.

Ma. **Degeeriella** sp., **Kurodaia fulvofasciata**.

H. **Icosta chalcolampra**, **I. longipalpis**.

**Accipiter virgatus** (Temminck). Asiatic Sparrow Hawk.

Ma. **Degeeriella nisus frater**.

H. **Icosta chalcolampra**, **Ornithoctona plicata**.

**Aegypius monachus** (Linne). Cinereus Vulture.

Ma. **Colpocephalum trachelioti**.

**Aquila chrysaetos** (Linne). Golden Eagle.

Ma. **Craspedorrhynchus aquilinus**, **Falcolipeurus suturalis**.

**Aquila heliaca** Savigny. Imperial Eagle.

Ma. **Craspedorrhynchus** sp., **Laemobothrion vulturius**.

**Aquila nipalensis** (Hodgson), Steppe Eagle.

Ma. **Colpocephalum impressum**, **Degeeriella fulva**.

- H. **Icosta longipalpis.**
- Aviceda jerdoni** (Blyth). Jerdon's Baza.
- H. **Ornithoctona plicata.**
- Butastur indicus** (Gmelin). Gray-faced Buzzard.
- Ma. **Craspedorrhynchus** sp., **Degeeriella beaufacies**, **Laemobothrion maximum.**
- Butastur teesa** (Franklin). White-eyed Buzzard.
- Ma. **Degeeriella beaufacies**, **Laemobothrion maximum.**
- Buteo buteo** (Linne). Common Buzzard.
- Ma. **Craspedorrhynchus platystomus**, **Degeeriella fulva**, **Kurodaia fulvofasciata.**
- H. **Pseudolynchia canariensis.**
- Circus melanoleucos** (Pennant). Pied Harrier.
- Ma. **Degeeriella elani.**
- H. **Ornithoica curvata.**
- Haliaeetus pelagicus** (Pallas). Steller's Sea Eagle.
- Ma. **Colpocephalum flavescens.**
- Haliaster indus** (Boddaert). Brahminy Kite.
- Ma. **Colpocephalum indi**, **C. turbinatum**, **Craspedorrhynchus pachypus**,  
**Degeeriella regalis deignani.**
- Ictinaetus malayensis** (Temminck). Black Eagle.
- Cheliferidae: **Apocheriridium minutissimum.**
- Ma. **Colpocephalum** sp., **Laemobothrion maximum.**
- H. **Icosta longipalpis.**
- Milvus lineatus** (J.E. Gray). Black-eared Kite.
- Ma. **Colpocephalum turbinatum.**
- Milvus migrans** Boddaert. Black Kite.
- Ma. **Colpocephalum ecaudati**, **C. turbinatum**, **Craspedorrhynchus spathulatus**,  
**Degeeriella regalis regalis.**
- Pernis ptilorhynchus** (Temminck). Honey Buzzard.
- Ma. **Colpocephalum apivorus**, **C. turbinatum.**
- Pseudogyps bengalensis** (Gmelin). White-backed Vulture.
- Ma. **Colpocephalum turbinatum.**
- Spilornis cheela** (Latham). Serpent Eagle.
- Ma. **Degeeriella** sp.
- Spizaetus cirrhatus** (Gmelin). Changeable Hawk Eagle.
- FM. **Coraciacarus** sp.

## PANDIONIDAE

- Pandion haliaetus** (Linne). Osprey.

FM. *Bonnetella fusca*.

## FALCONIDAE

*Falco tinnunculus* Linne. Kestrel.

Ma. *Colpocephalum zerfae*, *Degeeriella rufa rufa*, *Laemobothrion tinnunculi*.

*Microhierax caerulescens* (Linne). Red-breasted Falconet.

FM. *Coraciacarus* sp.

Ma. *Falcomenopon boonsongi*.

*Microhierax erythrogenys* (Vigors). Philippine Falconet.

Ma. *Falcolius samarensis*. *Falcomenopon erythrogenys*.

H. *Phthona nigrita*.

## MEGAPODIDAE

*Megapodius freycinet* Gaimard. Megapode.

Ma. *Kelerimenopon minus*.

## PHASIANIDAE

*Arborophila atrogularis* (Blyth). White-cheeked Hill Partridge.

Ma. *Menacanthus* sp.

*Arborophila cambodiana* Delacour and Jabouille. Cambodian Tree Partridge.

T. *Amblyomma* sp., *Haemaphysalis* sp.

Ma. *Amyrsidea elbeli*, *Goniocotes* sp., *Oxylipeurus formosanus*, *O. unicolor*.

H. *Ornithoctona plicata*.

*Arborophila charltoni* (Eyton). Chestnut-breasted Tree Partridge.

Ma. *Colpocephalum chloropi*, *Goniodes chloropus*, *G. indicus*, *Goniocotes* sp., *Oxylipeurus* sp., *Somaphantus kingi*.

*Arborophila rufogularis* Blyth. Rufous-throated Hill Partridge.

Ma. *Goniocotes* sp., *Gondiodes indicus*, *G. processus*, *Oxylipeurus unicolor*.

*Argusianus argus* (Linne). Argus Pheasant.

FM. *Megninia* sp., *Pterolichus* sp.

Ma. *Amyrsidea polytrichae*, *A. ventralis*, *Colpocephalum appendiculatum*, *Goniodes curvicornis*, *Lipeurus caponis*, *Packyskelotes orthopleurus*.

*Bambusicola fytchii* Anderson. Fytch's Bamboo Partridge.

Ch. *Leptotrombidium scutellare*.

Ma. *Lipeurus* sp.

*Caloperdix oculea* (Temminck). Ferruginous Wood Partridge.

Ma. *Amyrsidea oculeae*, *Lipeurus lewisi*, *Oxylipeurus songprakobi*.

*Coturnix chinensis* (Linne). Blue-breasted Quail.

- T. **Haemaphysalis** sp.  
 Ch. **Helenicula kohlsi**, **Leptotrombidium akamushi**, **L. deliense**, **L. keukenschrijveri**.  
 Ma. **Cuclogaster cinereus**, **Goniodes astrocephalus**, **Menacanthus** sp.  
**M. abdominalis**.  
**Francolinus pondicerianus** (Gmelin). Grey Partridge.  
 Ma. **Menacanthus** sp.  
**Gallus gallus** (Linne). Red junglefowl.  
 T. **Haemaphysalis wellingtoni**.  
 Ma. **Menopon gallinae**, **Oxylipeurus dentatus**.  
**Lophura diardi** (Bonaparte). Diard's Fire-backed Pheasant.  
 Ma. **Goniodes diardi**.  
**Lophura erythrophthalma** (Raffles). Crestless Fireback Pheasant.  
 T. **Haemaphysalis wellingtoni**.  
 Ch. **Leptotrombidium deliense**, **Neoschoengastia gallinarum**.  
 FM. **Megninia** sp., **Pterolichus** sp.  
 Ma. **Menopon gallinae**, **Goniodes** sp.  
**Lophura leucomelana** (Latham). Kalij Pheasant.  
 T. **Haemaphysalis** sp., **H. ornithophila**.  
 Ma. **Amyrsidea uniseriata**, **Goniocotes** sp., **Gonoides** sp., **G. dentatus**, **G. ocellatus**,  
**Lipeurus introductus**.  
**Melanoperdix nigra** (Vigors). Black Wood Partridge.  
 FM. **Megninia** sp., **Pterolichus** sp.  
**Perdica argoondah** (Sykes). Rock Bush Quail.  
 Ma. **Cuclogaster** sp.  
**Polyplectron inopinatum** (Rothschild). Rothschild's Peacock Pheasant.  
 Cheliferidae: **Apocheriridium minutissimum**.  
 FM. **Megninia** sp., **Pterolichus** sp.  
**Rollulus roulroul** (Scopoli). Roulroul or Crested Wood Partridge.  
 T. **Haemaphysalis wellingtoni**.

#### TURNICIDAE

- Turnix suscitator** (Gmelin). Barred Button Quail.  
 Ch. **Leptotrombidium akamushi**, **L. bhattipadense**.  
 FM. **Megninia** sp., **Pteronyssus** sp.  
 Ma. **Menacanthus** sp., **Turnicola angustissimus**.  
**Turnix sylvatica** (Desfontaines). Little Button Quail.  
 Ma. **Turnicola nigrolineatus**.  
**Turnix tanki** Blyth. Yellow-legged Button Quail.  
 Ch. **Leptotrombidium deliense**, **L. scanloni**, **L. scutellare**.



Ma. **Turnicola** sp.

## GRUIDAE

**Grus nigricollis** (Przevalski). Black-necked Crane.

Ma. **Heleonomus macilentus**.

**Grus vipio** Pallas. White-maned Crane.

Ma. **Heleonomus abdominalis**.

## RALLIDAE

**Amaurornis olivaceus** (Meyer). Bushhen.

Ma. **Rallicola** sp.

**Amaurornis phoenicurus** (Boddaert). White-breasted Waterhen.

M. **Rallinyssus amaurornis**.

Ch. **Leptotrombidium delicense**.

FM. **Grallobia** sp., **Grallichus** sp., **Megniniella** sp.

Ma. **Pseudomenopon** sp., **Rallicola** sp., **R. ortygometrae clayae**.

**Crex crex** (Linne). Corn Crake.

Ma. **Rallicola ortygometrae ortygometrae**.

**Fulica atra** Linne. Coot.

FM. **Analloptes** sp., **Grallobia** sp., **Megniniella** sp.,

Ma. **Fulicoffula lurida**, **Laemobothrion atrum**, **Pseudomenopon pilosum**, **Rallicola fulicae**.

**Gallix rex cinerea** (Gmelin). Watercock.

FM. **Grallichus** sp.

Ma. **Rallicola ferrisi**.

**Gallinula chloropus** (Linne). Moorhen.

FM. **Grallobia** sp., **Megniniella** sp.

Ma. **Laemobothrion chloropodis**, **Pseudomenopon pilosum**, **Rallicola minutus**.

**Porphyrio porphyrio** (Latham). Purple Gallinule.

FM. **Megninella** sp., **Grallichus** sp.

Ma. **Pseudomenopon mendesi porphyrii**, **Rallicola thompsoni**.

**Porzana cinerea** (Viellot). White-browed Crake.

FM: **Psilobrephosceles ortygometrae**.

M. **Rallinyssus amaurornis**.

Ma. **Menacanthus** sp., **Pseudomenopon** sp.,

**Porzana fusca** (Linne). Ruddy Crake.

M. **Rallinyssus limnecoracis**.

Ch. **Leptotrombidium deliense**.

FM. **Psilobrephosceles ortyometrae**, **Grallobia** sp., **Grallolichus** sp., **Megniniella** sp.,  
**Leptosphyra** sp.

Ma. **Pseudomenopon** sp.

**Porzana pusilla** (Pallas). Baillon's Crake.

FM. **Psilobrephosceles ortyometrae**, **Grallobia** sp., **Megniniella** sp.

Ma. **Fulicoffula** sp.

**Porzana tabuensis** Hachisuka. Sooty Crake.

M. **Rallinyssus porzana congolensis**.

FM. **Grallobia** sp., **Pteraloptes** sp., **Psilobrephosceles ortyometrae**.

Ma. **Rallicola tabuensis**.

**Rallina eurizonoides** Lafresnaye. Philippine Banded Crake.

M. **Rallinyssus rallinae**.

Ma. **Pseudomenopon** sp., **Rallicola** sp.

H. **Icosta holoptera omnisetosa**.

**Rallina fasciata** (Raffles). Malay Banded Crake.

Ch. **Leptotrombidium bodense**, **L. deliense**, **L. keukenschrijveri**, **Odontacarus audyi**, **Siseca rara**, **Toritrombicula densipiliata**.

H. **Icosta holoptera omnisetosa**.

**Rallus mirificus** Parks and Amadon. Luzon Rail.

Ma. **Rallicola** sp.,

**Rallus striatus** Linne. Slaty-breasted Rail.

Ch. **Blankaartia acuscutellaris**, **Leptotrombidium deliense**.

FM. **Grallobia** sp., **Grallolichus** sp., **Temnalges** sp., **Metanalges** sp.

Ma. **Rallicola ortyometrae affinis**.

H. **Ornithoica exilis**.

**Rallus torquatus** Linne. Barred Rail.

Ma. **Pseudomenopon** sp., **Rallicola gracilentus**.

#### HELIORNITHIDAE

**Heliopias personata**. (G.R. Gray). Masked Finfoot.

Ma. **Fulicoffula personata**.

#### JACANIDAE

**Metopidius indicus** (Latham). Bronze-winged Jacana.

FM. **Ingrassia** sp.

Ma. **Rallicola indicus**.

## ROSTRATULIDAE

**Rostratula benghalensis** (Linne). Painted Snipe.

Ma. **Actornithophilus erinaceus**, **Pseudomenopon rostratulae**, **Quadriceps quadrisetaceus**.

H. **Icosta holoptera omnisetosa**.

## CHARADRIIDAE

**Charadrius alexandrinus** Linne. Kentish Plover.

FM. **Freyanomorpha ambigua**.

Ma. **Actornithophilus ochraceus**, **Quadriceps assimilis major**.

**Charadrius asiaticus** Pallas. Caspian Plover.

Ma. **Quadriceps assimilis assimilis**.

**Charadrius dominicus** (Linne). Golden Plover.

FM. **Bychovskiata sp.**, **Ingrassia sp.**, **Montshadskiana pluvialis**.

Ma. **Actornithophilus ochraceus**, **Quadriceps charadrii orarius**, **Saemundssonica conica conica**.

**Charadrius dubius** Scopoli. Little Ringed Plover.

FM. **Brephosceles charadrii**, **Bychovskiata charadrii**, **Ingrassia sp.**, **Ptiloxenus sp.**, **Sokoloviana sp.**

Ma. **Actornithophilus ochraceus**, **Austromenopon aegialitidis**, **Quadriceps biscuspis**.

**Charadrius hiaticulus** Linne. Common Ringed Plover.

FM. **Bychovskiata charadrii**.

**Charadrius leschenaulti** Lesson. Large Sand Plover.

Ma. **Actornithophilus ochraceus**, **Austromenopon sp.**, **A. aegialitidis**, **Quadriceps assimilis ptyadis**, **Saemundssonica chenamycha**.

H. **Phthona nigrita**.

**Charadrius mongolus** Pallas. Mongolian Plover.

FM. **Bychovskiata pseudocharadrii**, **Triphyllochaeta charadrii**.

Ma. **Actornithophilus ochraceus**, **Austromenopon aegialitides**, **Quadriceps assimilis pallasi**, **Q. assimilis major**, **Saemundssonica platygaster platygaster**, **S. chenamycha**.

**Charadrius peroni** Schlegel. Malay Sand Plover.

Ma. **Actornithophilus ochraceus**, **Quadriceps assimilis assimilis**.

**Vanellus duvaucelli** (Lesson). Spur-winged Lapwing.

FM. **Avenzoaria sp.**, **Hemifreyana sp.**

**Vanellus indicus** (Boddaert). Red-wattled Lapwing.

Ma. **Actornithophilus hoplopteri**, **Quadriceps dasi**.

**Vanellus leucurus** (Lichtenstein). White-tailed Lapwing

FM. *Ingrassia* sp., *Hemifreyana* sp., *Brephosceles charadrii*, *Avenzoaria* sp.

## SCOLOPACIDAE

- Actitis hypoleucos** Linne. Common Sandpiper.  
Ma. *Actornithophilus flumineus*, *Austromenopon* sp., *Quadriceps ravus*,  
*Saemundssonina platygaster frater*, *S. tringa*.
- Arenaria interpres** (Linne). Turnstone.  
Ma. *Actornithophilus bicolor*, *Austromenopon* sp., *Lunaceps* sp., *Quadriceps strepsilaris*.
- Calidris alba** (Pallas). Sanderling.  
Ma. *Actornithophilus umbrinus*, *Austromenopon* sp., *Carduiceps complexinus*,  
*Lunaceps holophaeus actophilus*.
- Calidris alpina** Linne. Dunlin.  
FM. *Avenzoaria tringae*.  
Ma. *Actornithophilus umbrinus*, *Austromenopon alpinum*, *Carduiceps meinertzhageni*, *Lunaceps* sp.
- Calidris canutus** (Linne). Knot.  
Ma. *Actornithophilus umbrinus*, *Carduiceps zonarius*, *Lunaceps holophaeus drosti*.
- Calidris testaceus** (Pallas). Curlew Sandpiper.  
FM *Ingrassia* sp.  
Ma. *Actornithophilus* sp., *A. umbrinus*, *Carduiceps zonarius*, *Lunaceps holophaeus*.
- Calidris ruficollis** (Pallas). Rufous-necked Stint.  
FM. *Avenzoaria* sp.  
Ma. *Actornithophilus umbrinus*, *Carduiceps zonarius*, *Lunaceps* sp., *L. holophaeus drosti*.
- Calidris subminuta** (Middendorff). Long-toed Stint.  
FM. *Avenzoaria* sp.  
Ma. *Actornithophilus umbrinus*, *Carduiceps zonarius*, *Lunaceps* sp.
- Calidris temmincki** (Leisler). Temminck's Stint.  
T. *Argas* sp.  
Ma. *Actornithophilus umbrinus*, *Carduiceps zonarius*.
- Calidris tenuirostris** (Horsfield). Great Knot.  
Ma. *Actornithophilus umbrinus*, *Lunaceps* sp., *L. holophaeus drosti*.
- Capella megala** (Swinhoe). Swinhoe's Snipe.  
Ma. *Pseudomenopon* sp., *Rhynonirmus* sp.
- Capella minima** (Brünnich). Jack Snipe.  
FM. *Ingrassia* sp.  
Ma. *Actornithophilus* sp.

**Heteroscelus incanus** Gmelin. Wandering Tattler.

Ma. **Actornithophilus** sp., **Austromenopon** sp., **Quadriceps conformis**.

**Limicola falcinellus** (Pontoppidon). Broad-billed Sandpiper.

Ma. **Austromenopon** sp., **Carduiceps zonarius**, **Lunaceps falcinellus**.

**Limosa lapponica** (Linne). Bar-tailed Godwit.

Ma. **Actornithophilus limosae**, **Lunaceps limosella limosella**.

**Limosa limosa** (Linne). Black-tailed Godwit.

FM. **Ingrassia** sp.

Ma. **Actornithophilus** sp., **Carduiceps cingulatus cingulatus**, **Lunaceps** sp.

**Numenius arquata** (Linne). Common Curlew.

Ma. **Actornithophilus patellatus**, **Austromenopon crocatum**, **Cummingsiella ovalis**,  
**Lunaceps numenii numenii**.

**Numenius minutus** (Gould). Little Whimbrel.

Ma. **Austromenopon crocatum**, **Lunaceps numenii lissmanni**.

**Numenius phaeopus** (Linne). Whimbrel.

FM. **Avenzoaria** sp. **Pterodectes** sp.

Ma. **Actornithophilus ocellatus**, **Austromenopon phaeopodis**, **Lunaceps numenii phaeopi**, **Saemundssonina scolopacis phaeopodis**.

**Philomachus pugnax** (Linne). Ruff.

FM. **Ingrassia** sp., **Alloptes** sp., **Avenzoaria philomachii**.

Ma. **Actornithophilus pustulosus**, **Lunaceps holophaeus holophaeus**.

**Scolopax rusticola** Linne. Eurasian Woodcock.

Ma. **Cummingsiella aurea**.

**Tringa erythropus** (Pallas). Dusky Redshank.

Ma. **Actornithophilus totani**, **Quadriceps furvus**.

**Tringa glareola** Linne. Wood Sandpiper.

FM. **Triphyllochaeta utilae**, **Avenzoaria tringae**, **Alloptes** sp.

Ma. **Actornithophilus** sp., **Austromenopon** sp., **Quadriceps obscurus**, **Q. ochropi**.

**Tringa nebularia** (Gunnerus). Greenshank.

FM. **Bregatovia obtusolobata**, **Avenzoaria tringae**.

Ma. **Actornithophilus paludosus**, **Quadriceps ravus**, **Q. similis**.

**Tringa ochropus** Linne. Green Sandpiper.

FM. **Pseudoavenzoaria ochropodia**.

Ma. **Quadriceps lyallpurensis**, **Q. ochropi**.

**Tringa stagnatilis** (Bechstein). Marsh Sandpiper.

Ma. **Carduiceps zonarius**, **Quadriceps obscurus**, **Austromenopon** sp.

**Tringa totanus** (Linne) Redshank.

FM. **Avenzoaria** sp., **Alloptes** sp.

Ma. **Actornithophilus totani**, **Austromenopon** sp., **Quadriceps conformis**.

**Xenus cinereus** (Güldenstädt). Terek Sandpiper.

Ma. **Actornithophilus** sp., **Austromenopon** sp., **Carduiceps fulvofasciatus**,  
**Lunaceps** sp., **Quadriceps** sp.

### RECURVIROSTRIDAE

**Himantopus himantopus** (Linne). Black-winged Stilt.

Ma. **Actornithophilus himantopi**, **Austromenopon himantopi**, **Quadriceps hemichrous**, **Q. semifissus semifissus**.

### PHALAROPODIDAE

**Phalaropus lobatus** (Linne). Red-necked Phalarope.

Ma. **Quadriceps connexus**.

### GLAREOLIDAE

**Glareola lactea** Temminck. Small Pratincole.

Ma. **Quadriceps ellipticus**.

**Glareola pratincola** (Linne). Collared Pratincole.

Ma. **Actornithophilus sedes**, **Austromenopon** sp., **Quadriceps ellipticus**.

### LARIDAE

**Anous stolidus** (Linne). Common Noddy.

Ma. **Actornithophilus incisus**, **Quadriceps separatus**.

**Chlidonias leucopterus** (Temminck). White-winged Black Tern.

Ma. **Quadriceps pagasti**, **Q. anagrapsus**, **Saemundssonina** sp.

**Gelochelidon nilotica** (Gmelin). Gull-billed Tern.

Ma. **Saemundssonina gelochelidoni**.

**Hydroprogne caspia** (Pallas). Caspian Tern.

Ma. **Quadriceps griseus**, **Saemundssonina** sp.

**Larus brunneicephalus** Jerdon. Brown-headed Gull.

Ma. **Quadriceps** sp., **Saemundssonina lari**.

**Larus ichthyæetus** Pallas. Great Black-headed Gull.

Ma. **Quadriceps** sp.

**Larus ridibundus** Linne. Black-headed Gull.

Ma. **Austromenopon transversum**, **Saemundssonina lari**.

**Sterna anaethetus** Scopoli. Bridled Tern.

Ma. **Quadriceps legatus, Saemundssonina meridiana.**

**Sterna aurantia** Gray. Indian River Tern.

Ma. **Quadriceps insignis, Saemundssonina hopkinsi.**

**Sterna bergii** (Lichtenstein). Crested Tern.

FM. **Zachvatkinia sp., Alloptes sp.**

Ma. **Actornithophilus piceus piceus, Saemundssonina sp.**

**Sterna dougallii** Montague. Roseate Tern.

Ma. **Saemundssonina sterna.**

**Sterna hirundo** Linne. Common Tern.

Ma. **Actornithophilus piceus piceus, Saemundssonina sterna.**

**Sterna sumatrana** Raffles. Black-naped Tern.

Ma. **Actornithophilus piceus piceus, Quadriceps sp., Saemundssonina sp.**

## COLUMBIDAE

**Chalcophaps indica** (Linne). Emerald Dove.

M. **Tinaminyssus hirtus.**

Ch. **Leptotrombidium bodense, L. deliense, Odontacarus audyi, Toritrombicula densipiliata.**

FM. **Falculifer sp.**

Ma. **Columbica guimaraesi, Nitzschiella sp., N. piriformis.**

H. **Icosta chalcolampra, I. maquilingensis, Ornithoetona plicata, Ornithomya fuscipennis.**

**Columba livia** Gmelin. Rock Dove.

FM. **Falculifer sp., Pterophagus sp., Diplaegidia columbae.**

Ma. **Colpocephalum turbinatum.**

**Columba punicea** Blyth. Purple Wood Pigeon.

Ma. **Nitzschiella elbeli.**

**Columba vitiensis** Quoy and Gaimard. Metallic Wood Pigeon.

Ma. **Columbicola guimaraesi, Nitzschiella emersoni.**

**Ducula aenea** (Linne). Green Imperial Pigeon.

Ma. **Columbicola cavifrons.**

**Ducula carola** (Bonaparte). Spotted Imperial Pigeon.

Ma. **Auricotes sp., Hohorstiella sp.**

**Geopelia striata** (Linne). Zebra Dove.

M. **Tinaminyssus geopelia.**

Ma. **Columbicola mjobergi.**

- Macropygia phasianella** (Temminck). Red Cuckoo-Dove.  
 Ch. **Toritrombicula asa.**  
 FM. **Fulculifer** sp.  
 Ma. **Columbicola exilicornis.**  
 H. **Ornithoetona plicata.**
- Macropygia unchall** (Wagler). Barred Cuckoo-Dove.  
 Ch. **Leptotrombidium deliense.**  
 Ma. **Columbicola exilicornis, Nitzschiella doreyana.**
- Phapitreron amethystina** Bonaparte. Amethyst Brown Fruit Dove.  
 Ma. **Columbicola veigasimoni.**
- Phapitreron leucotis** (Temminck). White-eared Brown Fruit-Dove.  
 Ma. **Columbicola** sp., **C. deboomi, C. veigasimoni, Nitzschiella** sp.  
 H. **Ornithoetona plicata.**
- Ptilinopus jambu** (Gmelin). Pink-headed Fruit Dove.  
 M. **Tinaminyssus ptilinopi.**
- Ptilinopus leclancheri** (Bonaparte). Black-chinned Fruit Dove.  
 H. **Ornithoetona plicata.**
- Ptilinopus occipitalis** (Gray). Yellow-breasted Fruit Dove.  
 M. **Tinaminyssus ptilinopi.**
- Sphenurus sieboldii** (Temminck). Japanese Green Pigeon.  
 M. **Tinaminyssus ptilinopi.**
- Streptopelia bitorquata** (Temminck). Javanese Turtle Dove.  
 FM. **Falculifer** sp., **Pterophagus** sp., **Dermonoton** sp.  
 Ma. **Columbicola** sp., **Nitzschiella streptopeliae.**  
 H. **Pseudolynchia canariensis.**
- Streptopelia chinensis** (Scopoli). Spotted-necked Dove.  
 T. **Haemaphysalis intermedia.**  
 FM. **Falculifer** sp.  
 Ma. **Nitzschiella lativentris.**
- Streptopelia orientalis** (Latham). Eastern Turtle Dove.  
 Ma. **Columbicola turturis, Nitzschiella orientalis.**
- Streptopelia senegalensis** (Linne). Little Brown Dove.  
 T. **Haemaphysalis intermedia.**  
 H. **Pseudolynchia canariensis.**
- Treron sphenurus** (Vigors). Wedge-tailed Green Pigeon.  
 Ma. **Columbicola elbeli elbeli.**  
 H. **Icosta chalcopra.**
- Treron vernans** (Linne). Pink-necked Green Pigeon.  
 Ma. **Columbicola elbeli elbeli.**  
 H. **Pseudolynchia canariensis.**



## PSITTACIDAE

**Cacatua haematuropygia** (P.L.S. Muller). Philippine Cockatoo.

Ma. **Franciscola thompsoni**.

**Loriculus philippensis** (P.L.S. Muller). Philippine Hanging Lorikeet.

M. **Tinaminyssus psittaculae**.

**Loriculus vernalis** (Sparrman). Javanese Hanging Lorikeet.

M. **Tinaminyssus psittaculae**.

**Prioniturus discurus** (Vieillot). Blue-headed Racket-tailed Parrot.

M. **Tinaminyssus prionituri**.

**Psittacula alexandri** (Linne). Mustache Parakeet.

Ma. **Kelerimenopon psittaculae**.

**Psittacula longicauda** (Boddaert). Long-tailed Parakeet.

FM. **Pseudaloptinus** sp.

**Tanygnathus lucionensis** (Linne). Blue-naped Parrot.

M. **Tinaminyssus malayi**.

**Trichoglossus johnstoniae** (Hartert). Apo Lorikeet.

Ma. **Eomenopon ryani**.

## CUCULIDAE

**Cacomantis merulinus** Scopoli. Plaintive Cuckoo.

T. **Amblyomma** sp.

FM. **Allanages podagricus**.

Ma. **Cuculiphilus snodgrassi**, **Cuculoecus** sp.

H. **Icosta elbeli**.

**Cacomantis sonnerati** (Latham). Banded Bay Cuckoo.

Ma. **Cuculiphilus snodgrassi**.

**Cacomantis variolosus** (Vigors and Horsfield). Fantailed Cuckoo.

FM. **Coccylichus** sp.

H. **Icosta holoptera omnisetosa**, **Pseudolynchia canariensis**.

Ma. **Menacanthus** sp.

**Carpococcyx renauldi** Oustalet. Renault's Ground Cuckoo.

T. **Haemaphysalis** sp.

Ma. **Rhynonirmus kingi**.

**Centropus sinensis** Stephens. Common Coucal.

T. **Amblyomma** sp., **Haemaphysalis doenitzi**, **H. intermedia**, **H. nadchatrami**.

**H. wellingtoni.**

Ch. **Leptotrombidium akamushi.**

Ma. **Rallicola unguiculatus, Cuculicola sinensis, C. philippensis.**

H. **Icosta elbeli, Ornithoica curvata, O. simplicis.**

**Centropus melanops** Lesson. Black-faced Coucal.

Ma. **Cuculicola philippensis.**

**Centropus toulou** (Muller). Lesser Coucal.

T. **Haemaphysalis doenitzi, H. wellingtoni.**

Ch. **Blankaartia acuscutellaris, Leptotrombidium akamushi, L. deliense.**

Ma. **Rallicola unguiculatus.**

H. **Icosta lonchurae, I. sensilis sensilis, Ornithoica bistativa, O. simplicis.**

**Centropus viridis** (Scopoli). Philippine Coucal.

Ma. **Rallicola unguiculatus.**

H. **Icosta sensilis sensilis, Ornithoica exilis.**

**Chrysococcyx malayanus** Raffles. Malay Cuckoo.

FM. **Allanalges podagricus.**

Ma. **Menacanthus sp.**

**Chrysococcyx xanthorhynchus** (Horsfield) Violet Cuckoo.

H. **Ornithophila metallica.**

**Clamator coromandus** (Linne). Red-winged Crested Cuckoo.

Ch. **Odontacarus audyi.**

FM. **Allanalges sp., Coraciacarus cuculi, Therisalges sp.**

Ma. **Cuculicola coromandus.**

**Clamator jacobinus** (Boddaert). Pied-Crested Cuckoo.

Ma. **Cuculicola sp., Cuculiphilus snodgrassi.**

**Cuculus canorus** Linne. Common Cuckoo.

Ma. **Cuculiphilus fasciatus.**

**Cuculus saturatus** Blyth. Blyth's Cuckoo.

Ma. **Cuculoecus sp.**

H. **Icosta chalcolampra.**

**Cuculus sparveroides** Vigors. Large Hawk Cuckoo.

Ma. **Cuculiphilus upsak.**

H. **Ornithomya fuscipennis.**

**Eudynamys scolopacea** (Linne). Koel.

Ch. **Leptotrombidium bhattipadense.**

Ma. **Cuculiphilus fasciatiiventris.**

**Phaenicophaeus chlorophaeus** (Raffles). Raffles Malcoha.

M. **Sternostoma cuculorum.**

**Phaenicophaeus diardi** (Lesson). Lesser Green-billed Malcoha.

Ma. **Cuculiphilus snodgrassi.**

**Phaenicophaeus superciliosus** Dumont. Rough-crested Malcoha.

FM **Coraciacarus** sp.

**Phaenicophaeus tristis** (Lesson). Large Green-billed Malcoha.

Ma. **Cuculicola hardayali**.

**Surniculus lugubris** (Horsfield). Drongo Cuckoo.

FM. **Allanalges podagricus**, **Coccylichus** sp.

Ma. **Cuculiphilus snodgrassi**, **Myrsidea cyrtostigma**.

## TYTONIDAE

**Phodilus badius** (Horsfield). Bay Owl.

Ma. **Colpocephalum emersoni**, **Strigiphilus marshalli**.

H. **Ornithoica unicolor**, **Ornithomya fuscipennis**.

**Tyto alba** Linne. Barn Owl.

FM. **Dermonoton** sp., **Protalges** sp.

Ma. **Colpocephalum turbinatum**, **Kurodaia subpachygaster**, **Strigiphilus aitkeni**.

## STRIGIDAE

**Asio otus** (Linne). Long-eared Owl.

Ma. **Kurodaia platyclypeatum**.

H. **Ornithoica unicolor**, **Ornithomya avicularia aobatonis**.

**Athene brama** (Temminck). Spotted Owlet.

Ma. **Kurodaia panjabensis**, **Strigiphilus bramae**.

**Bubo coromandus** (Latham). Dusky Eagle Owl.

Ma. **Strigiphilus** sp.

**Bubo philippensis** (Kaup). Philippine Horned Owl.

Ma. **Strigiphilus ketupae**.

**Glaucidium brodiei** (Burton). Pygmy Owlet.

T. **Haemaphysalis** sp.

Ma. **Kurodaia deignani**, **Strigiphilus siamensis**, **S. heterogenitalis**.

H. **Ornithoica exilis**, **O. unicolor**, **Ornithomya fuscipennis**.

**Glaucidium cuculoides** (Vigors). Barred Owlet.

Ma. **Kurodaia deignani**, **Strigiphilus macrogenitalis**.

**Ketupa ketupu** (Horsfield). Fish Owl.

Ma. **Kurodaia platyclypeatum**, **Strigiphilus ketupae**.

**Ketupa zeylonensis** (Gmelin). Brown Fish Owl.

Ma. **Kurodaia platyclypeatum**, **Strigiphilus ketupae**, **S. bramae**.

**Ninox philippensis** Bonaparte. Philippine Boobook Owl.

- Ma. **Kurodaia platyclypeatum, Strigiphilus heterogenitalis, S. ketupae.**
- Ninox scutulata** (Raffles). Brown Hawk Owl.
- Ma. **Kurodaia platyclypeatum, Strigiphilus heterogenitalis.**  
H. **Ornithoica exilis.**
- Otus bakkamoena** Pennant. Collared Scops Owl.
- M. **Ornithonyssus bursa, Rhinoecius cavannus.**  
T. **Amblyomma sp., Argas (P.) robertsi.**  
Ch. **Leptotrombidium deliensis.**  
FM. **Dermonoton sp., Kramerella sp.**  
Ma. **Kurodaia deignani, K. platyclypeatum, Strigiphilus heterogenitalis, S. tuleskovi.**
- Simuliidae: **Simulium indicum.**
- H. **Ornithoica unicolor, Ornithomya fuscipennis, Ornithophila metallica.**
- Otus rufescens** (Horsfield). Reddish Scops Owl.
- Ch. **Leptotrombidium deliense, Toritrombicula densipiliata.**
- Otus scops** (Linne). Scops Owl.
- Ch. **Leptotrombidium deliense.**  
FM. **Dermonoton sp.**  
Ma. **Kurodaia platyclypeatum, Strigiphilus heterogenitalis, S. tuleskovi.**  
H. **Ornithoica unicolor, Ornithomya avicularia aobatonis, O. fuscipennis, Ornithophila metallica.**
- Otus spilocephalus** (Blyth). Mountain Scops Owl.
- T. **Amblyomma sp., Haemaphysalis sp.**  
Ch. **Leptotrombidium scutellare, Neoschoengastia sp.**  
FM. **Dermonoton sp.,**  
Ma. **Kurodaia platyclypeatum, Strigiphilus heterogenitalis.**  
H. **Ornithoica unicolor, Ornithomya fuscipennis.**
- Strix leptogrammica** Temminck. Brown Wood Owl.
- Ma. **Kurodaia platyclypeatum, Strigiphilus ketupae.**
- Strix seloputo** (Blasius). Seloputo Owl.
- Ma. **Strigiphilus ketupae.**

#### PODARGIDAE

- Batrachostomus hodgsoni** (Hodgson). Hodgson's Frogmouth.
- H. **Ornithoica unicolor, Ornithomya fuscipennis.**
- Batrachostomus stellatus** (Gould). Gould's Frogmouth.
- Ch. **Leptotrombidium deliense.**

## CAPRIMULGIDAE

- Caprimulgus affinis** Horsfield. Savannah Nightjar.  
H. **Pseudolynchia garzettae.**
- Caprimulgus macrurus** Horsfield. Long-tailed Nightjar.  
Ma. **Mulcticola deignani.**  
H. **Pseudolynchia garzettae.**
- Eurostopodus macrotis** (Vigors). Giant Nightjar.  
Ch. **Leptotrombidum scutellare, Toritrombicula densipiliata.**

## APODIDAE

- Apus acuticaudus** (Jerdon). Khasia Hills Swift.  
Ma. **Dennyus hirundinis.**
- Apus affinis** (Gray). House Swift.  
Ma. **Dennyus hirundinis.**
- Apus pacificus** (Latham). White-rumped Swift.  
Ma. **Dennyus clayae.**
- Chaetura cochinchinensis** Oustalet. White-throated Spinetailed Swift.  
Ch. **Trombicula megaderma.**
- Chaetura gigantea** (Temminck). Malaysian Spinetailed Swift.  
M. **Liponyssoides intermedius.**  
Ch. **Leptotrombidium sylvestre.**  
FM. **Berlesella** sp.  
Ma. **Dennyus giganteus.**  
Cimicidae: **Paracimex chaeturus.**
- Collocalia brevirostris** (McClelland). Himalayan Swiftlet.  
Ma. **Dennyus emersoni, D. thompsoni.**
- Collocalia esculenta** (Linne). White-bellied Swiftlet.  
FM. **Berlesella** sp., **Chauliacia** sp., **Thysanocercus** sp.  
Ma. **Dennyus distinctus, Eureum salangane.**
- Collocalia gigas** Hartert and Butler. Giant Swiftlet.  
Ma. **Dennyus medwayi.**
- Collocalia inexpectata** Hume. Edible-nest Swiftlet.  
Ma. **Dennyus distinctus.**
- Collocalia maxima** Hume. Low's Swiftlet.  
Ma. **Dennyus thompsoni.**
- Collocalia troglodytes** (G.R. Gray). Pygmy Swiftlet.  
M. **Liponyssoides intermedius.**  
FM. **Berlesella** sp., **Chauliacia** sp., **Thysanocercus** sp.

- Ma. **Dennyus distinctus.**
- Collocalia vestita** (Lesson). Brown-rumped Swiftlet.
- Ma. **Dennyus sp.**
- Collocalia whiteheadi** Ogilvie-Grant. Whitehead's Swiftlet.
- FM. **Berlesella sp., Chauliacia sp., Thysanocercus sp.**
- Ma. **Dennyus elliotti, D. thompsoni.**

## TROGONIDAE

- Harpactes ardens** (Temminck). Philippine Trogon.
- Ma. **Brueelia sp.**
- Harpactes diardi** (Temminck). Diard's Trogon.
- Ch. **Toritrombicula densipiliata.**
- Ma. **Philopterus sp.**
- Harpactes duvauceli** (Temminck). Red-rumped Trogon.
- FM. **Trouessartia sp.**
- Ma. **Philopterus sp.**
- Harpactes erythrocephalus** (Gould). Red-headed Trogon.
- H. **Ornithomya fuscipennis.**

## ALCEDINIDAE

- Alcedo atthis** (Linne). Common Kingfisher.
- M. **Ornithonyssus sylviarum.**
- Ch. **Mackiena migratoria.**
- Ma. **Alcedoffula alcedinis.**
- Alcedo euryzona** Temminck. Blue-banded Kingfisher.
- Ch. **Neoschoengastia heynemani.**
- Ma. **Alcedoffula carvalhoi.**
- Alcedo meninting** Horsfield. Deep-blue Kingfisher.
- Ch. **Neoschoengastia heynemani.**
- FM. **Proterothrix sp.**
- Ma. **Alcedoffula brehili.**
- H. **Ornithoica bistativa.**
- Ceyx cyanopectus** Lafresnaye. Dwarf River Kingfisher.
- Ma. **Alcedoffula sp.**
- Ceyx erithacus** (Linne). Black-backed Kingfisher.
- Cheliferidae: **Apocheriridium minutissimum.**
- Ch. **Leptotrombidium deliense.**

- FM. *Allanalges* sp., *Proterothrix* sp., *Trouessartia* sp., *Xolalges* sp.  
 Ma. *Alcedoecus annulatus orientalis*. *Alcedoffula ceycis*.  
 H. *Ornithoica bistativa*
- Ceyx rufidorsus** Strickland. Red-backed Kingfisher.
- Ch. *Leptotrombidium deliense*.  
 FM. *Proterothrix* sp.  
 Ma. *Alcedoffula ceycis*.
- Halcyon chloris** (Boddaert). White-collared Kingfisher.
- M. *Tinaminyssus halcyonus*, *Sternostoma cooremani*.  
 FM. *Proterothrix* sp., *Pteronyssus* sp., *Trouessartia* sp.  
 Ma. *Alcedoecus latigenitalis*, *A. mystacinus*, *Myrsidea* sp.
- Halcyon concreta** (Temminck). Chestnut-collared Kingfisher.
- Ch. *Leptotrombidium deliense*.  
 Ma. *Emersoniella halcyonis*.  
 H. *Ornithophila metallica*.
- Halcyon coromanda** (Latham). Ruddy Kingfisher.
- FM. *Proterothrix* sp., *Trouessartia* sp.  
 Ma. *Alcedoecus mystacinus*.
- Halcyon hombroni** (Bonaparte). Hombron's Kingfisher
- Ma. *Emersoniella halcyonis*.
- Halcyon lindsayi** (Steere). Spotted Wood Kingfisher.
- Ma. *Emersoniella halcyonis*.  
 H. *Ornithoica exilis*.
- Halcyon pileata** (Boddaert). Black-capped Kingfisher.
- Ch. *Neoschoengastia monticola*.  
 FM. *Trouessartia* sp., *Proterothrix* sp.  
 Ma. *Alcedoecus constrictus*.
- Halcyon sancta** Vigors and Horsfield. Sacred Kingfisher.
- Ma. *Alcedoecus* sp.
- Halcyon smyrnensis** (Linne). White-breasted Kingfisher.
- Ch. *Neoschoengastia heynemani*.  
 FM. *Proterothrix* sp., *Pteronyssus* sp., *Trouessartia* sp.  
 Ma. *Alcedoecus annulatus annulatus*, *Myrsidea* sp., *Menacanthus* sp.
- Lacedo pulchella** (Horsfield). Banded Kingfisher.
- FM. *Proterothrix* sp.  
 Ma. *Alcedoecus incisus*.
- Pelargopsis capensis** (Linne). Storkbilled Kingfisher.
- Ma. *Alcedoecus sumatranus*.

#### MEROPIDAE

- Merops leschenaulti** Vieillot. Bay-headed Bee-eater.
- Ma. *Brueelia* sp., *Meropoecus* sp., *M. smithi*.  
 H. *Ornithophila metallica*.

**Merops orientalis** Latham. Green Bee-eater.

Ma. **Meromenopon** sp., **Meropoecus capri**.

H. **Ornithophila metallica**.

**Merops philippinus** Linne. Blue-tailed Bee-eater.

Ma. **Brueelia** sp., **Meromenopon** sp.

**Merops superciliosus** Linne. Brown-breasted Bee-eater.

FM. **Coraciacarus** sp., **Pseudalgas analgoides**.

Ma. **Meromenopon** sp.

**Merops viridis** Linne. Blue-throated Bee-eater.

M. **Ptilonyssus trisculatus**.

FM. **Pseudalgas analgoides**, **Coraciacarus** sp.

Ma. **Brueelia** sp., **Meromenopon** sp.

H. **Ornithoica bistativa**, **Ornithophila metallica**.

**Nyctiornis amictus** (Temminck). Red-bearded Bee-eater.

Ch. **Leptotrombidium deliense**.

**Nyctiornis athertoni** (Jardine and Selby). Blue-bearded Bee-eater.

Ma. **Meropoecus** sp.

#### CORACIIDAE

**Eurystomus orientalis** (Linne). Broadbilled Roller.

M. **Harpirhynchus** sp.

Ch. **Neoschoengastia solitus**.

FM. **Analgas** sp., **Trouessartia** sp.

Ma. **Capraiella subcusidata**, **Meromenopon** sp.

H. **Ornithoica exilis**.

#### UPUPIDAE

**Upupa epops** Linne. Hoopoe.

T. **Amblyomma** sp., **Haemaphysalis intermedia**.

Ma. **Upupicola upupae**.

#### BUCEROTIDAE

**Anorrhinus galeritus** (Temminck). Bushy-crested Hornbill.

FM. **Oustaletia** sp.

**Anthracoceros albirostris** Gyldenstolpe. Northern Pied Hornbill.

Ma. **Paroncophorus** sp., **Buceronirmus albescens**.

H. **Ornithoica curvata**.



**Anthracoceros malayanus** (Raffles). Black Hornbill.

FM. **Calaobia** sp., **Membranolobus** sp., **Pterocolurus** sp., **Vexillaria** sp.

**Berenicornis comatus** (Raffles). White-crested Hornbill.

FM. **Psoroptoides** sp.

**Buceros bicornis** Linne. Great Hornbill

M. **Ornithonyssus sylviarum**.

Ma. **Buceronirmus cephalotes**, **Bucrophagus forcipatus**.

## CAPITONIDAE

**Megalaima asiatica** (Latham). Blue-throated Barbet.

Ma. **Myrsidea** sp., **Penenirmus** sp.

**Megalaima australis** (Horsfield). Little Barbet.

Ma. **Penenirmus** sp.

**Megalaima corvina** (Temminck). Brown-throated Barbet.

FM. **Pteronyssus** sp.

**Megalaima faiostriata** (Temminck). Green-eared Barbet.

M. **Androlaelaps dissimilis**.

Ma. **Brueelia** sp.

**Megalaima franklini** (Blyth). Golden-throated Barbet.

M. **Androlaelaps dissimilis**, **A. ellobii**, **Ornithonyssus**, **bursa**, **Pellonyssus biscutatus**, **Tinaminyssus**, **malayi**.

Ch. **Leptotrombidium scutellare**.

FM. **Mesalgoides** sp., **Montesauria** sp., **Trouessartia** sp., **Pterodectes** sp.

Ma. **Myrsidea** sp.

H. **Icosta trita**, **Ornithoica bistativa**, **O. simplicis**, **Ornithophila metallica**.

**Megalaima haemacephala** (Muller). Coppersmith Barbet.

Ma. **Myrsidea** sp.

**Megalaima mystacophanes** (Temminck). Gaudy Barbet.

T. **Amblyomma geoemydae**.

Ma. **Myrsidea** sp.

**Megalaima rafflesi** (Lesson). Many-colored Barbet.

Ma. **Penenirmus rafflesi**.

**Megalaima virens** (Boddaert). Great Barbet.

H. **Icosta trita**.

**Megalaima zeylanica** (Gmelin). Lineated Barbet.

M. **Androlaelaps dissimilis**, **A. haydocki**.

Ma. **Penenirmus zeylanicus**.

**Psilopogon pyrolophus** S. Muller. Fire-tufted Barbet.

FM. **Pterodectes** sp., **Pteronyssoides** sp., **Pteronyssus** sp., **Trouessartia** sp.,  
**Xolalges** sp.

## PICIDAE

**Blythipicus pyrrhotis** (Hodgson). Bay Woodpecker.

M. **Androlaelaps dissimilis**, **A. haydocki**, **A. ellobii**, **Ornithonyssus bursa**.

T. **Ixodes** sp.

Ch. **Leptotrombidium deliense**, **L. scutellare**.

FM. **Mesalgoides** sp., **Proterothrix** sp.

**Blythipicus rubiginosus** (Swainson). Maroon Woodpecker.

FM. **Proterothrix** sp., **Pteronyssoides** sp.

**Chrysocolaptes lucidus** (Scopoli). Golden-backed Four-toed Woodpecker.

FM. **Mesalgoides** sp., **Pteronyssus** sp.

**Chrysocolaptes validus** (Temminck). Orange-backed Woodpecker.

FM. **Dicamaralges dasybrachius**, **Proterothrix** sp., **Pteronyssus** sp.

**Dendrocopos atratus** (Blyth). Striped-breasted Pied Woodpecker.

Ma. **Penenirmus** sp.

**Dendrocopos kizuki** (Temminck). Japanese Pygmy Woodpecker.

M. **Androlaelaps dissimilis**.

FM. **Mesalgoides** sp., **Pteronyssus** sp.

Ma. **Penenirmus** sp.

**Dendrocopos leucotos** (Bechstein). White-backed Woodpecker.

Ma. **Colpocephalum tirkham**, **Penenirmus auritus**.

**Dendrocopos macei** (Vieillot). Fulvous-breasted Red Woodpecker.

FM. **Mesalgoides** sp., **Pteronyssus** sp.

**Dendrocopos major** (Linne). Great Spotted Woodpecker.

Ma. **Brueelia straminea**, **Picicola snodgrassi**.

**Dinopium javanense** (Ljungh). Golden-backed Three-toed Woodpecker.

M. **Pellonyssus trachyphoni**.

T. **Ixodes** sp.

Ch. **Ascoschoengastia (Laurentella) daria**.

FM. **Pteronyssus** sp., **Mesalgoides** sp.

Ma. **Penenirmus pici**.

- Dryocopus javensis** (Horsfield). White-bellied Black Woodpecker.  
 Ma. **Colpocephalum javensis, C. pulverulenti.**  
 H. **Ornithoctona plicata.**
- Gecinulus grantia** (McClelland). Pale-headed Woodpecker.  
 Ma. **Brueelia** sp.
- Jynx torquilla** Linne. Wryneck.  
 FM. **Proctophyllodes anthi.**
- Meiglyptes tukki** (Lesson). Buff-necked Woodpecker.  
 M. **Pellonyssus** sp.  
 FM. **Mesalgoides** sp.
- Micropternus brachyurus** (Vieillot). Rufous Woodpecker.  
 M. **Pellonyssus trachyphoni.**  
 FM. **Mesalgoides** sp.  
 Ma. **Myrsidea** sp.
- Mulleripicus pulverulentus** (Temminck). Great Slaty Woodpecker  
 Ma. **Colpocephalum harterti, C. pulverulenti.**
- Picumnus innominatus** Burton. Speckled Piculet.  
 Ma. **Penenirmus** sp.
- Picus canus** Gmelin. Black-naped Green Woodpecker.  
 M. **Pellonyssus trachyphoni.**  
 Ma. **Colpocephalum tirkham, Menacanthus koreae, Penenirmus pici, Picicola candidus.**
- Picus chlorolophus** Vieillot. Lessor Yellow-naped Woodpecker.  
 M. **Ornithonyssus sylviarum.**  
 Ma. **Penenirmus** sp.
- Picus erythropygius** (Elliot). Red-rumped Green Woodpecker.  
 FM. **Mesalgoides** sp., **Proterothrix** sp.  
 Ma. **Penenirmus pici.**
- Picus flavinucha** Gould. Large Yellow-naped Woodpecker.  
 Ma. **Penenirmus** sp., **P. pici.**
- Picus miniaceus** Pennant. Banded Red Woodpecker.  
 Ma. **Penenirmus auritus.**
- Picus mentalis** Temminck. Checker-throated Woodpecker.  
 FM. Unidentified.
- Picus squamatus** Vigors. Scaly-bellied Green Woodpecker.  
 Ma. **Colpocephalum tirkham.**

**Picus vittatus** Vieillot. Bamboo Green Woodpecker.

M. **Pellonyssus trachyphoni.**

T. **Haemaphysalis bispinosa.**

Ch. **Ascoschoengastia (Laurentella) lorius, Leptotrombidium deliense.**

FM. **Anhemialges** sp., **Bicentralges orientalis**, **Montesauria** sp., **Pteronyssoides** sp.  
**Pteronyssus** sp.

Ma. **Myrsidea** sp.

H. **Ornithoica curvata.**

**Sasia abnormis** (Temminck). Rufous Piculet.

FM. Unidentified.

### EURYLAIMIDAE

**Calyptomena viridis** Raffles. Green Broadbill.

FM. **Proterothrix** sp., **Radfordalges** sp.

Ma. **Myrsidea** sp., **Philopterus** sp.

**Cymbirhynchus macrorhynchus** (Gmelin). Black-and-Red Broadbill.

FM. **Bicentralges coalitus**, **B. miscellus**, **B. orientalis**, **Proterothrix** sp.,  
**Therisalges** sp., **Radfordalges** sp.

Ma. **Myrsidea** sp.

**Eurylaimus javanicus** Horsfield. Banded Broadbill.

Ch. **Toritrombicula densipiliata.**

FM. **Bicentralges coalitus**, **B. miscellus**, **Trouessartia** sp., **Radfordalges** sp.

Ma. **Myrsidea** sp.

**Psarisomus dalhousiae** (Jameson). Long-tailed Broadbill.

FM. **Bicentralges** sp.

H. **Ornithoica bistativa.**

**Serilophus lunatus** (Gould). Silver-breasted Broadbill.

FM. **Trouessartia** sp.

Ma. **Brueelia** sp., **Myrsidea** sp., **Sturnidoecus** sp.

### PITTIDAE

**Pitta brachyura** (Linne). Indian Pitta.

T. **Haemaphysalis doenitzi.**

**Pitta caerulea** (Raffles). Giant Pitta.

Ma. **Philopterus claviformis.**

**Pitta cyanea** Blyth. Lesser Blue Pitta.

Ch. **Neoschoengastia solitus**, **Toritrombicula densipiliata.**

Ma. **Philopterus claviformis.**

H. **Icosta fenestella**, **Ornithoica bistativa**, **O. unicolor.**

**Pitta erythrogaster** Temminck. Red-breasted Pitta.

T. **Amblyomma** sp.

Ch. **Odontacarus audyi**, **Schoengastia rectangulare**, **Toritrombicula asa**

Ma. **Kelerimenopon thompsoni**, **Picicola** sp., **Philopterus** sp., **Menacanthus** sp.,  
**Myrsidea** sp.

Nycteribiidae. **Eucampsipoda inermis**.

H. **Ornithoica exilis**.

**Pitta granatina** Temminck. Garnet Pitta.

T. **Amblyomma** sp.

**Pitta moluccensis** (S. Muller). Blue-winged Pitta.

T. **Amblyomma** sp., **A. geoemydae**, **Haemaphysalis** sp., **H. doenitzi**, **H. wellingtoni**.

Ch. **Eutrombicula wichmanni**, **Leptotrombidium arvina**, **L. bodense**, **L. deliense**,  
**L. keukenschrijveri**, **L. rapmundi**, **Neoschoengastia solitus**, **Odontacarus audyi**,  
**Schoengastia vieta**, **Siseca rara**, **Toritrombicula densipiliata**,  
**T. uphami**, **Walchiella oudemansi**.

FM. **Proctophyllodes pittae**.

Ma. **Philopterus claviformis**.

H. **Icosta holoptera ommisetosa**, **Ornithophila metallica**

**Pitta oatesi** (Hume). Fulvous Pitta.

Ma. **Philopterus claviformis**.

**Pitta phayrei** (Blyth). Phayr Pitta.

Ma. **Brueelia** sp.

**Pitta guajana** (P. L. S. Muller). Banded Pitta.

T. **Amblyomma** sp.

Ma. **Philopterus claviformis**.

**Pitta sordida** (Muller). Hooded Pitta.

T. **Amblyomma** sp., **A. geoemydae**, **Haemaphysalis** sp., **H. doenitzi**.

Ch. **Eutrombicula wichmanni**, **Leptotrombidium arvina**, **L. bodense**, **L. deliense**,  
**L. keukenschrijveri**, **Neoschoengastia** sp., **N. solitus**, **Odontacarus audyi**,  
**Schoengastia vieta**, **Siseca rara**, **Toritrombicula** sp., **T. asa**, **T. densipiliata**,  
**T. uphami**.

Ma. **Kelerimenopon thompsoni**, **Philopterus claviformis**.

H. **Icosta fenestella**, **I. holoptera omnisetosa**, **Ornithoica bistativa**, **Ornithophila metallica**.

**Pitta soror** Ramsay. Blue-backed Pitta.

T. **Haemaphysalis** sp., **Ixodes** sp.

Ch. **Toritrombicula densipiliata**.

Ma. **Philopterus claviformis**.

H. **Ornithoica bistativa**, **O. unicolor**.

## ALAUDIDAE

*Alauda arvensis* Linne. Skylark.

Ma. *Menacanthus alaudae*, *Penenirmus hibari*.

*Alauda gulgula* Franklin, Lesser Skylark.

FM. *Montesauria* sp.

*Ammomanes phoenicuroides* (Blyth). Desert Lark.

FM. *Proctophyllodes* sp.

*Galerida cristata* (Linne). Crested Lark.

FM. *Analges* sp., *Montesauria* sp., *Proctophyllodes microcaulus*.

Ma. *Menacanthus* sp.

*Mirafra assamica* Horsfield. Rufous-winged Bush Lark.

T. *Haemaphysalis doentzi*.

*Mirafra javanica* Horsfield. Bush Lark.

T. *Haemaphysalis* sp., *H. doentzi*.

FM. *Montesauria* sp.

Ma. *Philopterus* sp., *Myrsidea* sp.

## HIRUNDINIDAE

*Delichon nipalensis* Horsfield and Moore. Nepal House Martin.

H. *Crataerina* sp.

*Delichon urbica* (Bonaparte). Asiatic House Martin.

T. *Argas* (A.) *japonicus*.

FM. *Anhemialges* sp., *Pteronyssoides* sp., *Pteronyssus* sp.

Ma. *Brueelia* sp., *B. gracilis*, *Myrsidea* sp., *Philopterus excisus excisus*.

Ceratophyllidae: *Callopsylla* (O.) *waterstoni*.

H. *Crataerina hirundinis*.

*Hirundo daurica* Laxmann. Red-rumped Swallow.

FM. *Pteronyssus* sp., *Trouessartia* sp.

Ma. *Brueelia* sp., *Philopterus* sp.

H. *Ornithomya biloba*, *O. comosa*.

*Hirundo rustica* Linne. Barn Swallow.

M. *Dermanyssus hirundinis*, *Ornithonyssus bursa*, *O. sylviarum*.

FM. *Anhemialges* sp., *Pterodectes rutilus*, *Pteronyssoides* sp., *Pteronyssus* sp.,  
*Trouessartia appendiculata*, *T. crucifer*, *Eustathia* sp.

Ma. *Brueelia* sp., *B. domestica*, *Myrsidea* sp., *M. rustica*, *Philopterus excisus microsomaticus*.

Calliphoridae: **Protocalliphora** sp.

H. **Ornithomya comosa, Ornithophila metallica.**

**Hirundo tahitica** Gmelin. Pacific Swallow.

FM. **Anhemialges** sp., **Pteronyssoides** sp., **Pteronyssus** sp., **Trouessartia** sp.

Ma. **Brueelia** sp., **Myrsidea** sp., **M. rustica.**

H. **Icosta sensilis sensilis, Ornithoctona plicata, Ornithomya biloba, O. comosa**

**Pseudochelidon sirintarae** Thonglongya. White-eyed River Martin.

Ma. **Myrsidea** sp., **M. latifrons, Philopterus excisus.**

**Riparia paludicola** (Vieillot). Brown-throated Sand Martin.

H. **Ornithomya comosa.**

**Riparia riparia** (Linne). Sand Martin.

M. **Ornithonyssus bursa.**

T. **Haemaphysalis doenitzi.**

FM. **Pteronyssus** sp., **Trouessartia piscicauda.**

H. **Ornithomya comosa.**

## CAMPEPHAGIDAE

**Hemipus picatus** (Sykes). Bar-winged Flycatcher shrike.

FM. **Proctophyllodes** sp.

Ma. **Brueelia** sp., **Philopterus** sp.

**Lalage nigra** (Forster). Pied Triller.

FM. **Gabucinia** sp., **Ptasmatophyllodes pumilus, Proctophyllodes** sp.,  
**Trouessartia** sp., **Xolalges** sp.

Ma. **Myrsidea** sp.

**Pericrocotus divaricatus** (Raffles), Ashy Minivet.

Ma. **Myrsidea** sp., **M. takayamai.**

**Pericrocotus ethologus** Bangs and Phillips. Long-tailed Minivet.

FM. **Proterothrix** sp.

H. **Icosta fenestella.**

**Pericrocotus flammeus** (Forster). Scarlet Minivet.

Ma. **Myrsidea** sp.

**Tephrodornis virgatus** (Temminck). Brown-tailed Wood Shrike.

Ch. **Leptotrombidium scutellare.**

FM. **Proterothrix** sp.

Ma. **Myrsidea** sp.

## DICRURIDAE

**Dicrurus adsimilis** (Bechstein). Black Drongo.

FM. **Proterothrix** sp., **Pteronyssus** sp., **Trouessartia** sp., **Montesauria** sp.

Ma. **Brueelia** sp., **Myrsidea** sp.

**Dicrurus aeneus** Vieillot. Bronzed Drongo.

FM. **Trouessartia** sp.

Ma. **Myrsidea** sp.

**Dicrurus annectans** (Hodgson). Crow-billed Drongo.

FM. **Analges** sp., **Proctophyllodes** sp., **Proterothrix** sp., **Pteronyssoides** sp.,  
**Pteronyssus** sp., **Trouessartia** sp.

H. **Icosta fenesstella**.

**Dicrurus balicassius** (Linne). Balicassiao.

FM. **Pteronyssus** sp., **Trouessartia** sp.

Ma. **Brueelia** sp., **Myrsidea sindianus**.

H. **Ornithoica exilis**, **O. rabori**.

**Dicrurus hottentottus** (Linne). Hair-crested Drongo.

FM. **Pteronyssus** sp., **Proterothrix** sp., **Trouessartia** sp., **Xolalges** sp.

Ma. **Brueelia** sp., **Myrsidea** sp., **M. sindianus**, **Philopterus** sp.

H. **Icosta fenestella**, **Ornithophila metallica**.

**Dicrurus leucophaeus** Vieillot. Ashy Drongo.

M. **Pellonyssus reedi**.

T. **Ixodes** sp.

FM. **Proctophyllodes** sp., **Xolalges** sp., **Proterothrix** sp.,  
**Pteronyssus** sp., **Trouessartia** sp.

Ma. **Brueelia** sp., **Myrsidea crytostigma**, **Philopterus** sp.

H. **Icosta fenestella**.

**Dicrurus paradiseus** (Linne). Greater Racquet-tailed Drongo.

FM. **Proterothrix** sp., **Pteronyssoides** sp., **Pteronyssus** sp., **Trouessartia** sp.,  
**Xolalges** sp.

Ma. **Brueelia** sp., **Menacanthus** sp., **Myrsidea** sp., **M. sindianus**, **Philopterus** sp.

H. **Icosta fenestella**, **Ornithoica bistativa**, **O. exilis**, **Ornithophila metallica**.

**Dicrurus remifer** (Temminck). Lesser Racket-tailed Drongo.

M. **Ornithonyssus bursa**.

FM. **Proterothrix** sp., **Pteronyssus** sp., **Radfordalges** sp., **Trouessartia** sp.

Ma. **Myrsidea** sp.

H. **Icosta fenestella**, **Ornithophila metallica**.



## ORIOLIDAE

**Oriolus chinensis** Linne. Black-naped Oriole.

FM. **Proctophyllodes** sp., **Pteronyssoides** sp., **Pteronyssus** sp., **Trouessartia** sp.

Ma. **Brueelia** sp., **Myrsidea** sp.

H. **Ornithoica bistativa**.

**Oriolus traillii** (Vigors). Maroon Oriole.

H. **Ornithophila metallica**.

**Oriolus xanthornus** (Linne). Indian Black-headed Oriole.

Ma. **Menacanthus** sp., **Ricinus** sp.

FM. **Proterothrix** sp.

## CORVIDAE

**Cissa thalassina** Temminck. Short-tailed Green Magpie.

H. **Ornithoica bistativa**, **O. unicolor**.

**Corvus enca** (Horsfield). Slender-billed Crow.

Ma. **Colpocephalum fregili**, **Myrsidea grandiceps**.

**Corvus macrorhynchos** Wagler. Large-billed Crow.

Ma. **Brueelia saliemii mollii**, **Colpocephalum fregili**, **Philopterus extraneus**,  
**Myrsidea** sp., **M. trithorax**.

**Corvus splendens** Vieillot. House Crow.

Ma. **Brueelia saliemii saliemii**, **Colpocephalum fregili**, **Myrsidea** sp.

**Crypsirina occipitalis** (S. Muller). Malaysian Tree Pie.

Ma. **Menacanthus** sp., **Myrsidea** sp.

**Crypsirina temia** Daudin. Racquet-tailed Tree Pie.

FM. **Pterodectes** sp.

**Cyanopica cyana** (Pallas). Blue Magpie.

Ma. **Menacanthus tibialis**, **Myrsidea cyanopycae**, **Philopterus** sp.

**Garrulus glandarius** (Linne). Jay.

T. **Haemaphysalis** sp.

FM. **Montesauria** sp.

Ma. **Brueelia glandarii**, **Philopterus** sp.

**Platylophus galericulatus** (Cuvier). Crested Malay Jay.

Ch. **Leptotrombidium deliense**.

FM. **Trouessartia** sp.

H. **Ornithoica bistativa**.

**Platymurus leucopterus** (Temminck). Black-crested Magpie.

FM. **Proctophyllodes** sp., **Proterothrix** sp.

**Urocissa erythrorhyncha** (Boddaert). Red-billed Blue Magpie.

H. **Icosta lonchurae**.

## PARIDAE

- Aegithalos caudatus** (Linne). Long-tailed Tit.  
FM. **Analges** sp., **Proctophyllodes** sp., **Trouessartia** sp.
- Parus ater** Linne. Coal Tit.  
M. **Dermanyssus hirundinis**.  
Ch. **Leptotrombidium subintermedia**.  
FM. **Analges** sp., **Proctophyllodes ateri**, **Pterodectes** sp.,  
**Trouessartia** sp.  
Ma. **Menacanthus sinuatus**.
- Parus elegans** Lesson. Elegant Titmouse.  
Ch. **Neoschoengastia heynemani**.
- Parus major** Linne. Great Tit.  
FM. **Analges** sp., **Proctophyllodes stylifer**, **Pteronyssoides** sp., **Uniscutalges** sp.  
Ma. **Menacanthus sinuatus**.
- Parus monticolus** Vigors. Green-backed Tit.  
Ch. **Leptotrombidium subintermedia**.  
H. **Ornithophila metallica**.
- Parus palustris** Linne. Marsh Tit.  
M. **Ornithonyssus sylviarum**.  
FM. **Analges** sp., **Proctophyllodes stylifer**.
- Parus varius** Temminck and Schlegel. Varied Tit.  
M. **Ornithonyssus sylviarum**.  
FM. **Analges** sp., **Proctophyllodes stylifer**, **Pteronyssoides** sp.
- Parus zanthogenys** Vigors. Yellow-checked Tit.  
FM. **Proctophyllodes** sp.
- Sylviparus modestus** Burton. Yellow-browed Tit.  
Ch. **Leptotrombidium deliense**, **L. scutellare**, **L. fulleri**.

## CERTHIIDAE

- Certhia discolor** Blyth. Brown-throated Treecreeper.  
H. **Ornithomya** sp.
- Rhabdornis mystacalis** (Temminck). Striped-headed Creeper.  
Ma. **Brueelia** sp.

## SITTIDAE

- Sitta europa**. Linne. European Nuthatch.  
FM. **Analges** sp., **Proctophyllodes vitzhumi**.  
Ma. **Myrsidea** sp.

*Sitta frontalis* Swainson. Velvet-fronted Nuthatch.

Ma. *Myrsidea* sp.

## TIMALIIDAE

*Actinodura morrisoniana* Olgivie-Grant. Formosan Barwing.

Ma. *Menacanthus* sp.

*Actinodura ramsayi* (Walden). Spectacled Barwing.

T. *Ixodes* sp.

Ch. *Leptotrombidium scutellare*.

Ma. *Brueelia* sp., *Menacanthus* sp., *Myrsidea* sp.

H. *Ornithophila metallica*.

*Alcippe brunneicauda* (Salvadori). Brown-tailed Nun Babbler.

Ma. *Myrsidea* sp.

*Alcippe castaneiceps* (Hodgson). Chestnut-headed Nun Babbler.

M. *Ornithonyssus bursa*.

Ch. *Leptotrombidium bodense*, *L. deliense*.

FM. *Anhemialges* sp., *Bicentralges caulatus*, *Calcealges viriosus*, *Proterothrix* sp., *Mesalgoides* sp., *Montesauria* sp., *Mouchetia* sp., *Trouessartia* sp.

Ma. *Brueelia* sp., *Myrsidea* sp.

H. *Ornithoica bistativa*.

*Alcippe morrisonia* Swinhoe. Grey-eyed Nun Babbler.

M. *Ornithonyssus sylviarum*.

Ch. *Leptotrombidium scutellare*.

FM. *Pteronyssus* sp., *Trouessartia* sp.

Ma. *Brueelia* sp., *Myrsidea* sp.

*Alcippe nipalensis* (Hodgson). Mountain Nun Babbler.

M. *Ornithonyssus bursa*, *Ptilonyssus ruandae alcippei*.

FM. *Anhemialges* sp., *Bicentralges caulatus*, *Hemialges* sp., *Neocalcealges cuspilobus*, *Proterothrix* sp., *Pteronyssus* sp., *Trouessartia* sp.

H. *Ornithoicta australasiae*, *Ornithoica simplicis*.

*Alcippe poioicephala* (Jerdon). Common Nun Babbler.

FM. *Bicentralges caulatus*, *Proctophyllodes curtiphyllus*, *Montesauria* sp., *Pteronyssus* sp., *Proterothrix* sp.

Ma. *Brueelia* sp., *Myrsidea* sp.

H. *Ornithoica bistativa*, *Ornithoicta australasiae*.

*Gampsorhynchus rufulus* Blyth. White-headed Babbler.

Ma. *Myrsidea* sp.

*Garrulax canorus* (Linne). Hwamei.

Ma. *Philopterus* sp.

- Garrulax caerulatus** (Hodgson). Grey-sided Laughing Thrush.  
Ch. **Leptotrombidium** sp.
- Garrulax chinensis** (Scopoli). Black-throated Laughing Thrush.  
Ch. **Leptotrombidium** sp., **L. deliense**, **L. scutellare**.  
Ma. **Myrsidea** sp.
- Garrulax erythrocephalus** (Vigors). Red-headed Laughing Thrush.  
T. **Haemaphysalis doenitzi**, **Ixodes** sp.  
Ch. **Eutrombicula wichmanni**, **Leptotrombidium deliense**, **L. scutellare**.  
FM. **Analges** sp., **Anhemialges** sp., **Calcealges** sp., **Mouchetia** sp.,  
**Proctophyllodes mcclurei**, **Proterothrix** sp., **Pteronyssoides** sp.,  
**Trouessartia** sp.  
Ma. **Brueelia** sp., **Menacanthus** sp., **Myrsidea** sp., **Philopterus** sp.  
H. **Ornithoica bistativa**, **Ornithomya fuscipennis**.
- Garrulax leucolophus** (Hardwick). White-crested Laughing Thrush.  
Ch. **Leptotrombidium scutellare**.  
Ma. **Brueelia** sp., **Myrsidea** sp.  
H. **Ornithoica curvata**.
- Garrulax merulinus** Blyth. Spotted-breasted Laughing Thrush.  
Ma. **Myrsidea** sp.
- Garrulax milnei** (David). Red-tailed Laughing Thrush.  
Ch. **Leptotrombidium scutellare**.
- Garrulax mitratus** (S. Muller). Chestnut-capped Laughing Thrush.  
FM. **Analges** sp., **Bicentralges leiophyllus**, **Neocalcealges emarginatus**, **N. segregatus**, **Proctophyllodes** sp., **Proterothrix** sp., **Pteronyssus** sp.,  
**Trouessartia** sp.  
Ma. **Brueelia** sp.  
H. **Ornithoica bistativa**.
- Garrulax moniligerus** (Hodgson). Necklaced Laughing Thrush.  
Ch. **Leptotrombidium deliense**.
- Garrulax peocilorhynchus** Gould. Rufous Laughing Thrush.  
FM. **Proctophyllodes** sp.
- Garrulax ruficollis** (Jardine and Selby). Rufous-necked Laughing Thrush.  
Ma. **Brueelia** sp., **Myrsidea** sp.
- Garrulax strepitans** Blyth. Tickell's Laughing Thrush.  
Ma. **Myrsidea** sp.  
H. **Ornithoica bistativa**, **Ornithophila metallica**.
- Heterophasia annectens** (Blyth). Chestnut-backed Sibia.  
FM. **Proctophyllodes** sp., **Proterothrix** sp.

- H. **Ornithophila metallica**.
- Heterophasia capistrata** (Vigors). Black-headed Sibia.  
Ma. **Myrsidea** sp.
- Heterophasia melanoleuca** (Blyth). Tickell's Sibia.  
Ch. **Leptotrombidium scutellare**.  
FM. **Analges** sp., **Mouchetia** sp., **Proctophyllodes** sp., **Proterothrix** sp.,  
**Trouessartia** sp.  
Ma. **Brueelia** sp., **Myrsidea** sp., **Ricinus** sp.
- Heterophasia picaoides** Hodgson. Long-tailed Sibia.  
FM. **Analges** sp., **Bicentralges caulatus**, **Ingrassiella** sp., **Mesalgoides** sp.,  
**Mouchetia** sp., **Neocalcealges segregatus**, **N. undulatus**, **Proterothrix** sp.,  
**Trouessartia** sp.
- Leiothrix argentauris** (Hodgson). Silver-eared Mesia.  
M. **Passerrhinoptes andropadi**.  
FM. **Analges** sp., **Ingrassiella** sp., **Mesalgoides** sp., **Mouchetia** sp.,  
**Neocalcealges emarginatus**, **N. segregatus**, **Proctophyllodes** sp.,  
**Proterothrix** sp., **Trouessartia** sp.  
Ma. **Brueelia** sp., **Myrsidea** sp.  
H. **Ornithoctona australasiae**.
- Leiothrix lutea** (Scopoli). Red-billed Leiothrix.  
Ma. **Myrsidea** sp.  
FM. **Proterothrix** sp.
- Liocichla ripponi** (Oates). Crimson-headed Liocichla.  
Ma. **Brueelia** sp., **Myrsidea** sp.
- Liocichla steerei** Swinhoe. Steere's Liocichla.  
Ma. **Myrsidea** sp.  
FM. **Proterothrix** sp.
- Macronus gularis** (Horsfield). Striped Tit Babbler.  
T. **Haemaphysalis** sp.  
M. **Ornithonyssus sylviarum**, **Pellonyssus** sp.  
Ch. **Leptotrombidium deliense**, **Walchiella impar**, **W. oudemansi**.  
FM. **Analges** sp., **Anhemialges** sp., **Calcealges** sp., **Montesauria** sp.,  
**Proctophyllodes stachyris**, **Proterothrix** sp., **Trouessartia** sp.  
Ma. **Brueelia** sp., **Menacanthus** sp., **Myrsidea** sp.
- Macronus ptilosus** Jardine and Selby. Fluffy-backed Tit Babbler.  
M. **Laelaps flagellifer**.  
Ch. **Leptotrombidium deliense**.  
FM. **Anhemialges** sp., **Proterothrix** sp., **Montesauria** sp.

- Malacopteron affine** (Blyth). Plain Babbler.  
 Ch. **Leptotrombidium deliense**.  
 FM. **Bicentralges longivasatus**.
- Malacopteron cinereum** Eyton. Lesser Red-headed Babbler.  
 Ch. **Leptotrombidium deliense**.  
 FM. **Bicentralges longivasatus**, **Calcealges malayensis** **Megniniella** sp.,  
**Neocalcealges angustus**, **Proctophyllodes curtiphyllus**,  
**Trouessartia** sp.  
 Ma. **Myrsidea** sp.
- Malacopteron magnirostre** (Moore). Brown-headed Babbler.  
 Ma. **Myrsidea** sp.
- Malacopteron magnum** Eyton. Greater Red-headed Babbler.  
 Ch. **Leptotrombidium akamushi**, **L. deliense**.  
 FM. **Bicentralges longivasatus**, **Proctophyllodes** sp., **Montesauria** sp.
- Minla cyanouroptera** (Hodgson). Blue-winged Siva.  
 FM. **Analges** sp., **Ingrassiella** sp., **Mesalgoides** sp., **Neocalcealges inauditus**, **N. segregatus**, **Proctophyllodes** sp., **Trouessartia** sp.,  
**Xolalges** sp.  
 Ma. **Brueelia** sp., **Myrsidea** sp.
- Minla strigula** (Hodgson). Chestnut-tailed Siva.  
 M. **Ornithonyssus bursa**.  
 FM. **Anhemialges** sp., **Bicentralges discinctus**, **Ingrassiella** sp., **Mesalgoides** sp.,  
**Neocalcealges inauditus**, **Proctophyllodes** sp., **Pteronyssoides** sp.,  
**Trouessartia** sp., **Xolalges** sp.  
 Ma. **Brueelia** sp., **Myrsidea** sp.
- Myzornis pyrrhoura** Blyth. Fire-tailed Myzornis.  
 Ma. **Brueelia** sp., **Myrsidea** sp.
- Napothera brevicaudata** (Blyth). Streaked Wren Babbler.  
 Ch. **Leptotrombidium deliense**, **L. scanloni**.  
 FM. **Anhemialges** sp., **Bicentralges leiophyllus**, **Calcealges malayensis**,  
**Ingrassiella** sp., **Trouessartia** sp.  
 Ma. **Myrsidea** sp.  
 H. **Ornithoica bistativa**, **Ornithophila metallica**.
- Napothera epilepidotus** (Temminck). Small Wren Babbler.  
 FM. **Trouessartia** sp.
- Napothera macrodactyla** (Strickland). Large-footed Wren Babbler.  
 Ch. **Leptotrombidium** sp., **L. deliense**, **Odontacarus audyi**.
- Pellorneum albiventre** Godwin-Austen. Plain Brown Babbler.

- Ch. **Leptotrombidium scutellare.**  
 Ma. **Myrsidea** sp.  
 FM. **Montesauria** sp.
- Pellorneum capistratum** (Temminck). Black-capped Babbler.  
 T. **Ixodes granulatus.**  
 Ch. **Eutrombicula wichmanni, Leptotrombidium deliense.**  
 Ma. **Myrsidea** sp.
- Pellorneum ruficeps** Swainson. Striped Babbler.  
 M. **Ornithonyssus sylviarum.**  
 T. **Amblyomma** sp., **Haemaphysalis** sp., **Ixodes** sp.  
 Ch. **Helenicula simena, Leptotrombidium** sp., **L. arvina,**  
**L. deliense, L. scutellare, Siseca rara, Walchiella oudemansi.**  
 FM. **Anhemialges** sp., **Pteronyssus** sp.  
 Ma. **Myrsidea** sp.  
 H. **Ornithoica bistativa, Ornithophila metallica.**
- Pomatorhinus erythrogenys** Vigors. Rusty-checked Scimitar Babbler.  
 T. **Haemaphysalis** sp.  
 Ch. **Leptotrombidium** sp., **L. deliense, L. scutellare.**  
 Ma. **Brueelia** sp., **Myrsidea** sp.
- Pomatorhinus ferruginosus** Blyth. Coral-billed Scimitar Babbler.  
 Ma. **Brueelia** sp., **Myrsidea** sp.
- Pomatorhinus hypoleucos** (Blyth). Large Scimitar Babbler.  
 Ch. **Toritrombicula densipiliata.**
- Pomatorhinus ochraceiceps** Walden. Ochraceous-headed Scimitar Babbler.  
 Ch. **Odontacarus audyi.**  
 Ma. **Brueelia** sp.
- Pomatorhinus schisticeps** Hodgson. Chestnut-naped Scimitar Babbler.  
 M. **Ornithonyssus sylviarum.**  
 Ch. **Helenicula lanius, Leptotrombidium** sp., **L. scanloni, L. scutellare.**  
 Ma. **Brueelia** sp., **Myrsidea** sp.  
 H. **Ornithoica bistativa.**
- Pteruthius flaviscapis** (Temminck). Greater Shrike Babbler.  
 Ma. **Brueelia** sp.
- Ptilocichla falcata** Sharpe. Falcated Ground Babbler.  
 Ma. **Myrsidea** sp.
- Stachyris chrysaea** Blyth. Golden Tree Babbler.  
 FM. **Calcealges cyathoplax, Proctophyllodes cotyledon, Proterothrix** sp.,  
**Trouessartia** sp.  
 Ma. **Myrsidea** sp., **Ricinus** sp.

**Stachyris erythroptera** (Blyth). Red-winged Tree Babbler.

Ch. **Leptotrombidium deliense.**

FM. **Analges sp., Neocalcealges angustus, Proterothrix sp.**

Ma. **Myrsidea sp.**

**Stachyris leucotis** (Strickland). Whited-eared Tree Babbler.

M. **Echinonyssus nasutus.**

Ch. **Leptotrombidium bodense, L. deliense, L. keukenshrijveri.**

FM. **Montesauria sp.**

**Stachyris maculata** (Temminck). Red-rumped Tree Babbler.

T. **Haemaphysalis doenitzi.**

Ch. **Leptotrombidium deliense, Odontacarus audyi, Toritrombicula densipiliata, Walchiella oudemansi, W. impar.**

FM. **Bicentralges caudatus, Mouchetia sp., Proctophyllodes sp., Montesauria sp., Trouessartia sp., Xolalges sp.**

Ma. **Myrsidea sp.**

H. **Ornithoica bistativa, O. unicolor.**

**Stachyris nigriceps** Blyth. Gray-throated Tree Babbler.

Ch. **Leptotrombidium deliense, L. nakatae, L. scutellare, Helenicula simena, Odontacarus audyi, Trisetica milvini, Toritrombicula densipiliata.**

FM. **Bicentralges caudatus, Ingrassiella sp., Mouchetia sp., Neocalcealges cuspidobus, N. segregatus, Proctophyllodes sp., Montesauria sp., Pteronyssus sp., Trouessartia sp.**

Ma. **Brueelia sp., Myrsidea sp.**

H. **Ornithoica bistativa.**

**Stachyris nigricollis** (Temminck). Black-necked Tree Babbler.

Ch. **Ascoschoengastia (Laurentella) lorius, Leptotrombidium deliense, Walchiella oudemansi.**

FM. **Anhemialges sp., Bicentralges vebulla, Montesauria sp., Trouessartia sp., Xolalges sp.**

Ma. **Myrsidea sp.**

**Stachyris poliocephala** (Temminck). Gray-headed Tree Babbler.

M. **Ornithonyssus bursa.**

T. **Amblyomma sp., A. geoemydae.**

Ch. **Leptotrombidium sp., L. deliense, Odontacarus audyi, Toritrombicula densipiliata, Walchiella oudemansi.**

FM. **Analges sp., Anhemialges sp., Bicentralges caudatus, B. longivasatus, Neocalcealges segregatus, Proctophyllodes stachyris, Pteronyssus sp., Strelkoviacarus sp., Trouessartia sp.**

Ma. **Myrsidea sp.**



- Stachyris ruficeps** Blyth. Red-headed Tree Babbler.  
 T. **Ixodes** sp.  
 FM. **Anhemialges** sp. **Bicentralges caudatus**, **Calcealges** sp., **Pteronyssus** sp.,  
**Trouessartia** sp.  
 Ma. **Myrsidea** sp.
- Stachyris rufifrons** Hume. Hume's Tree Babbler.  
 T. **Ixodes** sp.  
 Ma. **Myrsidea** sp.
- Timalia pileata** Horsfield. Red-capped Babbler.  
 Ch. **Leptotrombidium scutellare**.  
 FM. **Montesauria** sp.
- Trichastoma abbotti** (Blyth). Abbott's Jungle Babbler.  
 T. **Haemaphysalis** sp.  
 Ch. **Leptotrombidium arenicola**, **L. deliense**, **Odontacarus audyi**.  
 FM. **Proctophyllodes** sp., **Montesauria** sp., **Trouessartia** sp.  
 Ma. **Menacanthus** sp., **Myrsidea** sp.
- Trichastoma bicolor** (Lesson). Ferruginous Jungle Babbler.  
 Ch. **Leptotrombidium deliense**.  
 FM. **Bicentralges longivasatus**, **Montesauria** sp.
- Trichastoma malaccense** (Hartlaub). Short-tailed Babbler.  
 Ch. **Eutrombicula wichmanni**, **Leptotrombidium deliense**, **Odontacarus audyi**,  
**Toritrombicula densipiliata**.  
 FM. **Montesauria** sp., **Pteronyssus** sp.  
 Ma. **Myrsidea** sp.  
 H. **Ornithoica bistativa**.
- Trichastoma rostratum** Blyth. Blyth's Jungle Babbler.  
 M. **Hirstionyssus callosiurus**.  
 T. **Haemaphysalis** sp.  
 Ch. **Leptotrombidium akamushi**, **L. deliense**.  
 FM. **Analges** sp., **Bicentralges longivasatus**, **Montesauria** sp., **Pteronyssus** sp.,  
**Trouessartia** sp., **Proctophyllodes** sp.  
 Ma. **Ricinus tinctus**.
- Trichastoma tickelli** (Blyth). Tickell's Jungle Babbler.  
 T. **Ixodes** sp.  
 Ch. **Helenicula simena**, **Leptotrombidium** sp., **L. deliense**, **L. scutellare**.  
 Ma. **Brueelia** sp., **Myrsidea** sp.
- Turdoides caudatus** (Dumont). Common Babbler.  
 Ch. **Leptotrombidium bhattipadense**, **Schoengastia dartevellei**.

- Ma. **Myrsidea** sp.
- Ceratopogonidae: **Forcipomyia** sp.
- Turdoides malcolmi** (Sykes). Large Grey Babbler.
- Ma. **Myrsidea** sp.
- Turdoides striatus** (Dumont). Jungle Babbler.
- M. **Ornithonyssus sylviarum**.
- T. **Haemaphysalis intermedia**, **H. kutchensis**, **Hyalomma** sp.
- Ma. **Menacanthus** sp., **Myrsidea** sp.
- Yuhina brunneiceps** Ogilvie-Grant. Formosan Yuhina.
- M. **Ornithonyssus bursa**.
- Yuhina castaniceps** (Horsfield and Moore). Chestnut-headed Siva.
- FM. **Anhemialges** sp., **Proctophyllodes** sp., **Proterothrix** sp., **Pteronyssus** sp.,  
**Trouessartia** sp.
- Yuhina flavicollis** Hodgson. Yellow-naped Yuhina.
- Ch. **Leptotrombidium scutellare**.
- Ma. **Myrsidea** sp.
- Yuhina zantholeuca** (Blyth). White-bellied Yuhina.
- FM. **Proterothrix** sp.
- M. **Sternostoma cuculorum**.
- Ma. **Myrsidea** sp.
- Ceratopogonidae: **Culicoides malayae**.

## PARADOXORNITHIDAE

- Paradoxornis atrosuperciliaris** (Godwin-Austen). Black-browed Parrotbill.
- Ma. **Brueelia** sp.
- Paradoxornis gularis** Gray. Gray-headed Parrotbill.
- Ma. **Myrsidea** sp.
- Paradoxornis guttaticollis** David. Spotted-breasted Parrotbill.
- Ch. **Leptotrombidium scutellare**, **Neoschoengastia longipes**.
- Paradoxornis nipalensis** (Hodgson). Orange Parrotbill.
- Ma. **Myrsidea** sp.
- Paradoxornis webbiana** (Gray). Webb's Parrotbill.
- Ch. **Leptotrombidium** sp., **Neotrombicula** sp.
- FM. **Proctophyllodes** sp., **Trouessartia** sp.
- Ma. **Myrsidea** sp.

## PYCNONOTIDAE

- Criniger bres** (Lesson). Olive White-throated Bulbul.  
FM. **Montesauria** sp.  
Ma. **Myrsidea** sp., **Philopterus** sp.
- Criniger finschii** Salvadori. Finsch's Bulbul.  
FM. **Analges** sp., **Bicentralges miscellus**, **Montesauria** sp., **Trouessartia** sp.,  
**Xolalges** sp.
- Criniger flaveolus** (Gould). White-throated Bulbul.  
Ma. **Myrsidea** sp.
- Criniger ochraceus** Moore. Brown White-throated Bulbul.  
Ch. **Leptotrombidium deliense**.  
Ma. **Myrsidea** sp., **Philopterus** sp.
- Criniger pallidus** Swinhoe. Swinhoe's White-throated Bulbul.  
M. **Pellonyssus** sp.  
Ch. **Leptotrombidium scutellare**.  
FM. **Monojoubertia** sp., **Montesauria** sp.  
Ma. **Brueelia** sp., **Myrsidea** sp.
- Criniger phacocephalus** (Hartlaub). Crestless White-throated Bulbul.  
FM. **Analges** sp., **Proctophyllodes** sp., **Trouessartia** sp.  
Ma. **Philopterus** sp., **Myrsidea** sp.
- Hypsipetes amaurotis** (Temminck). Brown-eared Bulbul.  
FM. **Analges** sp., **Proctophyllodes stenophyllus**, **Dolichodectes** sp.,  
**Pteronyssus** sp., **Trouessartia** sp.  
Ma. **Brueelia** sp., **Myrsidea** sp., **M. pycnonoti**.  
H. **Ornithomya avicularia aobatonis**.
- Hypsipetes charlottae** (Finsch). Crested Olive Bulbul.  
Ma. **Myrsidea** sp.
- Hypsipetes criniger** (Blyth). Hairy-backed Bulbul.  
Ch. **Leptotrombidium deliense**.  
FM. **Analges** sp., **Proctophyllodes** sp., **Dolichodectes** sp., **Pteronyssus** sp.,  
**Trouessartia** sp.  
Ma. **Myrsidea pycnonoti**, **Ricinus tugarinovi**.
- Hypsipetes flavala** (Blyth). Ashy Bulbul.  
Ch. **Leptotrombidium scutellare**.  
Ma. **Myrsidea** sp.  
H. **Ornithophila metallica**.
- Hypsipetes madagascariensis** (Muller). Black Bulbul.

- FM. **Proctophyllodes** sp., **Dolichodectes** sp., **Pteronyssus** sp., **Trouessartia** sp.  
 Ma. **Myrsidea** sp.
- Hypsipetes malaccensis** Blyth. Green-backed Streaked Bulbul.  
 Ma. **Myrsidea** sp.
- Hypsipetes mclellandii** Horsfield. Mountain Streaked Bulbul.  
 M. **Ornithonyssus bursa**.  
 Ch. **Leptotrombidium scutellare**.  
 FM. **Analges** sp., **Dolichodectes** sp., **Bicentralges caulatus**, **Neocalcealges** sp.,  
**Proctophyllodes** sp., **Pteronyssoides** sp., **Pteronyssus** sp., **Trouessartia** sp.  
 Ma. **Myrsidea** sp.
- Hypsipetes philippinus** (J.R. Forster). Philippine Bulbul.  
 FM. **Proctophyllodes stenophyllus**, **Dolichodectes** sp., **Pteronyssus** sp.,  
**Trouessartia** sp.  
 Ma. **Brueelia** sp., **Menacanthus** sp., **Myrsidea** sp., **M. pycnonoti**., **Philopterus** sp.
- Hypsipetes propinquus** (Oustalet). Olive Bulbul.  
 Ma. **Myrsidea** sp.
- Hypsipetes siquijorensis** (Steere). Mottled-breasted Bulbul.  
 Ma. **Myrsidea** sp., **M. pycnonoti**.
- Hypsipetes thompsoni** (Bingham). Bingham's Bulbul.  
 Ma. **Myrsidea** sp.
- Hypsipetes viridescens** (Blyth). Streaked Bulbul.  
 FM. **Dolichodectes** sp., **Analges** sp., **Proctophyllodes stenophylla**,  
**Pteronyssus** sp., **Trouessartia** sp.  
 H. **Ornithoctona australasiae**.
- Pycnonotus atriceps** (Temminck). Black-headed Bulbul.  
 M. **Ptilonyssus pycnonoti**.  
 FM. **Pteronyssus** sp., **Trouessartia** sp.  
 Ma. **Myrsidea** sp., **Philopterus** sp.
- Pycnonotus aurigaster** (Vieillot). Black-capped Bulbul.  
 Ch. **Leptotrombidium scutellare**.  
 FM. **Pteronyssus** sp.  
 Ma. **Brueelia** sp., **Menacanthus** sp., **Myrsidea** sp.
- Pycnonotus blanfordi** Jerdon. Blandford's Bulbul.  
 FM. **Dolichodectes** sp., **Proctophyllodes stenophyllus**, **Pteronyssus** sp.,  
**Pteronyssoides** sp., **Trouessartia** sp.  
 Ma. **Myrsidea** sp., **M. pycnonoti**.  
 H. **Ornithophila metallica**.
- Pycnonotus brunneus** Blyth. Red-eyed Brown Bulbul.  
 M. **Ptilonyssus pycnonoti**, **P. nadchatrami**.  
 Ch. **Leptotrombidium deliense**.  
 FM. **Proctophyllodes** sp., **Montesauria** sp., **Trouessartia** sp.

**Pycnonotus cafer** (Linne). Red-vented Bulbul.

M. **Dermanyssus** sp.

T. **Hyalomma** sp.

FM. **Pteronyssoides** sp., **Trouessartia** sp., **Pteronyssus** sp., **Analges** sp.,  
**Xolalges** sp.

Ma. **Menacanthus** sp., **Myrsidea** sp., **M. pycnonoti**.

**Pycnonotus cyaniventris** Blyth. Grey-bellied Bulbul.

Ma. **Myrsidea** sp.

**Pycnonotus erythrophthalmus** (Hume). Lesser Brown Bulbul.

M. **Ptilonyssus nadchatrami**, **Boydaia pycnonoti**.

Ch. **Leptotrombidium deliense**.

FM. **Proctophyllodes** sp., **Montesauria** sp., **Pteronyssus** sp.

Ma. **Myrsidea** sp.

**Pycnonotus outilotus** (Jardine and Selby). Crested Brown Bulbul.

FM. **Montesauria** sp.

Ma. **Myrsidea** sp.

**Pycnonotus finlaysoni** Strickland. Striped-throated Bulbul.

FM. **Analges** sp., **Pteronyssus** sp.

Ma. **Menacanthus** sp., **Myrsidea pycnonoti**.

**Pycnonotus flavescens** Blyth. Pale-faced Bulbul.

Ch. **Leptotrombidium scutellare**.

FM. **Analges** sp., **Neodectes** sp., **Pteronyssus** sp.

Ma. **Myrsidea** sp., **M. pycnonoti**.

**Pycnonotus goiavier** (Scopoli). Yellow-vented Bulbul.

M. **Ptilonyssus pycnonoti**, **Boydaia pycnonoti**.

Ch. **Leptotrombidium deliense**.

FM. **Analges** sp., **Montesauria** sp., **Neodectes** sp., **Proctophyllodes stenophyllus**,  
**Pteronyssoides** sp., **Pteronyssus** sp., **Trouessartia** sp., **Xolalges** sp.

Ma. **Brueelia** sp., **Menacanthus** sp., **Myrsidea** sp., **M. pycnonoti**, **Sturnidoecus** sp.

H. **Icosta sensilis sensilis**, **Ornithoica rabori**, **Ornithophila metallica**.

**Pycnonotus jocosus** (Linne). Red-whiskered Bulbul.

Ch. **Leptotrombidium scutellare**.

FM. **Analges** sp., **Proctophyllodes** sp., **Pteronyssus** sp., **Trouessartia** sp.

Ma. **Myrsidea** sp., **M. pycnonoti**.

H. **Ornithophila metallica**.

**Pycnonotus luteolus** Lesson. White-browed Bulbul.

Ma. **Myrsidea** sp.

**Pycnonotus melanicterus** (Gmelin). Black-crested Yellow Bulbul.

- M. **Pellonyssus trachyphoni.**  
 FM. **Analges** sp., **Proctophyllodes** sp., **Pteronyssus** sp., **Trouessartia** sp.  
 Ma. **Myrsidea** sp., **Sturnidoecus** sp.  
 H. **Icosta sensilis sensilis**, **I. tarsata**, **Ornithoctona plicata.**
- Pycnonotus melanoleucos** (Eyton). Black and White Bulbul.  
 FM. **Anhemialges** sp., **Montesauria** sp., **Pteronyssus** sp., **Trouessartia** sp.,  
**Xolages** sp.  
 Ma. **Myrsidea** sp.
- Pycnonotus plumosus** Blyth. Large Olive Bulbul.  
 M. **Ptilonyssus pycnonoti.**  
 FM. **Mesalgoides** sp., **Monojoubertia** sp., **Proctophyllodes** sp., **Montesauria** sp.,  
**Pteronyssoides** sp., **Pteronyssus** sp., **Trouessartia** sp.
- Pycnonotus simplex** Lesson. White-eyed Brown Bulbul.  
 M. **Boydaia pycnonoti.**  
 Ch. **Leptotrombidium akamushi**, **L. deliense**, **Odontacarus audyi.**  
 Ma. **Myrsidea** sp.
- Pycnonotus sinensis** (Gmelin). Chinese Bulbul.  
 FM. **Proctophyllodes stenophyllus**, **Pteronyssus** sp., **Strelkoviacarus** sp.,  
**Trouessartia** sp.  
 Ma. **Menacanthus** sp., **Myrsidea** sp., **M. pycnonoti**, **Sturnidoecus** sp.  
 H. **Icosta sensilis sensilis**, **Ornithophila metallica.**
- Pycnonotus urostictus** (Salvadori). Yellow-wattled Bulbul.  
 Ma. **Myrsidea** sp.
- Pycnonotus xanthorrhous** Anderson. Anderson's Bulbul.  
 Ch. **Leptotrombidium scutellare.**
- Pycnonotus zeylanicus** (Gmelin). Yellow-crowned Bulbul.  
 FM. **Montesauria** sp., **Proctophyllodes stenophyllus.**  
 Ma. **Myrsidea pycnonoti.**
- Spizixos canifrons** Blyth. Finch-billed Bulbul  
 Ch. **Leptotrombidium scutellare.**  
 Ma. **Menacanthus** sp., **Myrsidea** sp.

## AEGITHINIDAE

- Aegithina tiphia** (Linne). Common Iora.  
 FM. **Montesauria** sp., **Pteronyssus** sp.
- Chloropsis aurifrons** (Temminck). Golden-fronted Leafbird.  
 FM. **Pedanodectes** sp.  
 Ma. **Brueelia** sp.

**Chloropsis cochinchinensis** (Gmelin). Yellow-headed Green Leafbird.

Ma. **Myrsidea** sp.

**Chloropsis cyanopogon** (Temminck). Lesser Green Leafbird.

FM. **Pedanodectes** sp.

**Chloropsis hardwickii** Jardine and Selby. Hardwicke's Leafbird.

Ma. **Myrsidea** sp.

**Irena puella** (Latham). Fairy Bluebird.

M. **Ptilonyssus malaysiae**.

FM. **Montesauria** sp.

Ma. **Brueelia** sp., **Myrsidea** sp.

H. **Icosta fenestella**.

## CINCLIDAE

**Cinclus pallasii** Temminck. Pallas' Dipper.

FM. **Proctophyllodes** sp.

Ma. **Myrsidea franciscoloi**, **Philopterus** sp.

## TURDIDAE

**Brachypteryx leucophrys** (Temminck). Lesser Shortwing.

T. **Ixodes** sp.

Ch. **Neoschoengastia** sp., **N. solitus**.

FM. **Analges** sp., **Hemialges** sp., **Ingrassiella** sp., **Mesalgoides** sp.,  
**Proterothrix** sp., **Trouessartia** sp., **Xolalges** sp.

Ma. **Myrsidea** sp., **Ricinus** sp.

**Brachypteryx montana** Horsfield. Blue Shortwing.

FM. **Trouessartia** sp., **Analges** sp., **Proterothrix** sp., **Proctophyllodes** sp.

H. **Icosta sensilis sensilis**.

**Cochoa purpurea** Hodgson. Purple Cochoa.

Ch. **Leptotrombidium scutellare**.

**Copsychus luzoniensis** (Kittlitz). White-eyebrowed Shama.

FM. **Dolichodectes** sp., **Trouessartia** sp.

**Copsychus malabaricus** (Scopoli). Common Shama.

M. **Ptilonyssus dioptrornis**.

T. **Amblyomma** sp., **Dermacentor** sp.

Ch. **Leptotrombidium deliense**, **Siseca rara**, **Toritrombicula densipiliata**.

FM. **Analges** sp., **Dolichodectes** sp., **Pteronyssoides** sp., **Pteronyssus** sp.,  
**Trouessartia** sp.

- Ma. **Brueelia** sp., **Myrsidea** sp., **Philopterus** sp.  
H. **Ornithoica bistativa**, **Ornithophila metallica**.
- Copsychus pyrropygus** (Lesson). Orange-tailed Shama.  
Ch. **Leptotrombidium deliense**.  
FM. **Trouessartia** sp.
- Copsychus saularis** (Linne). Magpie Robin.  
M. **Ptilonyssus dioptrornis**.  
T. **Haemaphysalis intermedia**, **H. wellingtoni**.  
Ch. **Leptotrombidium** sp.  
FM. **Analges** sp., **Dolichodectes** sp., **Proctophyllodes cotyledon**,  
**Pteronyssoides** sp., **Trouessartia** sp.  
Ma. **Brueelia** sp., **Menacanthus** sp.  
H. **Icosta sensilis sensilis**, **Ornithoica bistativa**, **Ornithophila metallica**.
- Enicurus leschenaulti** (Vieillot). White-crowned Forktail.  
FM. **Analges** sp., **Proctophyllodes** sp., **Trouessartia** sp.
- Enicurus ruficapillus** Temminck. Chestnut-naped Forktail.  
FM. **Analges** sp., **Proctophyllodes cotyledon**, **Trouessartia** sp.  
Ma. **Myrsidea** sp.
- Enicurus schistaceus** (Hodgson). Slaty-backed Forktail.  
M. **Ptilonyssus dioptrornis**.  
FM. **Proctophyllodes** sp., **Trouessartia** sp.
- Erithacus brunneus** (Hodgson). Indian Blue Robin.  
M. **Ornithonyssus sylviarum**.  
Ma. **Brueelia** sp.
- Erithacus calliope** (Pallas). Ruby Throat.  
Ch. **Eutrombicula wichmanni**, **Helenicula simena**, **Leptotrombidium** sp., **L. deliense**, **L. elisbergi**, **L. scutellare**, **Neoschoengastia longipes**.  
FM. **Proctophyllodes vassilevi** **Proterothrix** sp., **Pteronyssus** sp.,  
**Trouessartia** sp.  
Ma. **Brueelia** sp., **Menacanthus** sp., **M. nogoma**, **Myrsidea** sp., **Philopterus** sp.  
H. **Icosta sensilis sensilis**, **Ornithomya fuscipennis**, **Ornithophila metallica**.
- Erithacus cyane** (Pallas). Siberian Blue Robin.  
M. **Ornithonyssus sylviarum**, **Ptilonyssus dioptrornis**.  
T. **Ixodes** sp., **I. turdus**, **Haemaphysalis** sp.  
Ch. **Leptotrombidium arvina**, **L. bodense**, **L. deliense**, **L. lanceolata**,  
**Neoschoengastia** sp., **N. longipes**, **N. solitus**, **Odontacarus audyi**,  
**Toritrombicula densipiliata**, **T. uphami**.  
FM. **Analges** sp., **Proctophyllodes rubeculinus**, **P. vassilevi**, **Proterothrix** sp.,  
**Trouessartia** sp.



- Ma. **Menacanthus** sp., **Myrsidea** sp.  
H. **Ornithoica bistativa**, **Ornithophila metallica**.
- Erithacus svecicus** (Linne). Blue Throat.  
T. **Hyalomma** sp.  
FM. **Trouessartia** sp., **Proctophyllodes caulifer**.
- Hodgsonius phoenicuroides** (Gray). Hodgson's Shortwing.  
Ch. **Leptotrombidium scutellare**, **Odontacarus audyi**.  
H. **Ornithoica bistativa**.
- Monticola cinclorhynchus** (Vigors). Blue-headed Rock Thrush.  
H. **Icosta fenestella**.
- Monticola rufiventris** (Jardine and Selby). Chestnut-bellied Rock Thrush.  
Ma. **Myrsidea** sp.
- Monticola solitarius** (Linne). Blue Rock Thrush.  
Ch. **Leptotrombidium scutellare**.
- Myiomela diana** (Lesson). Sunda Blue Robin.  
T. **Ixodes** sp.  
FM. **Proctophyllodes pennifer**, **Proterothrix** sp., **Analges** sp., **Pteronyssoides** sp.,  
**Trouessartia** sp.  
Ma. **Myrsidea** sp.
- Myiomela leucura** (Hodgson). White-tailed Blue Robin.  
T. **Haemaphysalis** sp., **Ixodes** sp.  
Ch. **Leptotrombidium deliense**, **L. scutellare**, **Neoschoengastia** sp., **N. solitus**.  
FM. **Analges** sp., **Ingrassiella** sp., **Proctophyllodes cotyledon**, **P. pennifer**,  
**Trouessartia** sp.  
Ma. **Brueelia** sp.  
H. **Ornithoica bistativa**, **Ornithophila metallica**.
- Myiophonus caeruleus** (Scopoli). Blue Whistling Thrush.  
Ch. **Leptotrombidium deliense**.  
FM. **Analges** sp., **Proctophyllodes** sp., **Proterothrix** sp., **Trouessartia** sp.  
Ma. **Myrsidea** sp., **M. sultanpurensis**.  
H. **Icosta tarsata**, **Ornithoica exilis**, **Ornithomya fuscipennis**.
- Myiophonus glaucinus** (Temminck). Sunda Whistling Thrush.  
FM. **Proterothrix** sp., **Trouessartia** sp.
- Phoenicurus aureus** (Pallas). Daurian Redstart.  
FM. **Analges** sp., **Proctophyllodes cotyledon**.  
Ma. **Myrsidea** sp.
- Phoenicurus ochrurus** (Gmelin). Black Redstart.  
T. **Hyalomma marginatum isaaci**.

- FM. **Proctophyllodes hipposideros**, **Trouessartia** sp.
- Rhyornis fuliginosus** (Vigors). Plumbeous Redstart.
- Ma. **Myrsidea** sp.
- Saxicola ferrea** Gray. Grey Bushchat.
- Ch. **Leptotrombidium scutellare**.
- FM. **Proctophyllodes cotyledon**, **Trouessartia** sp.
- H. **Icosta fenestella**.
- Saxicola jerdoni** (Blyth). Jerdon's Bushchat.
- FM. **Proctophyllodes cotyledon**, **Montesauria** sp.
- Ma. **Brueelia** sp.
- Saxicola torquata** (Linne). Stonechat.
- FM. **Pteronyssus** sp., **Trouessartia** sp.
- Saxicoloides fulicata** (Linne). Indian Robin.
- FM. **Montesauria** sp.
- Ceratopogonidae: **Leptoconops** sp.
- Tarsiger chrysaeus** Hodgson. Golden Bush Robin.
- Ch. **Leptotrombidium scutellare**.
- Tarsiger cyanurus** (Pallas). Red-flanked Bluetail.
- M. **Ornithonyssus sylviarum**.
- T. **Haemaphysalis** sp., **Ixodes** sp.
- Ch. **Leptotrombidium scutellare**.
- FM. **Proctophyllodes cotyledon**, **Trouessartia** sp.
- Ma. **Myrsidea** sp.
- Turdus cardis** Temminck. Grey-thrush.
- T. **Amblyomma** sp., **Haemaphysalis wellingtoni**.
- Ma. **Brueelia** sp., **Phlopterus** sp.
- H. **Ornithoica momiyamai**.
- Turdus chrysolais** Temminck. Brown Thrush.
- FM. **Mesalgoides** sp., **Proctophyllodes wiegoldi**, **Montesauria** sp.,  
**Trouessartia** sp.
- Ma. **Myrsidea thoracica**, **Sturnidoecus** sp.
- Turdus hortulorum** Sclater. Grey-backed Thrush.
- T. **Haemaphysalis** sp., **H. wellingtoni**.
- Ch. **Toritrombicula densipiliata**.
- Ma. **Brueelia** sp., **Myrsidea** sp.
- H. **Ornithoica tridens**, **Ornithophila metallica**.
- Turdus merula** Linne. Blackbird.
- M. **Ornithonyssus sylviarum**.
- FM. **Montesauria** sp.
- Turdus naumanni** Temminck. Dusky Thrush.

- M. *Ornithonyssus sylviarum*.  
 T. *Ixodes turdus*.  
 FM. *Analges* sp., *Proctophyllodes musicus*.  
 Ma. *Brueelia* sp., *Phlopterus* sp., *Ricinus elongatus*.
- Turdus obscurus** Gmelin. Grey-headed Thrush.  
 T. *Haemaphysalis* sp., *Ixodes turdus*.  
 Ch. *Leptotrombidium akamushi*, *L. deliense*, *L. keukenschrijveri*, *L. scutellare*,  
*Neoschoengastia longipes*.  
 FM. *Analges* sp., *Ingrassiella* sp., *Mesalgoides* sp., *Montesauria* sp., *Proctophyllodes weigoldi*, *Trouessartia* sp., *Xolalges* sp.  
 Ma. *Myrsidea thoracica*, *Sturnidoecus* sp.  
 H. *Ornithomya fuscipennis*.
- Turdus pallidus** Gmelin. Pale-Thrush.  
 M. *Ornithonyssus sylviarum*.  
 T. *Ixodes* sp.  
 FM. *Analges* sp., *Ingrassiella* sp., *Mesalgoides* sp., *Proctophyllodes weigoldi*,  
*Proterothrix* sp., *Pteronyssoides* sp., *Trouessartia* sp.  
 Ma. *Brueelia* sp., *Myrsidea* sp., *M. thoracica*
- Turdus rubricanus** Gray. Chinese Grey-headed Thrush.  
 FM. *Montesauria* sp.
- Turdus unicolor** Tickell. Tickell's Thrush.  
 FM. *Proctophyllodes* sp.
- Zoothera cinerea** (Bourne and Worcester). Ashy Ground Thrush.  
 Ma. *Myrsidea* sp.
- Zoothera citrina** (Latham). Orange-headed Thrush.  
 M. *Ornithonyssus sylviarum*.  
 T. *Haemaphysalis* sp., *Ixodes* sp.  
 Ch. *Leptotrombidium* sp., *L. arvina*, *L. deliense*, *Neoschoengastia solitus*,  
*Odontacarus audyi*, *Toritrombicula densipiliata*.  
 FM. *Analges* sp., *Montesauria* sp., *Proctophyllodes* sp., *Trouessartia* sp.  
 Ma. *Brueelia* sp., *Phlopterus* sp.  
 H. *Icosta fenestella*.
- Zoothera dauma** (Latham). White's Ground Thrush.  
 T. *Haemaphysalis* sp., *H. doenitzi*, *H. wellingtoni*, *Ixodes* sp.  
 Ch. *Helenicula simena*, *Leptotrombidium scutellare*.

- FM. *Analges* sp., *Montesauria* sp., *Proctophyllodes doleophyses*,  
*Trouessartia* sp.
- Ma. *Brueelia daumae*, *Myrsidea* sp., *M. ishizawai*.
- H. *Ornithomya fuscipennis*.
- Zoothera dixonii* (Seeböhm). Long-tailed Ground Thrush.
- Ma. *Brueelia* sp.
- Zoothera interpres* (Temminck). Chestnut-headed Ground Thrush.
- Ma. *Myrsidea* sp.,
- Zoothera marginata* Blyth. Lesser Long-billed Ground Thrush.
- T. *Haemaphysalis* sp., *H. doenitzi*, *H. ornithophila*, *H. wellingtoni*, *Ixodes* sp.
- FM. *Montesauria* sp.
- Ma. *Menacanthus* sp.
- Zoothera sibirica* (Pallas). Siberian Ground Thrush.
- T. *Ixodes spinicoxalis*.
- Ch. *Leptotrombidium deliense*.
- FM. *Analges* sp., *Mesalgoides* sp., *Montesauria* sp., *Proctophyllodes doleophyses*,  
*Trouessartia* sp., *Xolalges* sp.
- Ma. *Myrsidea* sp., *M. thoracica*.
- H. *Ornithoica momiyamai*, *Ornithomya avicularia aobatonis*.

#### SYLVIIDAE

- Acrocephalus agricola* Jerdon. Paddy-field Warbler.
- FM. *Proctophyllodes* sp.
- Acrocephalus arundinaceus* Linne. Great Reed Warbler.
- M. *Ptilonyssus* sp.
- Ch. *Leptotrombidium deliense*.
- FM. *Analges* sp., *Calcealges* sp., *Montesauria* sp., *Proctophyllodes* sp.,  
*Dolichodectes* sp., *Pteronyssoides* sp., *Pteronyssus* sp., *Trouessartia*  
*trouessarti*.
- Ma. *Menacanthus* sp., *Myrsidea* sp., *Philopterus* sp.
- H. *Icosta lonchurae*, *Ornithomya avicularia aobatonis*.
- Acrocephalus bistrigiceps* Swinhoe. Von Schrenck's Reed Warbler.
- FM. *Dolichodectes* sp., *Trouessartia* sp.
- Acrocephalus concinens* (Swinhoe). Brown Paddy-field Warbler.
- FM. *Trouessartia bifurcata*.
- Acrocephalus dumetorum* Blyth. Blyths Reed Warbler.
- FM. *Proctophyllodes vassilevi*.
- Acrocephalus stentoreus* (Hemprich and Ehrenberg). Southern Great Reed Warbler.
- FM. *Dolichodectes* sp.

- H. **Ornithophila metallica.**
- Bradypterus thoracicus** (Blyth). Spotted Bush Warbler.  
Ma. **Philopterus** sp.
- Cettia acanthizoides** (Verreaux). Yellow-bellied Bush Warbler.  
Ma. **Brueelia** sp., **Penenirmus** sp., **Sturnidoecus** sp.
- Cettia canturians** Swinhoe. Singing Bush Warbler.  
M. **Ornithonyssus sylviarum.**
- Cettia diphone** (Kittlitz). Bush Warbler.  
Ma. **Menacanthus** sp., **Myrsidea** sp.
- Cettia pallidipes** (Blanford). Pale-footed Bush Warbler.  
Ch. **Leptotrombidium scutellare.**  
FM. **Proctophyllodes** sp.
- Cettia squameiceps** (Swinhoe). Short-tailed Bush Warbler.  
FM. **Anhemialges** sp., **Proctophyllodes** sp.
- Cisticola juncidis** (Rafinesque). Streaked Fantail Warbler.  
FM. **Montesauria** sp., **Pteronyssus** sp., **Trouessartia** sp.
- Hippolais caligata** (Lichtenstein). Booted Warbler.  
FM. **Dolichodectes** sp.
- Locustella certhiola** (Pallas). Pallas' Grasshopper Warbler.  
T. **Haemaphysalis** sp.  
FM. **Dolichodectes** sp., **Montesauria** sp., **Trouessartia** sp.
- Locustella fasciolata** (Gray). Gray's Grasshopper Warbler.  
FM. **Dolichodectes** sp., **Pteronyssus** sp., **Trouessartia** sp.  
Ma. **Brueelia** sp., **Menacanthus** sp., **Philopterus** sp.
- Locustella lanceolata** (Temminck). Streaked Grasshopper Warbler.  
T. **Haemaphysalis** sp., **Ixodes granulatus.**  
Ch. **Blankaartia acuscutellaris**, **Leptotrombidium keukenschrijveri.**  
FM. **Proctophyllodes** sp., **Trouessartia** sp.  
Ma. **Menacanthus** sp.
- Locustella ochotensis** (Middendorff). Middendorff's Grasshopper Warbler.  
FM. **Proctophyllodes hyllocichlae.**  
Ma. **Menacanthus** sp.  
H. **Ornithoica exilis.**
- Megalurus palustris** Horsfield. Striated Canegrass Warbler.  
Ma. **Brueelia** sp.
- Orthotomus atrogularis** Temminck. Black-necked Tailorbird.  
FM. **Montesauria** sp., **Pteronyssus** sp.
- Orthotomus cucullatus** Temminck. Mountain Tailorbird.

- Ma. **Myrsidea** sp.
- Orthotomus ruficeps** (Lesson). Red-headed Tailorbird.  
FM. **Montesauria** sp., **Therisalges** sp., **Xolalges** sp.
- Orthotomus sericeus** Temminck. Red-tailed Tailorbird.  
FM. **Pteronyssus** sp., **Therisalges** sp.
- Orthotomus sutorius** (Pennant). Long-tailed Tailorbird.  
FM. **Monojoubertia** sp., **Montesauria** sp., **Proctophyllodes** sp., **Trouessartia** sp.
- Phragmaticola aedon** (Pallas). Thick-billed Warbler.  
M. **Ornithonyssus sylviarum**.  
FM. **Analges** sp., **Proctophyllodes** sp.  
H. **Ornithoica curvata**.
- Phylloscopus borealis** (Blasius). Arctic Willow Warbler.  
FM. **Anhemialges** sp., **Proctophyllodes** sp., **Montesauria** sp., **Trouessartia** sp.  
Ma. **Philopterus** sp.  
M. **Ornithonyssus bursa**.
- Phylloscopus collybita** (Vieillot). Chiffchaff.  
FM. **Proctophyllodes doleophyses**.
- Phylloscopus davisoni** (Gates). White-tailed Willow Warbler.  
FM. **Montesauria** sp., **Trouessartia** sp.  
Ma. **Penenirmus** sp.
- Phylloscopus fuscatus** (Blyth). Dusky Willow Warbler.  
FM. **Trouessartia** sp.  
Ma. **Menacanthus** sp.  
H. **Ornithophila metallica**.
- Phylloscopus inornatus** (Blyth). Yellow-browed Willow Warbler.  
M. **Myrsidea pycnonoti**.  
FM. **Proctophyllodes** sp., **Trouessartia** sp.  
H. **Ornithoica bistativa**.
- Phylloscopus maculipennis** (Blyth). Grey-faced Willow Warbler.  
FM. **Calcealges** sp.
- Phylloscopus occipitalis** (Blyth). Greater Crowned Willow Warbler.  
Ma. **Menacanthus** sp.
- Phylloscopus pulcher** Blyth. Orange-barred Willow Warbler.  
Ma. **Myrsidea** sp.
- Phylloscopus reguloides** (Blyth). Blyth's Crowned Willow Warbler.  
Ma. **Ricinus** sp.
- Phylloscopus schwarzi** (Radde). Radde's Willow Warbler.  
Ma. **Philopterus** sp.

- Phylloscopus tenellipes** Swinhoe. Pale-legged Willow Warbler.  
 FM. **Proctophyllodes** sp., nr. **rhynchocaulus**.
- Phylloscopus trivirgatus** (Strickland). Green Willow Warbler.  
 FM. **Calcealges montanus**, **Xolalges** sp.
- Prinia atrogularis** (Horsfield and Moore). White-breasted Wren Warbler.  
 Ch. **Leptotrombidium scutellare**.
- Prinia flaviventris** (Delessert). Yellow-bellied Wren Warbler.  
 T. **Haemaphysalis doenitzi**.  
 FM. **Calcealges** sp., **Hemicalcealges** sp., **Proctophyllodes** sp., **Montesauria** sp.,  
**Pteronyssus** sp., **Strelkoviacarus** sp., **Trouessartia** sp.  
 Ma. **Menacanthus** sp.
- Prinia hodgsoni** Blyth. Franklin's Wren Warbler.  
 M. **Ornithonyssus bursa**.
- Prinia rufescens** (Blyth). Rufescent Wren Warbler.  
 Ch. **Leptotrombidium** sp., **L. scanloni**, **L. scutellare**.
- Prinia sociales** Sykes. Ashy Long-tailed Warbler.  
 T. **Haemaphysalis wellingtoni**.
- Prinia subflava** (Gmelin). Brown Wren Warbler.  
 FM. **Montesauria** sp., **Pteronyssus** sp., **Trouessartia** sp.  
 Ma. **Menacanthus** sp.
- Regulus regulus** (Linne). Goldcrest.  
 FM. **Proctophyllodes** sp.
- Seicercus albogularis** (Horsfield and Moore). White-throated Flycatcher Warbler.  
 Ma. **Myrsidea** sp.
- Seicercus burkii** (Burton). Yellow-eyed Flycatcher Warbler.  
 Ch. **Leptotrombidium scutellare**.  
 FM. **Anhemialges** sp., **Proctophyllodes** sp., **Montesauria** sp.  
 Ma. **Menacanthus** sp.
- Seicercus montis** (Sharpe). Yellow-breasted Flycatcher Warbler.  
 FM. **Calcealges montanus**, **Proctophyllodes cotyledon**, **Proterothrix** sp.,  
**Xolalges** sp.
- Sylvia curruca** (Linne). Lesser White Throat.  
 FM. **Montesauria** sp., **Proctophyllodes clavatus**, **Pteronyssus** sp.,  
**Trouessartia** sp.

## MUSCICAPIDAE

- Culicicapa ceylonensis** (Swainson). Gray-headed Flycatcher.  
 FM. **Analges** sp., **Neocalcealges cuspilobus**, **Montesauria** sp., **Pteronyssus** sp.,

- Trouessartia** sp.
- Ma. **Ricinus** sp.
- Hypothymis azurea** (Boddaert). Black-naped Blue Flycatcher.
- Ch. **Leptotrombidium deliense**.
- FM. **Proctophyllodes caulifer**, **P. hylcocichlae**, **Proterothrix** sp., **Pteronyssus** sp.,  
**Trouessartia** sp.
- Ma. **Myrsidea** sp., **M. chiapensis**, **Philopterus** sp.
- Muscicapa banyumas** (Horsfield). Hill Blue Flycatcher.
- M. **Ornithonyssus sylviarum**.
- Ch. **Helenicula scanloni**, **Leptotrombidium deliense**, **L. scutellare**,  
**Neoschoengastia solitus**, **Toritrombicula densipiliata**.
- FM. **Proctophyllodes cotyledon**, **Proterothrix** sp., **Trouessartia** sp.
- Ma. **Brueelia** sp., **Myrsidea** sp.
- H. **Icosta trita**, **Ornithoica bistativa**, **Ornithophila metallica**.
- Muscicapa concreta** Muller. White-tailed Blue Flycatcher.
- Ma. **Myrsidea** sp.
- Muscicapa cyanomelana** Temminck. Japanese Blue Flycatcher.
- Ch. **Toritrombicula densipiliata**.
- FM. **Analges** sp., **Trouessartia** sp.
- Muscicapa grandis** (Blyth). Niltava.
- T. **Ixodes** sp.
- Ch. **Leptotrombidium scutellare**, **Toritrombicula uphami**.
- FM. **Analges** sp., **Anisodiscus** sp., **Bicentralges discinctus**, **Mesalgoides** sp.,  
**Proctophyllodes cotyledon**, **Proterothrix** sp. **Trouessartia** sp.
- Ma. **Myrsidea** sp.
- H. **Ornithomya fuscipennis**, **Ornithophila metallica**.
- Muscicapa hainana** (Ogilvie-Grant). Hainan Blue Flycatcher.
- Ch. **Neoschoengastia solitus**.
- H. **Ornithoica bistativa**, **Ornithophila metallica**.
- Muscicapa hodgsoni** (Verreaux). Rusty-breasted Blue Flycatcher.
- FM. **Proctophyllodes** sp.
- Muscicapa hyperythra** (Blyth). Rufous-breasted Blue Flycatcher.
- FM. **Analges** sp., **Ingrassiella** sp., **Proctophyllodes cotyledon**, **Trouessartia** sp.
- Ma. **Myrsidea** sp.
- Muscicapa indigo** Horsfield. Indigo Flycatcher.
- FM. **Analges** sp., **Proctophyllodes pennifer**, **Proterothrix** sp., **Trouessartia** sp.
- Muscicapa latirostris** Raffles. Brown Flycatcher.



- M. **Ornithonyssus** sp., **O. sylviarum**.
- Muscicapa leucomelanura** (Hodgson). Slaty Blue Flycatcher.  
 FM. **Proctophyllodes** sp.  
 Ma. **Ricinus** sp.
- Muscicapa monileger** (Hodgson). White-Gorgetted Flycatcher.  
 M. **Ornithonyssus sylviarum**.  
 Ch. **Leptotrombidium scutellare**.  
 FM. **Proctophyllodes** sp., **Trouessartia** sp.  
 Ma. **Brueelia** sp., **Myrsidea** sp.  
 H. **Ornithophila metallica**.
- Muscicapa mugimaki** Temminck. Mugimaki Flycatcher.  
 M. **Ptilonyssus motacillae**.  
 FM. **Analges** sp., **Proctophyllodes cotyledon**, **Montesauria** sp., **Trouessartia** sp.
- Muscicapa narcissina** Temminck. Narcissus Flycatcher.  
 M. **Dermanyssus hirundinis**, **Ornithonyssus sylviarum**.  
 FM. **Montesauria** sp.
- Muscicapa pallipes** Jerdon. White-bellied Blue Flycatcher.  
 M. **Ornithonyssus sylviarum**.
- Muscicapa panayensis** (Sharp). Panay Flycatcher.  
 Ma. **Myrsidea** sp.
- Muscicapa parva** Bechstein. Red-breasted Flycatcher.  
 FM. **Proctophyllodes** sp.
- Muscicapa rubeculoides** (Vigors.) Blue-Throated Flycatcher.  
 Ch. **Leptotrombidium deliense**, **Toritrombicula densipiliata**,  
**T. uphami**.  
 H. **Ornithophila metallica**.
- Muscicapa rufigastra** (Raffles). Mangrove Blue Flycatcher.  
 M. **Boydaia spatulata**, **Ptilonyssus dioptrornis**.  
 T. **Haemaphysalis bispinosa**.  
 Ch. **Gahrleipia fletcheri**.  
 FM. **Analges** sp., **Bicentralges coalitus**, **Proctophyllodes** sp., **Proterothrix** sp.,  
**Trouessartia** sp.
- Muscicapa rufilata** (Swinhoe). Ferruginous Flycatcher.  
 Ch. **Eutrombicula wichmanni**, **Leptotrombidium deliense**, **Toritrombicula densipiliata**.
- Muscicapa solitaria** (Muller). White-throated Flycatcher.  
 FM. **Proctophyllodes** sp., **Trouessartia** sp.  
 Ma. **Myrsidea** sp.
- Muscicapa sundara** (Hodgson). Blue-and-Orange Flycatcher.

- M. **Ornithonyssus bursa.**
- T. **Haemaphysalis** sp.
- Ch. **Leptotrombidium scutellare.**
- FM. **Analges** sp., **Proctophyllodes elegans**, **Proterothrix** sp., **Therisalges** sp.,  
**Trouessartia** sp., **Xolalges** sp.
- Ma. **Myrsidea** sp.
- Muscicapa thalassina** Swainson. Verditer Flycatcher.
- FM. **Proctophyllodes cotyledon**, **Trouessartia** sp.
- Muscicapa tickelliae** (Blyth). Tickell's Blue Flycatcher.
- T. **Haemaphysalis** sp.
- Ch. **Leptotrombidium deliense**, **Siseca rara.**
- Ma. **Myrsidea** sp.
- H. **Ornithoica bistativa.**
- Muscicapa vivida** (Swinhoe). Rufous-bellied Blue Flycatcher.
- Ma. **Myrsidea** sp.
- Muscicapa westermanni** (Sharpe). Little Pied Flycatcher.
- FM. **Bicentralges discinctus**, **Proctophyllodes** sp.
- Muscicapa zanthopygia** Hay. Tricolor Flycatcher.
- Ch. **Odontacarus audyi**, **Toritrombicula densipiliata**, **T. uphami.**
- Ma **Phlopterus** sp.
- Philentoma pyrrhoptera** (Temminck). Chestnut-winged Flycatcher.
- Ch. **Odontacarus audyi**, **Toritrombicula densipiliata.**
- Ma. **Brueelia** sp., **Myrsidea** sp.
- Philentoma velatum** (Temminck). Maroon-breasted Flycatcher.
- Ma. **Myrsidea** sp.
- Rhinomyias brunneata** (Slater.) Migratory Jungle Flycatcher.
- Ch. **Leptotrombidium deliense**, **Odontacarus audyi**, **Toritrombicula densipiliata**,  
**T. uphami.**
- Rhinomyias gularis** Sharpe. White-browed Jungle Flycatcher.
- FM. **Proctophyllodes** sp.
- Rhinomyias olivacea** (Hume). Olive-backed Jungle Flycatcher.
- Ma. **Myrsidea** sp.
- Rhinomyias umbratilis** (Strickland). White-throated Jungle Flycatcher.
- Ch. **Leptotrombidium deliense**, **Toritrombicula densipiliata.**
- H. **Ornithoica bistativa.**
- Rhipidura albicollis** (Vieillot). White-throated Fantail Flycatcher.
- M. **Ptilonyssus macclurei.**
- Ch. **Leptotrombidium akamushi.**
- FM. **Analges** sp., **Neocalcealges segregatus**, **Proctophyllodes cotyledon**,

- Proterothrix** sp., **Pteronyssoides** sp., **Trouessartia** sp.  
 Ma. **Myrsidea** sp.  
 Ceratopogonidae: **Culicoides malayae**.
- Rhipidura aureola** Lesson. White-browed Fantail Flycatcher.  
 FM. **Proterothrix** sp.
- Rhipidura cyaniceps** Cassin. Blue-headed Fantail Flycatcher.  
 FM. **Hemialges** sp., **Proterothrix** sp., **Strelkoviacarus** sp., **Trouessartia** sp.  
 Ma. **Myrsidea** sp., **Philopterus** sp., **Ricinus mugimaki**.
- Rhipidura javanica** (Sparrman). Pied Fantail Flycatcher.  
 FM. **Analges** sp., **Hemialges** sp., **Ingrassiella** sp., **Montesauria** sp.,  
**Proctophyllodes cotyledon**, **Proterothrix** sp., **Pteronyssoides** sp.,  
**Trouessartia** sp., **Xolalges** sp.  
 Ma. **Brueelia** sp., **Myrsidea** sp., **Ricinus tugarinovi**.  
 H. **Icosta lonchurae**.
- Rhipidura perlata** S. Muller. Spotted Fantail Flycatcher.  
 FM. **Proterothrix** sp., **Pteronyssus** sp., **Trouessartia** sp.
- Rhipidura superciliaris** (Sharpe). Blue Fantail Flycatcher.  
 FM. **Proctophyllodes** sp., **Proterothrix** sp.
- Terpsiphone atrocaudata** (Eyton). Japanese Paradise Flycatcher.  
 FM. **Proterothrix** sp.
- Terpsiphone cyanescens** (Sharpe). Blue Paradise Flycatcher.  
 FM. **Trouessartia** sp.  
 Ma. **Myrsidea** sp.
- Terpsiphone paradisi** Linne. Paradise Flycatcher.  
 Ch. **Leptotrombidium deliense**.  
 FM. **Hemialges** sp., **Proctophyllodes rubeculinus**, **Proterothrix** sp.,  
**Trouessartia** sp.  
 Ma. **Myrsidea** sp., **Philopterus** sp., **Ricinus** sp., **R. tugarinovi**.  
 H. **Ornithoica bistativa**.

#### PACHYCEPHALIDAE

- Pachycephala cinerea** (Blyth). Mangrove Whistler.  
 FM. **Analges** sp., **Proterothrix** sp., **Trouessartia** sp.  
 Ma. **Myrsidea** sp.
- Pachycephala philippinensis** (Walden). Yellow-bellied Whistler.  
 FM. **Trouessartia** sp.  
 Ma. **Myrsidea** sp.  
 H. **Ornithophila metallica**.

## PRUNELLIDAE

**Prunella montanella** (Pallas). Mountain Accentor.

FM. **Proctophyllodes megaphyllus.**

Ma. **Philopterus** sp.

## MOTACILLIDAE

**Anthus hodgsoni** Richmond. Tree Pipit.

T. **Haemaphysalis** sp., **H. kutchensis**, **Hyalomma** sp.

Ch. **Helenicula simena**, **Leptotrombidium** sp., **L. arvina**, **L. deliense**, **L. scanloni**, **L. scutellare**, **Toritrombicula densipiliata.**

FM. **Analges** sp., **Proctophyllodes anthi**, **Montesauria** sp., **Pteronyssus** sp.

Ma. **Menacanthus** sp., **Myrsidea** sp.

**Anthus novaeseelandiae** (Gmelin). Richard's Pipit.

FM. **Montesauria** sp., **Proctophyllodes** sp., **Pteronyssoides** sp., **Pteronyssus** sp.,  
**Trouessartia** sp.

**Dendronanthus indicus** (Gmelin). Forest Wagtail.

FM. **Analges** sp., **Proctophyllodes macedo**, **Trouessartia** sp.

Ma. **Menacanthus** sp.

**Motacilla alba** Linne. Pied Wagtail.

Ch. **Lorillatum** sp.

FM. **Analges** sp., **Proctophyllodes motacillae**, **Trouessartia jedliczkai.**

Ma. **Myrsidea dukhunensis.**

H. **Icosta sensilis sensilis**, **Ornithophila metallica.**

**Motacilla cinerea** Tunstall. (**casgica** (Gmelin)). Gray Wagtail.

FM. **Analges** sp., **Monojoubertia** sp. **Proctophyllodes motacillae**, **Trouessartia** sp.

Ma. **Brueelia** sp.

**Motacilla citreola** Pallas. Yellow-headed Wagtail.

FM. **Proctophyllodes** sp.

T. **Hyalomma** sp.

**Motacilla flava** Linne. Yellow Wagtail.

FM. **Analges** sp., **Proctophyllodes motacillae**, **Pteronyssus** sp., **Trouessartia motacillae.**

Ma. **Brueelia kratochavili**, **Myrsidea** sp.

## LANIIDAE

- Lanius bucephalus** Temminck and Schlegel. Bull-headed Shrike.  
FM. **Proctophyllodes leptocaulus**.  
Ma. **Menacanthus** sp., **Myrsidea** sp., **Philopterus** sp., **P. coarctatus**.
- Lanius collurioides** Lesson. Chestnut-backed Shrike.  
H. **Icosta sensilis sensilis**.
- Lanius cristatus** Linne. Brown Shrike.  
M. **Ornithonyssus sylviarum**, **Pellonyssus reedi**.  
FM. **Proctophyllodes** sp.  
Ma. **Menacanthus** sp., **Myrsidea** sp., **Philopterus** sp.  
H. **Icosta holoptera omnisetosa**, **I. sensilis sensilis**.
- Lanius nasutus** (Scopoli). Black-headed Shrike.  
FM. **Proctophyllodes** sp., **Trouessartia** sp.  
Ma. **Menacanthus** sp., **Myrsidea** sp.
- Lanius schach** Linne. Schach Shrike.  
M. **Ornithonyssus bursa**.  
Ma. **Myrsidea** sp.  
H. **Ornithoica bistativa**.
- Lanius tephronotus** (Vigors). Tibetan Shrike.  
Ma. **Menacanthus** sp., **Myrsidea** sp.
- Lanius vittatus** Valenciennes. Bay-backed Shrike.  
FM. **Analges** sp., **Proctophyllodes** sp.  
Ma. **Menacanthus** sp.

## STURNIDAE

- Ampeliceps coronatus** Blyth. Gold-crested Myna.  
FM. **Analges** sp., **Montesauria** sp., **Pteronyssoides** sp.  
Ma. **Brueelia** sp., **Myrsidea** sp.
- Aplonis panayensis** (Scopoli). Philippine Glossy Starling.  
M. **Ornithonyssus bursa**.  
FM. **Analges** sp., **Mesalgoides** sp., **Montesauria** sp., **Pteronyssoides** sp.,  
**Pteronyssus** sp., **Trouessartia** sp., **Xolalgas** sp.  
Ma. **Brueelia flumeki**, **Myrsidea pungens**, **Sturnidoecus** sp.
- Gracula religiosa** Linne. Hill Myna.  
FM. **Montesauria** sp.  
Ma. **Brueelia acutangulata**, **Myrsidea** sp.
- Gracupica melanoptera** (Daudin). Black-winged Starling.

- FM. *Montesauria* sp., *Trouessartia* sp.  
 Ma. *Brueelia* sp., *Myrsidea* sp., *M. breviventris*.
- Sarcops calvus** (Linne). Coleto.  
 FM. *Analges* sp., *Montesauria* sp., *Pteronyssoides* sp., *Trouessartia* sp.  
 Ma. *Brueelia* sp., *Menacanthus* sp., *Myrsidea* sp., *Sturnidoecus* sp.,
- Sturnus cineraceus** Temminck. Grey Starling.  
 FM. *Pteronyssoides* sp., *Trouessartia* sp.
- Sturnus contra** Linne. Pied Starling.  
 M. *Ornithonyssus bursa*.  
 FM. *Microlichus* sp., *Montesauria* sp., *Proctophyllodes* sp. *Pteronyssoides* sp.,  
*Trouessartia* sp., *Xolalges* sp.  
 Ma. *Brueelia* sp., *Myrsidea* sp., *Sturnidoecus capensis*.
- Sturnus ginginianus** (Latham). Bank Myna.  
 FM. *Proctophyllodes* sp.  
 Ma. *Myrsidea* sp., *Menacanthus* sp., *Sturnidoecus banno*.
- Sturnus javanicus** (Cabanis). Crested Myna.  
 T. *Haemaphysalis doenitzi*.  
 FM. *Montesauria* sp., *Trouessartia* sp., *Xolalges* sp.  
 Ma. *Myrsidea* sp.
- Sturnus mahrattensis** (Sykes). Jungle Myna.  
 Ma. *Myrsidea* sp.
- Sturnus malabaricus** (Gmelin). Ashy-headed Starling.  
 FM. *Pteronyssoides* sp., *Trouessartia* sp.  
 Ma. *Myrsidea* sp.
- Sturnus nigricollis** (von Paykull). Black-collared Starling.  
 T. *Haemaphysalis* sp., *H. doenitzi*.  
 FM. *Analges* sp., *Montesauria* sp., *Pteronyssoides* sp., *Strelkoviacarus* sp.,  
*Trouessartia* sp., *Xolalges* sp.  
 Ma. *Brueelia* sp., *Myrsidea* sp.  
 H. *Ornithophila metallica*.
- Sturnus pagodarum** (Gmelin). Brahminy Myna.  
 FM. *Proctophyllodes* sp.
- Sturnus sinensis** (Gmelin). Chinese Starling.  
 FM. *Montesauria* sp.  
 Ma. *Brueelia* sp., *Myrsidea* sp.
- Sturnus sturninus** (Pallas). Daurian Starling.  
 M. *Sternostoma cuculorum*, *Ptilonyssus motacillae*.  
 FM. *Montesauria* sp.

- Ma. **Menacanthus** sp.  
**Sturnus tristis** (Linne). Common Myna.  
M. **Ornithonyssus bursa**.  
T. **Amblyomma** sp., **Haemaphysalis intermedia**, **H. bispinosa**.  
FM. **Montesauria** sp., **Pteronyssoides** sp., **Trouessartia pygoceras**, **Xolalges** sp.  
Ma. **Brueelia** sp., **B. fuscopleura**, **Myrsidea** sp., **M. invadens**, **Sturnidoecus avinus**.  
H. **Ornithophila metallica**.

## NECTARINIIDAE

- Aethopyga eximia** (Horsfield). Kuhl's Sunbird.  
FM. **Calcealges** sp., **Mesalgoides** sp., **Monojoubertia** sp., **Montesauria** sp.,  
**Pedanodectes** sp., **Trouessartia** sp.  
**Aethopyga gouldiae** (Vigors). Gould's Sunbird.  
Ma. **Menacanthus** sp.  
**Aethopyga nipalensis** (Hodgson). Green-tailed Sunbird.  
Ma. **Myrsidea** sp.  
**Aethopyga saturata** (Hodgson). Black-breasted Sunbird.  
FM. **Pedanodectes** sp.  
**Anthreptes malacensis** (Scopoli). Brown-throated Sunbird.  
T. **Haemaphysalis bispinosa**, **H. doenitzi**.  
FM. **Anisodiscus** sp., **Bicentralges orientalis**, **Monojoubertia** sp., **Proctophyllodes capitatus**, **Pedanodectes** sp., **Proterothrix** sp., **Pteronyssus** sp.,  
**Therisalges** sp., **Trouessartia** sp., **Xolalges** sp.  
**Arachnothera affinis** (Horsfield). Gray-breasted Spiderhunter.  
FM. **Pedanodectes** sp., **Pteronyssus** sp.  
Ma. **Myrsidea** sp., **Phlopterus** sp., **Sturnidoecus** sp.  
**Arachnothera longirostra** (Latham). Little Spiderhunter.  
M. **Ereynetoides malayi**, **Macrocheles** sp., **Ornithonyssus bursa**, **Sternostoma tracheacolum**.  
Ch. **Leptotrombidium arvina**, **L. deliense**.  
FM. **Analges** sp., **Proctophyllodes** sp., **Proterothrix** sp., **Pedanodectes** sp.,  
**Trouessartia** sp., **Xolalges** sp.  
Ma. **Menacanthus** sp., **Myrsidea** sp.  
Ceratopogonidae: **Culicoides malayae**.  
H. **Ornithoica bistativa**.  
**Arachnothera magna** Blyth. Streaked Spiderhunter.  
FM. **Analges** sp., **Monojoubertia arachnotherae**, **Proctophyllodes** sp.,  
**Pedanodectes** sp., **Pteronyssus** sp.

- Ma. **Menacanthus** sp.
- Arachnothera robusta** Muller and Schlegel. Long-billed Spiderhunter.
- Ma. **Menacanthus** sp.
- Hypogramma hypogrammica** (Muller). Purple-naped Sunbird.
- FM. **Anhemialges** sp., **Pedanodectes** sp., **Proctophyllodes** sp.
- Ma. **Myrsidea** sp.
- Nectarinia chalcostetha** Jardine. Macklot's Sunbird.
- FM. **Anisodiscus** sp., **Bicentralges orientalis**, **Hadrophyllodes lonchophorus**,  
**Proctophyllodes** sp.
- Nectarinia jugularis** (Linne). Yellow-breasted Sunbird.
- M. **Ptilonyssus cinnyris**.
- FM. **Hadrophyllodes grandelobus**, **Pteronyssus** sp.

#### DICAEIDAE

- Dicaeum cruentatum** (Linne). Scarlet-backed Flowerpecker.
- FM. **Pedanodectes** sp., **Proctophyllodes** sp., **Trouessartia** sp.
- Dicaeum** sp. Unidentified Flowerpecker from Java.
- FM. **Monojoubertia parvisecurigera**, **Pedanodectes** sp.
- Prionochilus maculatus** (Temminck). Yellow-throated Flowerpecker.
- FM. **Pedanodectes** sp.
- Prionochilus percussus** (Temminck). Crimson-breasted Flowerpecker.
- FM. **Pedanodectes** sp.
- Prionochilus plateni** Blasius. Palawan Yellow-rumped Flowerpecker.
- T. **Dermacentor** sp.

#### ZOSTEROPIDAE

- Zosterops erythropleura** Swinhoe. Chestnut-flanked White-eye.
- Ma. **Myrsidea** sp.
- H. **Ornithoica bistativa**.
- Zosterops japonica** Temminck. Chinese White-eye.
- FM. **Proctophyllodes** sp., **Pteronyssus** sp., **Proterothrix** sp., **Trouessartia** sp.
- Ma. **Menacanthus** sp., **Myrsidea** sp.
- H. **Ornithophila metallica**
- Zosterops palpebrosa** (Temminck). Oriental White-eye.
- FM. **Analges** sp., **Anhemialges** sp., **Calcealges yunkeri**, **Mouchetia** sp.,  
**Proctophyllodes ceratophyllus**, **Pteronyssus** sp., **Trouessartia** sp.
- Ma. **Myrsidea** sp.



## FRINGILLIDAE

**Carduelis sinica** (Linne). Oriental Greenfinch.

M. **Ornithonyssus sylviarum.**

FM. **Analges sp., Monojoubertia sp., Proctophyllodes sp., Pteronyssus sp.**

Ma. **Brueelia sp.**

**Carduelis spinus** (Linne). Siskin.

M. **Ornithonyssus sylviarum.**

**Carpodacus erythrinus** (Pallas). Common Rose Finch.

FM. **Analges sp., Proctophyllodes sp.**

Ma. **Myrsidea sp., Philopterus sp.**

**Carpodacus nipalensis** (Hodgson). Dark Rose Finch.

Ma. **Brueelia sp., Philopterus sp., Ricinus sp.**

**Carpodacus roseus** (Pallas). Pallas Rose Finch.

M. **Ornithonyssus sylviarum.**

FM. **Analges sp., Proctophyllodes sp.**

Ma. **Brueelia sp., Menacanthus sp.**

**Carpodacus vinaceus** Verreaux. Vinaceous Rose Finch.

H. **Ornithomya chloropus extensa.**

**Coccothraustes coccothraustes** (Linne). Hawfinch.

Ma. **Brueelia juno.**

**Emberiza aureola** Pallas. Yellow-breasted Bunting.

FM. **Analges sp., Mesalgoides sp., Joubertophyllodes ampullaceus,  
Proctophyllodes sp., Trouessartia sp.**

Ma. **Brueelia sp., Ricinus sp.**

**Emberiza cioides** Brandt. Meadow Bunting.

M. **Neocheyletiella sp.**

Ch. **Leptotrombidium sp.**

FM. **Analges sp., Joubertophyllodes modularis, Proctophyllodes sp.**

Ma. **Philopterus sp.**

H. **Ornithophila metallica.**

**Emberiza elegans** Temminck. Yellow-throated Bunting.

M. **Ornithonyssus sylviarum.**

T. **Ixodes sp.**

FM. **Analges sp., Proctophyllodes sp., Pteronyssus sp., Trouessartia sp.**

Ma. **Myrsidea sp., Philopterus sp., Ricinus fringillae.**

**Emberiza fucata** Pallas. Gray-hooded Bunting.

FM. **Analges sp., Mesalgoides sp., Proctophyllodes sp., Trouessartia sp.,  
Xolalges sp.**

Ma. **Philopterus** sp.

**Emberiza pusilla** Pallas. Little Bunting.

Ch. **Leptotrombidium** sp., **L. deliense**, **L. scutellare**.

**Emberiza rustica** Pallas. Rustic Bunting.

M. **Ornithonyssus bursa**, **O. sylviarum**.

Ch. **Helenicula miyagawai**.

FM. **Analges** sp., **Joubertophyllodes modularis**, **Proctophyllodes** sp.,  
**Pterodectes** sp., **Pteronyssoides** sp., **Pteronyssus** sp., **Trouessartia** sp.

Ma. **Machaerilaemus** sp., **Ricinus fringillae**.

H. **Ornithophila metallica**

**Emberiza rutila** Pallas. Chestnut Bunting.

T. **Haemaphysalis** sp.

M. **Dermanyssus hirundinis**.

Ch. **Leptotrombidium scutellare**.

FM. **Analges** sp., **Anhemialges** sp., **Mesalgoides** sp., **Joubertophyllodes bonjeani**, **Proctophyllodes glandarius**, **Pterodectes** sp., **Trouessartia** sp.

Ma. **Machaerilaemus** sp., **Philopterus** sp., **Ricinus fringillae**.

H. **Ornithomya avicularia aobatonis**, **O. chloropus extensa**.

**Emberiza spodocephala** Pallas. Black-faced Bunting.

M. **Ornithonyssus sylviarum**.

FM. **Analges** sp., **Joubertophyllodes modularis**, **Trouessartia** sp.

Ma. **Brueelia** sp., **Menacanthus** sp., **Philopterus** sp.

H. **Ornithomya avicularia aobatonis**.

**Emberiza tristrami** Swinhoe. Tristram's Bunting.

H. **Ornithomya avicularia aobatonis**.

**Emberiza variabilis** Temminck. Grey Bunting.

T. **Ixodes** sp.

FM. **Analges** sp., **Proctophyllodes** sp., **Trouessartia** sp.

**Emberiza yessoensis** (Swinhoe). Japanese Reed Bunting.

FM. **Analges** sp., **Joubertophyllodes proximus**, **Proctophyllodes** sp.

**Eophona migratoria** Hartert. Migratory Chinese Grosbeak.

M. **Ornithonyssus sylviarum**.

FM. **Proctophyllodes glandarius**, **Pteronyssus** sp., **Trouessartia** sp.

**Fringilla montifringilla** Linne. Brambling.

M. **Ornithonyssus sylviarum**.

FM. **Analges** sp., **Monojoubertia hemiphylla**.

Ma. **Philopterus** sp., **P. rapax**.

H. **Ornithomya chloropus extensa**.

**Mycerobras melanozanthus** (Hodgson). Spotted-winged Grosbeak.

- Ma. **Philopterus** sp.  
**Pyrrhula erythaca** Blyth. Beavan's Bullfinch.  
 Ma. **Philopterus** sp.  
**Pyrrhula nipalensis** Hodgson. Brown Bullfinch.  
 FM. **Analges** sp., **Mesalgoides** sp., **Proctophyllodes capensis**, **Trouessartia** sp.  
**Pyrrhula pyrrhula** (Linne). Bullfinch.  
 M. **Dermanyssus hirundinis**.  
**Uragus sibiricus** (Pallas). Long-tailed Rose Finch.  
 FM. **Analges** sp., **Proctophyllodes** sp.

## PLOCEIDAE

- Erythrura prasina** (Sparrman). Pintailed Parrot-Finch.  
 Ma. **Myrsidea** sp.  
**Estrilda amandava** Linne. Red Avadavat.  
 FM. **Trouessartia** sp.  
 Ma. **Myrsidea amandava**.  
**Lonchura fuscans** (Cassin). Dusky Munia.  
 M. **Dermataphagoides** sp.  
**Lonchura leucogaster** (Blyth). White-bellied Munia.  
 FM. **Hemialges** sp., **Hemicalcealges** sp., **Montesauria**, sp., **Pteronyssus** sp.,  
**Pteronyssoides** sp., **Trouessartia lonchurae**.  
 Ma. **Brueelia** sp., **Myrsidea** sp.  
 H. **Icosta lonchurae**.  
**Lonchura leucogastroides** Horsfield and Moore. Javanese Munia.  
 FM. **Montesauria** sp., **Trouessartia** sp.  
 Ma. **Brueelia** sp., **Myrsidea** sp., **M. cyrtostigma**.  
**Lonchura maja** (Linne). White-headed Munia.  
 M. **Cytonyssus andrei**, **Ptilonyssus motacillae**.  
 FM. **Analges** sp., **Anhemialges** sp., **Hemicalcealges schistopygus**,  
**Montesauria** sp., **Pteronyssoides** sp., **Trouessartia** sp.  
 Ma. **Myrsidea** sp.  
**Lonchura malabarica** (Linne). White-throated Munia.  
 Ma. **Myrsidea** sp., **M. srivastava**.  
**Lonchura malacca** (Linne). Chestnut Munia.  
 M. **Pellonyssus reedi**.  
 FM. **Hemicalcealges schistopygus**, **Mesalgoides** sp., **Montesauria** sp.,  
**Pteronyssoides** sp., **Trouessartia lonchurae**, **Xolalges** sp.  
 Ma. **Brueelia** sp., **Myrsidea** sp.

H. **Icosta lonchurae.**

**Lonchura punctulata** (Linne). Spotted Munia.

M. **Androlaelaps neoflagellata, Pellonyssus reedi.**

FM. **Hemicalcealges** sp., **Montesauria** sp., **Pteronyssoides** sp., **Pteronyssus** sp.,  
**Trouessartia** sp.

Ma. **Brueelia** sp., **Myrsidea** sp., **M. cyrtostigma, Sturnidoecus** sp.

H. **Icosta lonchurae, Ornithophila metallica.**

**Lonchura striata** (Linne). Sharp-tailed Munia.

M. **Androlaelaps crispus.**

FM. **Montesauria** sp., **Trouessartia** sp.

Ma. **Myrsidea** sp.

H. **Icosta lonchurae.**

**Padda oryzivora** (Linne). Java Sparrow.

FM. **Trouessartia** sp.

Ma. **Brueelia** sp., **Myrsidea** sp.

**Passer flaveolus** Blyth. Pegu Sparrow.

FM. **Proctophyllodes orientalis.**

**Passer montanus** Linne. Tree Sparrow.

M. **Ornithonyssus sylviarum.**

FM. **Proctophyllodes truncatus.**

Ma. **Myrsidea** sp., **Sturnidoecus ruficeps.**

H. **Ornithophila metallica.**

**Petronia xanthocollis** Burton. Yellow-throated Sparrow.

FM. **Proctophyllodes** sp., **Pteronyssus** sp.

**Ploceus philippinus** (Linne). Baya Weaver.

M. **Ptilonyssus ploceanus.**

FM. **Montesauria** sp., **Pteronyssoides** sp., **Trouessartia** sp.

Ma. **Myrsidea** sp.

H. **Icosta lonchurae, I. sensilis sensilis, Ornithophila metallica.**

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## APPENDIX

Since this publication was prepared the following parasites have been reported or identified.

### ACARINA

#### MITES

Species	Host
<i>Ancystropus zeleborii</i> Kolenati, 1856.	<i>Crypsirina vagabunda</i>
<i>Androlaelaps</i> sp.	<i>Chrysocolaptes lucidus</i> <i>Megalaima zeylanica</i>
<i>Androlaelaps crispus</i> (Grokhovskaya & Nguen), 1961.	<i>Lonchura leucogastroides</i> <i>Lonchura punctulata</i>
<i>Androlaelaps dissimilis</i> (Asanuma), 1953.	<i>Megalaima asiatica</i> <i>Megalaima corvina</i> <i>Megalaima haemacephala</i> <i>Picus flavinucha</i> <i>Dicrurus adsimilis</i> <i>Lonchura leucogastroides</i>
<i>Bakericheyla chanayi</i> (Berlese & Trouessart), 1889.	<i>Halcyon chloris</i> <i>Dicrurus paradiseus</i> <i>Muscicapa sundara</i>
<i>Boydaia hirundae</i> Fain, 1956.	<i>Hirundo rustica</i>
<i>Dermanyssus</i> ( <i>dermanyssus</i> ) sp.	<i>Chrysocolaptes lucidus</i> <i>Sitta himalayensis</i> <i>Parus monticolus</i>
<i>Laelaps nuttalli</i> Hirst, 1915.	<i>Dicrurus adsimilis</i>
<i>Macrocheles</i> sp. (near <i>muscaedomesticae</i> ).	<i>Sitta castanea</i>
<i>Neocheyletiella</i> sp.	<i>Sturnus nigricollis</i> <i>Sturnus tristis</i> <i>Ploceus philippinus</i>

Species	Host
<b>Ornithonyssus bursa</b> (Berlese), 1888.	<b>Accipiter virgatus</b>
	<b>Psittacula cyanocephala</b>
	<b>Pelargopsis capensis</b>
	<b>Dicrurus adsimilis</b>
	<b>Dicrurus annectans</b>
	<b>Dicrurus paradiseus</b>
	<b>Aleippe poiocephala</b>
	<b>Pycnonotus cafer</b>
	<b>Copsychus saularis</b>
	<b>Myiomela diana</b>
	<b>Sturnus javanicus</b>
	<b>Sturnus nigricollis</b>
	<b>Melophus lathami</b>
	<b>Ornithonyssus sylviarum</b> (Canestrini & Fanzago), 1877
<b>Megalaima haemacephala</b>	
<b>Dinopium benghalense</b>	
<b>Tephrodornis pondiceriana</b>	
<b>Crypsirina vagabunda</b>	
<b>Sitta castanea</b>	
<b>Pycnonotus sinensis</b>	
<b>Copsychus saularis</b>	
<b>Phoenicurus ochrurus</b>	
<b>Pomatorhinus ochraceiceps</b>	
<b>Turdus hortulorum</b>	
<b>Acrocephalus dumetorum</b>	
<b>Sylvia curruca</b>	
<b>Muscicapa parva</b>	
<b>Motacilla alba</b>	
<b>Motacilla citreola</b>	
<b>Arachnothera longirostris</b>	
<b>Emberiza cioides</b>	
<b>Lonchura malabarica</b>	
<b>Petronia xanthocollis</b>	
<b>Pellonyssus</b> sp.	<b>Hemicircus canente</b>
	<b>Picus vittatus</b>
	<b>Megalaima haemacephala</b>
	<b>Melophus lathami</b>
	<b>Petronia xanthocollis</b>

Species	Host
Pellonyssus reedi (Zumpt & Patterson), 1952.	Surniculus lugubris Dendrocopos macei Turdus hortulorum Orthotomus ruficeps Lanius schach Sturnus pagodarum Lonchura malabarica Passer montanus Ploceus philippinus
Pellonyssus trachyphoni Till, 1964.	Dendrocopos mahrattensis Dinopium benghalense Jynx torquilla
Ptilonyssus sp.	Aegithina tiphia
Ptilonyssus echinatus (Berlese & Trouessart) 1889.	Hirundo rustica
Sternostoma hirundinis Fain, 1956.	Hirundo rustica

#### TICKS

Amblyomma sp.	Ceyx erithacus Pitta brachyura Oriolus oriolus Napothena macrodactyla Pycnonotus cafer Acrocephalus dumetorum Stachyris poliocephala
Haemaphysalis sp.	Oriolus oriolus Pycnonotus luteolus Copsychus malabaricus Copsychus saularis Acrocephalus dumetorum Dendronanthus indicus Motacilla cinerea Sturnus tristis
Haemaphysalis anomala Warburton, 1913.	Pitta brachyura

species	Host
<i>Haemaphysalis intermedia</i> Warburton, & Nuttall, 1909.	<i>Anas querquedula</i> <i>Pitta brachyura</i> <i>Turdoides caudatus</i> <i>Pycnonotus cafer</i> <i>Turdus merula</i> <i>Zoothera citrina</i> <i>Acrocephalus dumetorum</i> <i>Phragamaticola aedon</i> <i>Sturnus pagodarum</i>
<i>Haemaphysalis kutchensis</i> Hoogstraal & Trapido, 1963.	<i>Francolinus pondicerianus</i> <i>Centropus sinensis</i> <i>Acrocephalus agricola</i>
<i>Haemaphysalis minuta</i> Kohls, 1950.	<i>Turdus ruficollis</i> <i>Turdus unicolor</i> <i>Zoothera citrina</i> <i>Sylvia curruca</i>
<i>Haemaphysalis wellingtoni</i> Nuttall and Warburton, 1907.	<i>Copsychus malabaricus</i> <i>Turdus merula</i> <i>Zoothera citrina</i> <i>Acrocephalus dumetorum</i> <i>Saxicoloides fulvicata</i>
<i>Hyalomma</i> sp.	<i>Parus major</i> <i>Sylvia curruca</i> <i>Motacilla alba</i> <i>Lanius schach</i> <i>Sturnus tristis</i> <i>Anthus hodgsoni</i>

#### CHIGGERS

<i>Ascoschoengastia (Laurentella) indica</i> (Hirst), 1915.	<i>Jynx torquilla</i>
<i>Blankaartia acuscutellaris</i> Walch, 1922.	<i>Locustella certhiola</i>
<i>Helenicula scanloni</i> Domrow and Nadchatram 1964.	<i>Gallus gallus</i> <i>Garrulax strepitans</i>

Species	Host
<i>Leptotrombidium</i> (L.) <i>deliense</i> (Walch), 1922.	<i>Gallus gallus</i>
<i>Leptotrombidium</i> (L.) <i>rapmundi</i> Nadchatram and Upham, 1966.	<i>Garrulax strepitans</i>
<i>Leptotrombidium</i> (L.) <i>scutellare</i> (Nagayo, et al.) 1920.	<i>Gallus gallus</i> <i>Garrulax strepitans</i>
<i>Neoschoengastia longipes</i> Nadchatram, 1967.	<i>Otus scops</i>
<i>Odontacarus audyi</i> (Radford), 1946.	<i>Garrulax strepitans</i>

#### FEATHER MITES

<i>Proterothrix</i> sp.	<i>Micropternus brachyurus</i>
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#### MALLOPHAGA

<i>Acidoproctus</i> sp.	<i>Netta rufina</i> <i>Vanellus leucurus</i>
<i>Actornithophilus hoplopteri</i> (Mjöberg), 1910.	<i>Vanellus leucurus</i>
<i>Actornithophilus ochraceus</i> (Nitzsch), 1818.	<i>Charadrius squatarola</i>
<i>Actornithophilus totani</i> (Schrank), 1803.	<i>Tringa glareola</i>
<i>Actornithophilus uniseriatus</i> (Piaget), 1880.	<i>Recurvirostra avosetta</i>
<i>Anaticola crassicornis</i> (Scopoli), 1763.	<i>Anas poecilorhynchos</i> <i>Aythya ferina</i> <i>Sarkidionis melanotos</i> <i>Tringa ochropus</i>
<i>Austromenopon lutescens</i> (Burmeister), 1838.	<i>Philomachus pugnax</i>
<i>Brueelia</i> sp.	<i>Sylvia althaea</i> <i>Tephrodornis pondiceriana</i> <i>Sturnus pagodarum</i> <i>Sturnus tristis</i>

Species	Host
<i>Brueelia mahrastran</i> Ansari, 1956.	<i>Zoothera citrina</i>
<i>Brueelia zootherae</i> (Clay), 1936.	<i>Zoothera marginata</i>
<i>Capariella subzak</i> Ansari, 1956.	<i>Coracias benghalensis</i>
<i>Carduiceps</i> sp.	<i>Calidris testaceus</i>
<i>Carduiceps scalaris</i> (Piaget), 1880.	<i>Philomachus pugnax</i>
<i>Chapinia clayae</i> Elbel, 1967.	<i>Tockus birostris</i>
<i>Cirrophthirius recurvirostrae</i> (Linne), 1758.	<i>Recurvirostra avosetta</i>
<i>Cistellatrix decipiens</i> (Denny), 1842	<i>Recurvirostra avosetta</i>
<i>Columbicola</i> sp.	<i>Streptopelia decaocto</i>
<i>Goniocotes</i> sp.	<i>Arborophila javanica</i>
<i>Goniocotes pallidomaculatus</i> Piaget, 1880.	<i>Arborophila javanica</i>
<i>Hohorstiella</i> sp.	<i>Ptilinopus melanocephalus</i>
<i>Ibidoecus plataleae</i> (Denny), 1842.	<i>Platalea leucorodia</i>
<i>Incidifrons fulicae</i> (Linne), 1758.	<i>Fulica atra</i>
<i>Menacanthus</i> sp.	<i>Arborophila javanica</i>
	<i>Halcyon chloris</i>
	<i>Dicrurus adsimilis</i>
	<i>Dicrurus remifer</i>
	<i>Aplonis panayensis</i>
<i>Myrsidea</i> sp.	<i>Myiophoneus glaucinus</i>
	<i>Turdoides caudatus</i>
<i>Myrsidea rustica</i> (Giebel), 1874.	<i>Hirundo tahitica</i>
<i>Neopsittaconirmus</i> sp.	<i>Psittacula cyanocephala</i>
<i>Oxylipeurus unicolor</i> (Piaget), 1880.	<i>Arborophila javanica</i>

Species	Host
<i>Penenirmus</i> sp.	<i>Mirafra erythroptera</i>
<i>Penenirmus pici</i> (J.C. Fabricius), 1798.	<i>Picus</i> sp.
<i>Penenirmus serrilimbus</i> (Burmeister), 1838.	<i>Jynx torquilla</i>
<i>Philopterus</i> sp.	<i>Oriolus trailli</i>
	<i>Myiophoneus coeruleus</i>
	<i>Nectarinia jugularis</i>
	<i>Pitta brachyura</i>
	<i>Parus major</i>
	<i>Acrocephalus dumetorum</i>
	<i>Muscicapa tickelliae</i>
	<i>Lanius schach</i>
<i>Picicola</i> sp.	<i>Picus chlorolophus</i>
<i>Quadriceps</i> sp.	<i>Tringa totanus</i>
<i>Quadriceps anagrapsus</i> (Nitzsch), 1866.	<i>Chlidonias hybridus</i>
<i>Quadriceps hospes</i> (Nitzsch), 1866.	<i>Charadrius squatarola</i>
<i>Quadriceps nychthemerus</i> (Burmeister), 1838.	<i>Sterna albifrons</i>
<i>Strigiphilus ketupae</i> Emerson & Elbel, 1957.	<i>Strix leptogrammica</i>
<i>Sturnidoecus capensis</i> (Giebel), 1874.	<i>Sturnus tristis</i>
<i>Trinoton anserinum</i> (J.C. Fabricius), 1805.	<i>Anser indicus</i>
<i>Trinoton querquedulae</i> (Linne), 1758.	<i>Anas clypeata</i>
	<i>Anas acuta</i>
	<i>Anas penelope</i>
	<i>Anas querquedula</i>
	<i>Netta rufina</i>

#### HIPPOBOSCIDAE

<i>Icosta maquilingensis</i> (Ferris), 1924	<i>Gallus gallus</i>
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**Species****Host****Ornithoctona plicata** (Von Olfers), 1816.**Gallus gallus****Ornithoica bistativa** Maa, 1966.**Hypsipetes madagascariensis**  
**Tarsiger cyanurus****Ornithoica curvata** Maa, 1963.**Ptilolaemus tickelli****Ornithoica exilis** (Walker), 1861.**Gallus gallus**  
**Otus sagittatus****Ornithomya biloba** Dufour, 1827.**Hirundo rustica****Ornithophila metallica** (Schiner), 1864.**Sturnus malabaricus****Pseudolynchia canariensis** (Macquart), 1840.**Columba livia**  
**Streptopelia chinensis**

## NYCTERIBIIDAE

**Eucampsipoda sundaica** Theodor, 1955.**Lophura nycthemera**

## CERATOPOGONIDAE

**Culicoides** sp.**Athene brama**



Additional host—parasite relationships  
that have been reported.

Host	Parasite
Anastomus oscitans	M. Parasitidae
Platalea leucorodia	Ma. <i>Ibidoecus plataleae</i>
Anas acuta	Ma. <i>Trinoton querquedulae</i>
Anas clypeata	Ma. <i>Trinoton querquedulae</i>
Anas penelope	Ma. <i>Trinoton querquedulae</i>
Anas poecilorhynchos	Ma. <i>Anaticola crassicornis</i>
Anas querquedula	T. <i>Haemaphysalis intermedia</i> Ma. <i>Trinoton querquedulae</i>
Anas indicus	Ma. <i>Trinoton anserinum</i>
Aythya ferina	Ma. <i>Anaticola crassicornis</i>
Netta rufina	Ma. <i>Trinoton querquedulae</i> <i>Acidoproctus</i> sp.
Sarkidiornis melanotos	Ma. <i>Anaticola crassicornis</i>
Accipiter virgatus	M. <i>Ornithonyssus bursa</i>
Arborophila javanica	Ma. <i>Menacanthus</i> sp. <i>Goniocotes</i> sp. <i>Goniocotes pallidomaculatus</i> <i>Oxylipeurus unicolor</i>
Francolinus pondicerianus	T. <i>Haemaphysalis kutchensis</i>
Gallus gallus	H. <i>Icosta maquilingensis</i> <i>Ornithoica exilis</i> <i>Ornithoictona plicata</i>

**Host****Parasite**

	CH. <i>Helenicula scanloni</i> <i>Leptotrombidium</i> (L) <i>deliense</i> <i>Leptotrombidium</i> (L) <i>scutellare</i> <i>Blankaartia acuscutellaris</i>
<i>Lophura nycthemera</i>	N. <i>Eucampsipoda sundaica</i>
<i>Fulica atra</i>	Ma. <i>Incidifrons fulicae</i>
<i>Charadrius squatarola</i>	Ma. <i>Actornithophilus ochraceus</i> <i>Quadraceps hospes</i>
<i>Vanellus leucurus</i>	Ma. <i>Actornithophilus hoplopteri</i> <i>Acidoproctus</i> sp.
<i>Calidris ferruginea</i>	Ma. <i>Carduiceps</i> sp.
<i>Philomachus pugnax</i>	Ma. <i>Austromenopon lutescens</i> <i>Carduiceps scalaris</i>
<i>Tringa glareola</i>	Ma. <i>Actornithophilus totani</i>
<i>Tringa ochropus</i>	Ma. <i>Anaticola crassicornis</i>
<i>Tringa totanus</i>	Ma. <i>Quadraceps</i> sp.
<i>Recurvirostra avosetta</i>	Ma. <i>Actornithophilus uniseriatus</i> <i>Cirrophthirius recurvirostrae</i> <i>Cistellathrix decipiens</i>
<i>Chlidonias hybridus</i>	Ma. <i>Quadraceps anagrapsus</i>
<i>Sterna albifrons</i>	Ma. <i>Quadraceps nycthemerus</i>
<i>Columba livia</i>	H. <i>Pseudolynchia canariensis</i>
<i>Ptilinopus melanocephalus</i>	Ma. <i>Hohorstiella</i> sp.
<i>Streptopelia chinensis</i>	H. <i>Pseudolynchia canariensis</i>

Host	Parasite
<b>Streptopelia decaocto</b>	Ma. <b>Columbicola</b> sp. M. <b>Cheyletidae</b> <b>Ornithonyssus sylviarum</b>
<b>Psittacula cyanocephala</b>	Ma. <b>Neopsittaconirmus</b> sp. M. <b>Ornithonyssus bursa</b>
<b>Centropus sinensis</b>	T. <b>Haemaphysalis kutchensis</b>
<b>Surniculus lugubris</b>	M. <b>Pellonyssus reedi</b>
<b>Athene brama</b>	Ceratopogonidae: <b>Culicoides</b> sp.
<b>Otus bakkamoena</b>	M. <b>Ameroseiidae</b>
<b>Otus sagittatus</b>	H. <b>Ornithoica exilis</b>
<b>Otus scops</b>	CH. <b>Neoschoengastia longipes</b>
<b>Strix leptogrammica</b>	Ma. <b>Strigiphilus ketupae</b>
<b>Ceyx erithacus</b>	T. <b>Amblyomma</b> sp.
<b>Halcyon chloris</b>	Ma. <b>Menacanthus</b> sp. M. <b>Bakericheyla chanayi</b>
<b>Pelargopsis capensis</b>	M. <b>Ornithonyssus bursa</b>
<b>Coracias benghalensis</b>	Ma. <b>Capariella subzak</b>
<b>Ptilolaemus tickelli</b>	H. <b>Ornithoica curvata</b>
<b>Tockus birostris</b>	Ma. <b>Chapinia clayae</b>
<b>Megalaima asiatica</b>	M. <b>Androlaelaps dissimilis</b>
<b>Megalaima corvina</b>	M. <b>Androlaelaps dissimilis</b>
<b>Megalaima haemacephala</b>	M. <b>Androlaelaps dissimilis</b> <b>Ornithonyssus sylviarum</b> <b>Pellonyssus</b> sp.
<b>Megalaima zeylanica</b>	M. <b>Androlaelaps</b> sp.

Host	Parasite
<b>Chrysocolaptes lucidus</b>	M. <b>Dermanyssus (dermanyssus) sp.</b> <b>Androlaelaps sp.</b>
<b>Dendrocopos macei</b>	M. <b>Pellonyssus reedi</b>
<b>Dendrocopos mahrattensis</b>	M. <b>Pellonyssus trachyphoni</b>
<b>Dinopium benghalense</b>	M. <b>Ornithonyssus sylviarum</b> <b>Pellonyssus trachyphoni</b>
<b>Hemicircus canente</b>	M. <b>Pellonyssus sp.</b>
<b>Jynx torquilla</b>	M. <b>Pellonyssus trachyphoni</b> CH. <b>Ascoschoengastia (Laurentella)</b> <b>indica</b> Ma. <b>Penenirmus serrilimbus</b>
<b>Micropternus brachyurus</b>	FM. <b>Proterothrix sp.</b>
<b>Picus chlorolophus</b>	Ma. <b>Picicola sp.</b>
<b>Picus flavinucha</b>	M. <b>Androlaelaps dissimilis</b>
<b>Picus sp.</b>	Ma. <b>Penenirmus pici</b>
<b>Picus vittatus</b>	M. <b>Pellonyssus sp.</b>
<b>Pitta brachyura</b>	T. <b>Amblyomma sp.</b> <b>Haemaphysalis anomala</b> <b>Haemaphysalis intermedia</b> Ma. <b>Phlopterus sp.</b>
<b>Mirafra erythroptera</b>	Ma. <b>Penenirmus sp.</b>
<b>Hirundo rustica</b>	H. <b>Ornithomya biloba</b> M. <b>Boydaia hirundae</b> <b>Ptilonyssus echinatus</b> <b>Sternostoma hirundinis</b>
<b>Hirundo tahitica</b>	Ma. <b>Myrsidea rustica</b>

Host	Parasite
<b>Tephrodornis pondiceriana</b>	M. <b>Ornithonyssus sylviarum</b> Ma. <b>Brueelia</b> sp.
<b>Dicrurus adsimilis</b>	Ma. <b>Menacanthus</b> sp. M. <b>Androlaelaps dissimilis</b> <b>Laelaps nuttalli</b> <b>Ornithonyssus bursa</b>
<b>Dicrurus annectans</b>	M. <b>Ornithonyssus bursa</b>
<b>Dicrurus hottentottus</b>	M. <b>Ameroseiidae</b>
<b>Dicrurus paradiseus</b>	M. <b>Bakericheyla chanayi</b> <b>Ornithonyssus bursa</b>
<b>Dicrurus remifer</b>	Ma. <b>Menacanthus</b> sp.
<b>Oriolus oriolus</b>	T. <b>Amblyomma</b> sp. <b>Haemaphysalis</b> sp.
<b>Oriolus traillii</b>	Ma. <b>Philopterus</b> sp.
<b>Crypsirina vagabunda</b>	M. <b>Ancystropus zeleborii</b> <b>Ornithonyssus sylviarum</b>
<b>Parus major</b>	T. <b>Hyalomma</b> sp. Ma. <b>Philopterus</b> sp.
<b>Parus monticolus</b>	M. <b>Dermanyssus (dermanyssus)</b> sp.
<b>Sitta castanea</b>	M. <b>Macrocheles</b> sp. <b>Ornithonyssus sylviarum</b>
<b>Sitta himalayensis</b>	M. <b>Dermanyssus (dermanyssus)</b> sp.
<b>Alcippe poioicephala</b>	M. <b>Ameroseiidae</b> <b>Ornithonyssus bursa</b>
<b>Garrulax strepitans</b>	CH. <b>Helenicula scanloni</b> <b>Odontacarus audyi</b>

**Host****Parasite**

	<b>Leptotrombidium (L.) rapmundi</b>
	<b>Leptotrombidium (L.) scutellare</b>
<b>Napothera macrodactyla</b>	T. <b>Amblyomma sp.</b>
<b>Pomatorhinus ochraceiceps</b>	M. <b>Ornithonyssus sylviarum</b>
<b>Stachyris poliocephala</b>	T. <b>Amblyomma sp.</b>
	M. <b>Harpyrhynchidae</b>
<b>Turdoides caudatus</b>	Ma. <b>Myrsidea sp.</b>
	T. <b>Haemaphysalis intermedia</b>
<b>Turdoides striatus</b>	M. <b>Ameroseiidae</b>
<b>Hypsipetes madagascariensis</b>	H. <b>Ornithoica bistativa</b>
<b>Pycnonotus blanfordi</b>	M. <b>Ascaidae</b>
<b>Pycnonotus cafer</b>	M. <b>Ornithonyssus bursa</b>
	T. <b>Amblyomma sp.</b>
	<b>Haemaphysalis intermedia</b>
<b>Pycnonotus goiavier</b>	M. <b>Ameroseiidae</b>
<b>Pycnonotus luteolus</b>	T. <b>Haemaphysalis sp.</b>
<b>Pycnonotus sinensis</b>	M. <b>Ornithonyssus sylviarum</b>
<b>Aegithina tiphia</b>	M. <b>Ptilonyssus sp.</b>
<b>Copsychus malabaricus</b>	T. <b>Haemaphysalis sp.</b>
	<b>Haemaphysalis wellingtoni</b>
<b>Copsychus saularis</b>	M. <b>Ornithonyssus bursa</b>
	<b>Ornithonyssus sylviarum</b>
	T. <b>Haemaphysalis sp.</b>
<b>Myiomela diana</b>	M. <b>Ornithonyssus bursa</b>

Host	Parasite
Myiophoneus coeruleus	Ma. Philopterus sp.
Myiophoneus glaucinus	Ma. Myrsidea sp.
Phoenicurus ochrurus	M. Ornithonyssus sylviarum
Tarsiger cyanurus	H. Ornithoica bistativa
Turdus hortulorum	M. Harpyrhynchidae Ornithonyssus sylviarum Pellonyssus reedi
Turdus merula	T. Haemaphysalis wellingtoni Haemaphysalis intermedia
Turdus ruficollis	T. Haemaphysalis minuta
Turdus unicolor	T. Haemaphysalis minuta
Zoothera citrina	Ma. Brueelia mahrastran T. Haemaphysalis intermedia Haemaphysalis minuta Haemaphysalis wellingtoni
Zoothera marginata	Ma. Brueelia zotherae
Acrocephalus agricola	T. Haemaphysalis kutchensis
Acrocephalus dumetorum	M. Ornithonyssus sylviarum T. Amblyomma sp. Haemaphysalis sp. Haemaphysalis intermedia Haemaphysalis wellingtoni Ma. Philopterus sp.
Locustella certhiola	CH. Blankaartia acuscutellaris
Orthotomus ruficeps	M. Pellonyssus reedi
Phragamaticola aedon	T. Haemaphysalis intermedia
Sylvia althaea	Ma. Brueelia sp.

Host	Parasite
<i>Sylvia curruca</i>	M. <i>Ornithonyssus sylviarum</i> T. <i>Haemaphysalis minuta</i> <i>Hyalomma</i> sp.
<i>Muscicapa parva</i>	M. <i>Ornithonyssus sylviarum</i>
<i>Muscicapa sundara</i>	M. <i>Bakericheyla chanayi</i>
<i>Muscicapa tickelliae</i>	Ma. <i>Phlopterus</i> sp.
<i>Saxicoloides fulvicata</i>	T. <i>Haemaphysalis wellingtoni</i>
<i>Anthus hodgsoni</i>	T. <i>Hyalomma</i> sp.
<i>Dendronanthus indicus</i>	T. <i>Haemaphysalis</i> sp.
<i>Motacilla alba</i>	M. <i>Ornithonyssus sylviarum</i> T. <i>Hyalomma</i> sp.
<i>Motacilla cinerea</i>	T. <i>Haemaphysalis</i> sp.
<i>Motacilla citreola</i>	M. <i>Ornithonyssus sylviarum</i>
<i>Lanius schach</i>	M. <i>Pellonyssus reedi</i> T. <i>Hyalomma</i> sp. Ma. <i>Phlopterus</i> sp.
<i>Aplonis panayensis</i>	Ma. <i>Menacanthus</i> sp.
<i>Sturnus javanica</i>	M. <i>Ornithonyssus bursa</i>
<i>Sturnus malabaricus</i>	H. <i>Ornithophila metallica</i>
<i>Sturnus nigricollis</i>	M. <i>Neocheyletiella</i> sp. <i>Ornithonyssus bursa</i>
<i>Sturnus pagodarum</i>	M. <i>Pellonyssus reedi</i> T. <i>Haemaphysalis intermedia</i> Ma. <i>Erueelia</i> sp.



Host	Parasite
<b>Sturnus tristis</b>	Ma. <b>Brueelia</b> sp. <b>Sturnidoecus capensis</b> M <b>Neocheyletiella</b> sp. T. <b>Haemaphysalis</b> sp. <b>Hyalomma</b> sp.
<b>Anthreptes malacensis</b>	M. Ameroseiidae
<b>Arachnothera longirostris</b>	M. <b>Ornithonyssus sylviarum</b>
<b>Nectarinia asiatica</b>	M. Ascaidae
<b>Nectarinia chalcostetha</b>	M. Ameroseiidae
<b>Nectarinia jugularis</b>	Ma. <b>Philopterus</b> sp. M. Ameroseiidae
<b>Dicaeum trochileum</b>	M. Ameroseiidae
<b>Emberiza cioides</b>	M. <b>Ornithonyssus sylviarum</b>
<b>Melophus lathamii</b>	M. <b>Ornithonyssus bursa</b> <b>Pellonyssus</b> sp.
<b>Lonchura leucogastroides</b>	M. <b>Androlaelaps crispus</b> <b>Androlaelaps dissimilis</b> Cheyletidae
<b>Lonchura malabarica</b>	M. <b>Ornithonyssus sylviarum</b> <b>Pellonyssus reedi</b>
<b>Lonchura punctulata</b>	M. <b>Androlaelaps crispus</b>
<b>Passer montanus</b>	M. <b>Pellonyssus reedi</b>
<b>Petronia xanthocollis</b>	M. <b>Ornithonyssus sylviarum</b> <b>Pellonyssus</b> sp.
<b>Ploceus philippinus</b>	M. <b>Neocheyletiella</b> sp. <b>Pellonyssus reedi</b>

## Erratum

- Page 7, Line 11, or parasitism = of parasitism
- Page 9, Line 14, Eurylaimidae . = Eurylaimidae.
- Page 17, Table 6-2, Indonesai = Indonesia
- Page 23, Table 7, heading, Ticks (M) = Ticks; (M)
- Page 24, Table 7-2, Under Philippines, Proctophyllodes sp. (H) =  
Proctophyllodes sp. (FM)
- Page 25, Table 7-3, Under Thailand, Procterothrix sp. = Proterothrix sp.
- Page 26, Table 7-4, Under Taiwan, solitaria = solitaria.
- Page 29, Table 7-7, Indonesia 6°-7° N = 6°-7° S
- Page 30, Table 7-8, Indonesia 6°-7° N = 6°-7° S
- Page 33, Line 5, Second Paragraph, 746 = 743
- Page 49, Line 9, Parus = Sylviparus
- Page 49, Line 38, franklinii = franklini
- Page 95, Line 21, Picidae 9 = 10
- Page 95, Line 28, leucotus = leucotos
- Page 96, Line 2 from bottom, quajana = guajana
- Page 96, Line 19, phaeocephalus = phaeocephalus.
- Page 117, Line 24, balicassia = balicassius and paradiscus = paradiseus.
- Page 125, Line 3, Tytoniidae = Tytonidae
- Page 125, Line 6, erythrocephlus = erythrocephalus
- Page 126, Line 28, Samoan = Samoa