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Ectoparasitological and ornithological findings from Western Sumatra with description of two new species of chewing lice (Insecta, Phthiraptera)

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Dedicated to Prof. Dr. FRITZ SCHULZE (Lamspringe) for his 65th birthday

Keywords

Faunistic, birds, ectoparasites, feather lice, new species, taxonomy, systematic, nomenclature, Sumatra

Contents

Summary

The results of the ornithological-entomological excursion undertaken together with FRITZ SCHULZE from February 12 to 26, 2003 at the Maninjau Crater Lake in West Sumatra are reported. A special focus was on ectoparasitological studies on birds with special consideration of their chewing lice (Insecta, Phthiraptera). 94 individuals from 31 bird species were captured, morphologically patterned and checked for ectoparasite infestation without the use of chemicals. Field observations on a further 18 bird species are reported and commented. *Prinia superciliaris dysancrita*, which is endemic to Sumatra, deserves special taxonomic attention in the future, since the examined individuals are more like *P. superciliaris waterstradti* (endemic to the Thai-Malay peninsula). Two new insect species are described: *Ricinus fritzschulzei sp. n.* (Phthiraptera, Amblycera, Ricinidae) ex *Trichostoma buettikoferi* VORDERMAN (endemic to Sumatra) and *Sturnidoecus mainjaus sp. n.* (Phthiraptera, Ischnocera, Philopteridae s. l.) ex *Ploceus philippinus infortunatus* E. HARTERT. The morphological aspects of *Ricinus* DE GEER are critically examined. Type host of *Brueelia sexmaculata* (PIAGET, 1880)] and of *Philopterus trabeculus* (PIAGET, 1880)] is *Dicrurus paradiseus platurus* VIEILLOT, 1817. "*Goniodes argus* EICHLER, 1947" ex *Argusianus argus* (L.) is an absolute synonym of *Goniodes curvicornis* NITZSCH in GIEBEL, 1874. The article sees itself as a new prelude to a closer look at the so far little researched animal lice fauna of Sumatra.

Fig. 1. View of the Maninjau crater lake from the Puncak Lawang viewpoint (760 m above sea level) with a traditional Minangkabau house in the foreground. February 25, 2003.

Ektoparasitologische und ornithologische Befunde aus West-Sumatra mit Beschreibung von zwei neuen Mallophagen-Arten (Insecta, Phthiraptera)

Stichworte

Faunistik, Vögel, Ektoparasiten, Mallophagen, neue Arten, Taxonomie, Systematik, Nomenklatur, Sumatra

Zusammenfassung

Über Ergebnisse der gemeinsam mit FRITZ SCHULZE vom 12. bis 26. Februar 2003 am Maninjau-Kratersee in West Sumatra unternommenen ornithologisch-entomologischen Exkursion wird berichtet. Ihr vorausgegangen war gemeinsame Arbeit an der Sonderausstellung „Indonesien – Begegnung mit einer fremden Welt", die mit großem Erfolg vom 14. Februar bis zum 16. April 1998 in der sogenannten Hofküche im Schloss Heidecksburg in Rudolstadt stattfand und vom dortigen Naturhistorischen Museum kuratiert worden war. Sie hatte sich fruchtbar auf unsere gemeinsamen wissenschaftlichen Projekte ausgewirkt. Auf Sumatra standen für uns ektoparasitologische Untersuchungen an Vögeln unter besonderer Berücksichtigung ihrer Mallophagen (Insecta, Phthiraptera) in besonderem Fokus. 94 Individuen von 31 Vogelarten wurden gefangen, morphologisch gemustert und ohne Verwendung von Chemikalien auf Ektoparasitenbefall geprüft. Feldbeobachtungen an weiteren 18 Vogelarten werden mitgeteilt und z. T. kommentiert. Dabei verdient die auf Sumatra endemische *Prinia superciliaris dysancrita* künftig besondere taxonomische Beachtung, da die untersuchten Individuen eher *P. superciliaris waterstradti* (endemisch auf der thailändisch-malayischen Halbinsel) ähneln. Zwei neue Insekten-Arten werden beschrieben: *Ricinus fritzschulzei* sp. n.

Autorenanschrift

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(Phthiraptera, Amblycera, Ricinidae) ex *Trichostoma buettikoferi* VORDERMAN (endemisch auf Sumatra) und *Sturnidoecus mainjaus* sp. n. (Phthiraptera, Ischnocera, Philopteridae *s. l.*) ex *Ploceus philippinus infortunatus* E. HARTERT. Es wird kritisch auf morphologische Aspekte von *Ricinus* DE GEER eingegangen. Kennwirt von *Brueelia sexmaculata* (PIAGET, 1880)] und von *Philopterus trabeculus* (PIAGET, 1880)] ist *Dicrurus paradiseus platurus* VIEILLOT, 1817. „*Goniodes argus* EICHLER, 1947" ex *Argusianus argus* (L.) ist ein absolutes Synonym von *Goniodes curvicornis* NITZSCH in GIEBEL, 1874. Der Beitrag versteht sich als neuer Auftakt zu genauerer Beschäftigung mit der bisher wenig erforschten Tierlausfauna von Sumatra.

1. Introduction

A few years of fruitful collaboration connects me with FRITZ SCHULZE. It began in the spring of 1997, when it became apparent that the special exhibition „Indonesia – Encounter with a Foreign World" could take shape in the former Heidecksburg Residence Castle in Rudolstadt (Thuringia). Ms. lecturer Dr. habil. RENATE CARSTENS from the Department of Indonesian Studies in the Department of Oriental Linguistics at the Friedrich Schiller University in Jena brought in the idea for this exposure. As her assistant at the time, FRITZ was involved in numerous detailed work in preparation for the exhibition and thus contributed to its extraordinarily good success.[1] In the scientific review, he was instrumental in the publication of Supplement 3 "Contributions to the Cultural and Natural History of Indonesia" of the museum series "Rudolstädter naturhistorische Schriften" (1999), as the author of "Of people and trees – Rumphius and tropical botany: the example of the coconut palm" and as a translator of the summaries of another 8 articles into Indonesian. Since then we have been in regular personal contact and exchange of expertise, as evidenced by further articles in the "Rudolstädter naturhistorischen Schriften" and his membership in its editorial board (2010-2017).

FRITZ has a strong soft spot for scientific research in natural history without being active himself. Nevertheless, as an Islamic scholar it is normal for him to follow interdisciplinary approaches. This not only made it easy to interest him in joint projects, but you could even count on him to take the initiative. He suggested that ornithological and ectoparasitological studies be carried out on Lake Maninjau in the highlands of West Sumatra. Around Marapalam, a small village among crater lake, rice fields and tropical rainforest, where a part of his family that is at home, it could be possible for us to carry out this project within a period of about 14 days without much logistical effort. After all, we succeeded with good success. FRITZ made the necessary contacts with the help of his friendly family and was able to convey my wishes conciliatory with his perfect Indonesian on site.

Some of the results have already been presented in a short article (MEY 2003). Here, however, the scientific yield is reported extensively with some corrections that have become necessary.[2]

2. Material and method

Our stay in Sumatra from February 12th to 26th, 2003 served primarily the ectoparasitological, especially mallophagological examination with mist nets of captured birds. We effectively had 13 days to spend in the Maninjau crater (Figs. 1-2). We used the last day of our stay to visit the Bukittinggi market and zoo. Lake Maninjau (00´19´´ S, 100´ 12´´ E, 459 m above sea level) is approx. 30 km NW of Bukittingii (00´19´´ S, 100´ 22´´ E) and approx. 120 km NW Padang, in the Padang Highland of Western Sumatra. It originated after a volcanic eruption about 52000 years ago and covers an area of 99.5 square kilometers. The crater rim is 600 m above sea level. The caldera is approx. 20 km long and approx. 8 km wide. Our activities at the Maninjau crater lake concentrated on the area around Marapalam, a district of Sungai Batang at approx. 700 m above sea level. NN. We also caught birds at Bajor (Bayur) and Kampung Tangah on the crater lake. The area is located approximately 0.3 ° south of the equator.

Due to time constraints, we couldn't dedicate ourselves more intensively to the impressive tropical flora and fauna in the area of the spacious Maninjau crater. Even bird watching was kept to a minimum. Uncertain observations are not mentioned here. We did not notice any water birds on the crater lake, which is 99.5 square meters in size and an average of 105 m (max. 165 m) deep, apart from a few domestic ducks in the bank area. We could not clarify whether the White-winged Terns (see below) were there at least for the night.

Catch, examination and observation results are summarized in Table 1 and partially commented in the chapter "Systematic overview of ectoparasitological and ornithological findings". The captured wild birds were placed individually in white cloth bags, where they remained until they were examined or released. The fabric bags were then carefully checked for any spilled parasites and roughly cleaned before reuse. The hosts were examined manually without the use of chemicals and was carried out by me alone. For details on the methodology on the live bird, see MEY (1982).

Fig. 2. At the border between rainforest and agricultural land (chilli and rice cultures on terraces) near Marapalam. February 13, 2003.

As will be explained in more detail and more precisely elsewhere, feather mites (analgescids) form an apparently essential food reservoir for both Amblycera and Ischocera. It can be assumed that a much higher proportion than only about 13% (11 out of 83) of the bird individuals examined was populated by feather mites. Their presence can be quickly overlooked in the case of low infestation under field conditions, unless you give them maximum atten-

Tab. 1: Data on the birds captured from 13 to 24 February 2003 near Marapalam on Maninjau crater lake (West Sumatra) and manually examined for ectoparasites (especially Phthiraptera). For more details see chapter 3. - Abbreviations: no. = protocol number; ectoparas. = ectoparasites; Ac = Acari; Hi = Hippoboscidae; Ph = Phthiraptera.

family (bold) / species & subspecies	age, sex	Feb 03	no.	weight [g]	wing [mm]	tarsus	bill	tail	ectoparas.
Phasianidae									
Gallus gallus f. domestica	ad., fem.	13.	1						Ph
	ad., fem.	13.	2						Ph
Columbidae									
Macropygia ruficeps sumatrana Robinson& Kloss, 1919	ad., fem.	22.	79	80.8	140	22	13.4		
Chalcophaps i. indica (Linnaeus, 1758)	ad., male	16.	24	131.4	149	32.8	17		
Cuculidae									
Cacomantis merulinus thenodes Cabanis & Heine, 1863	ad., male	16.	23	20	100	17.2		100	
Picidae									
Sasia a. abnormis (Temminck, 1825)	ad., fem.	15.	7	8	52	17			
Alcedinidae									
Alcedo m. meninting Horsfield, 1821	ad., male	19.	47	19.1	64	10.3	37.9		Ph, Hi
	ad., fem.	19.	50	18.4	63	10.3			Ph
Todiramphus chloris laubmanniacus (Grote, 1933)	ad.	22.	80	65.2	111.5	18.1	42		Ph
	ad.	22.	86	62.1	103	20.6	48.4		Ph
Artamidae									
Artamus leucoryn amydrus Oberholser,1917	ad.	21.	70	44.1	129	20.3	17.4		Ac
Laniidae									
Lanius tigrinus Drapiez, 1828	juv.	18.	41	25.4	83	25.8	15		Ph
	juv.	20.	58	28.7	76	25.9	13.9	67	Ph
	juv.	24.	97	31.7	77	26.4	14.7		Ph
Dicaeidae									
Dicaeum t. trigonostigma (Scopoli, 1786)	ad., fem.	22.	83	7.2	40	14.4	8.8		
Nectariniidae									
Arachnothera l. longirostra (Latham, 1790)	ad.	14.	5	15.2	67	17.6	40.4		
	ad.	15.	11	15.2	71	19.7	41.3	45.8	
	ad.	16.	17	11.9	62	17	37.2		
	ad.	16.	21	14.1	67	18.8	40.3		
	ad.	17.	32	16.3	68	19.2	43.9		
	ad.	17.	35	15.6	68	20	41.6		
	ad.	19.	51	12.5	66	18.1	41		
	ad.	22.	77	14.2	71	17	38.9		
Anthreptes m. malacensis (Scopoli, 1786)	ad., male	21.	69	10.9	64	18.7	16.2		
	ad., fem.	23.	94	12.7	65	19	16		Ph
Aethopygia s. siparaja (Raffles, 1822)	ad., fem.	17.	34	6	47	15.8	14.4		
	ad., fem.	19.	49	4.6	47	16.2	13.8		
	ad., male	24.	98	6.7	54.5	15.8	15.8		

Tab. 1: (continued)

family (bold) / species & subspecies	age, sex	Feb 03	no.	weight [g]	wing [mm]	tarsus	bill	tail	ectoparas.
Ploceidae									
Ploceus philippinus infortunatus E. Hartert, 1902	ad., male	21.	61	19.7	69	23.8	16.6		Ph, Ac
	ad., fem.	21.	62	25.9	67	23.4	16.5		
	juv.	21.	67	24.8	69	23.6	16.3		Ph
	juv.	21.	72	22.2	67	24.8	16.4		
	juv.	21.	73	19.8	66.5	24	15		Ph
	juv.	21.	74	20.7	64	22.4	16.3		Ph, Ac
	juv.	21.	76	19.1	64	22	14.5		Ph
Estrildidae									
Lonchura punctulata nisoria (Temminck, 1830)	juv.	21.	66	12.5	53	17.3	9.7		Ph, Ac
	ad.	21.	68	11	50	16	11.5		Ph, Ac
	ad.	22.	84	13.1	50	16.6	10		Ph, Ac
Lonchura maja (Linnaeus, 1766)	ad.	21.	59	13.9	51	18.6	11.2		
Passeridae									
Passer montanus malaccensis A. J. C. Dubois, 1887	ad.	20.	57	19.8	66	20	10.8		
Cisticolidae									
Prinia superciliaris dysancrita (Oberholser, 1912)	ad.	16.	20	11.6	49	23.7		[68.4]	
	ad., male	17.	36	12.8	52	26		93	
	ad.	18.	37	12	51	24.9	11.8		
	ad.	19.	48	11.4	49.5	24	13.8	[82.2]	Ph
	ad.	21.	71	11.6	52	24.7		92.4	
	ad., fem.	23.	93	12.7	50.5	22.7	11.6		
	ad.	23.	95	12	51	24.7	12		
Prinia familiaris Horsfield, 1821	juv. ?	20.	55	10.4	50.5	23.6	12.3	46.8	
	ad.	20.	56	13.2	55	25.1	13.5		
	juv. ?	21.	63	10.3	51	23.3			Ph
	juv. ?	22.	78	12.5	55	24.7	12.9		
	juv. ?	23.	90	12.9	54.5	24.8	12.7		
	juv. ?	23.	91	12.5	54	25.2	12.2		
Prinia flaviventris rafflesi Tweeddale, 1877	ad. ?	23.	96	7.8	45	21.2	12.2		
Orthotomus sericeus hesperius Oberholser, 1932	ad., fem.	14.	6	10.8	50.5	24	14		
	ad.	15.	9	7.9	45.5	22.2	14.4		
	ad.	15.	10	9.9	53	23.6			
	ad	16.	14	10.3	52	25	16.5		
	ad.	16.	19	9.1	49	23.1	15.2		
	ad.	16.	22	10.4	52	24.1	15.6		
	ad.	16.	26	10.6					
	ad.	17.	33	9.3	55	23.8	16.5		
	ad.	18.	40	9.6	55	23.1	16.5		
	ad.	19.	52	9.4	48	23.3	15		

Tab. 1: (continued)

family (bold) / species & subspecies	age, sex	Feb 03	no.	weight [g]	wing [mm]	tarsus	bill	tail	ectoparas.
Orthotomus ruficeps cineraceus Blyth, 1845	ad., fem.	15.	13	7.4	48	21.9	11.2		
	ad., male	16.	18	9.2	50	21.9	13.6		
	ad., male	19.	42	8.8	49	22.9	13.1		
	ad., fem.	19.	43	7.4	44	21.5	12.7		
	ad., fem.	19.	46	8.3	45.5	21.5	12.6		
	ad., male	21.	65	8.5	48	20.7	12.5		
	ad,, male	23.	89	8.3	48	22.6	12.6		
Locustellidae									
Locustella certhiola (Pallas, 1811) ssp. ?	juv.	21.	64	14.4	65	24.4	12.3		Ac
	juv.	21.	65	12.8	65	24.9	12.1		Ph
Hirundinidae									
Hirundo rustica Linnaeus, 1758, spp. ?	juv.	20.	54	16	111	11.9	8.3		Ph
Pycnonotidae									
Pycnonotus dispar (Horsfield, 1821)	ad.	19.	53	27.3	84.5	18.9	13.5		
Pycnonotus analis (Horsfield, 1821)	ad., male	18.	38	29.6	89	23.5	15.4		Ac
	ad., fem.	18.	39	33.1	90	25.2	15.9		Ph
	ad., male	19.	44	27.8	91	22.9	15.3		
	ad., fem.	19.	45	35	92	25.6	14.7		Ph
Timaliidae									
Mixornis g. gularis (Horsfield, 1822)	ad., fem.	16.	15	12	56.5	19	13.5		
	ad., male	16.	16	11.9	62	17			
	ad.	22.	85	13.3	59		12		
Pellorneidae									
Pellorneum n. nigrocapitatum (Eyton, 1839)	ad.	17.	30	25	67	33.2	13.2	47.4	Ac
	ad.	21.	60	32.3	75	32.9	16.9		
Trichastoma buettikoferi Vorderman, 1892	ad.	15.	8	19.5	69	30			Ph
	ad.	15.	12	18.1	67.5	30	12.9	49	Ph
	ad.	16.	25	17.2	67	29.8		49.3	
	ad.	17.	27	18.1	67	31.6		49.3	
	ad.	17.	31	18.8	68	29.8	13.6		Ph
Muscicapidae									
Copsychus saularis musicus (Raffles, 1822)	ad., male	17.	28	43.9	102	36.1	19.7		Ac
	juv., male	17.	29	50.2	95.5	34.8	15.8		
	juv., male	22.	81	48.3	102	36	18.1	92.8	Ac
Larvivora cyane (Pallas, 1776) ssp. *bochaiensis* (Shulpin, 1928) ?	juv., male	22.	82	16.4	74	28.3	10.9		
	juv., fem.	23.	88	16.1	72	28.2	11.5		

tion. But this is lost at the expense of thoroughness when looking for other parasites. You will always be faced with this dilemma if you want to keep the entire ectoparasitocenosis in view. However, this can hardly be achieved satisfactorily in the case of free-range hosts, which of course cannot be handled too long.

SUTAN SULAIMAN (LEMAN) and SUTAN SATI (PANG UTANG) (Fig. 3), who were responsible for the regular monitoring of the mist nets, gave us active support when it came to catching birds. Both had already collected zebu lice for us in 2002, and additionally on March 20, 2003 domestic chicken feather lice. Fritz also decided to contribute to our fundus with some head lice in 2002.

In the evening and at night during the first two days, a few 5 cm scarabs caught in some of the nets, from which they could hardly be removed intact. The beetles hanging in

Fig. 3. SUTAN SATI (nickname: PANG UTANG) (left) and SUTAN SULAIMAN (nickname: LEMAN) were our tireless helpers in catching birds. February 17, 2003.

the lower net compartment had dug their nets into the soft, damp forest floor in the morning. Apparently these beetles regularly spend the day under the surface of the ground. So in order to avoid the unwanted catching of beetles and small nocturnal fruit bats, we only set up the nets during the day.

Leech, which were found on almost every inspection on shoes and trouser legs, were an unpleasant experience. One of these haematophages had sucked through thin socks above my ankle. After the leech was removed, a narrow trickle of blood flowed freely from the tiny wound for 35 minutes. After 90 minutes, blood was still squeezing through the crust that had developed.

Various pets caught our interest especially because of their animal lice. Understandably, several families allowed us to inspect their pets. The Water Buffalo chosen for the investigation was unfortunately already deep in mud ploughing in the rice field. Our desperate attempts to at least examine the calm animal's head and tail failed, of course. We also had no luck with a young langur, a Sunda Pig-tailed Macaque and a Muscovy Duck.

We have only found lice on three domestic chickens and one young goat (see p. 9 f.). Almost every household has free-ranging dogs and cats. Cat and dog, both young animals in one household did not have house animal lice, but fleas (both collections from February 13th 2002 are still in processed). "Cat fleas" (leg. 7 adults) running nimble on the entire body, did not jump away or on humans. Likewise the "dog fleas", at least 30-40 on the entire body, were skillfully walking and did not jump on one of the two examiners (approx. 20 adult fleas). Even after the occasional stroking of the two, or after our everyday meals together, in which dog and cat "participated" under the table between our legs, fleas (probably *Ceratophyllus* sp.) had jumped on us. A flea that fell to the floor while collecting it did not jump back on the examiner, but on the dog!

On February 23 we received a Tupaja (probably Common Tree-Shew *Tupaia glis*) which had only 7 ticks (M. 4938. a-c). Tupajas are quite common in Marapalam and cannot be overlooked if you look carefully into the tree tops. During the day they appear above the rooftops on tall palm trees and dipterocarpaces, mostly in small groups, and move there an astonishing speed, apparently faster than our squirrels can.

Our host family told us the following: Around 1998, a Tiger *Panthera tigris* had entered the Maninjau crater. He was finally driven into the lake where the police shot him.

Fig. 4. Spotted dove with ankle cuffs free on cage in Kampung Tangah at Maninjau crater lake. February 23, 2003.

Occasional pig hunts with large dogs ensure that wild boars do not become a major problem for the farmers. The pigs are hunted down and eaten by the dogs. The small domestic dogs are afraid of wild boars. Farmers actually perceive their dog's 'job' as something rather positive, saying that they should bark when friends approach the house. Sutan Sati had a surprising encounter with a wild boar during a tour on the outskirts of Marapalam, in the early morning of February 21. Though the wild boar fled immediately.

Pigeons enjoy special human affection on Sumatra. Spotted Dove *Streptopelia sinensis* and Zebra Dove *Geopelia striata* are often (mostly individually) kept in artful but much too small wooden cages. A kind of "keeping free" of a spotted dove in Kampung Tangah seemed particularly strange to me (Fig. 4). In the Bukittinggi Zoo there were numerous visitors, young and old, in front of an aviary with *Columba livia* forma domestica. They could feed their darlings eagerly after paying a small contribution for it. In front of no other zoo cage in Bukittinggi, I saw so many visitors who were particularly drawn to these birds. The zoo had many other interesting domestic and foreign animal species on display.

Some birds caught in the net fell prey to stray domestic cats. A Rufous-tailed Tailorbird (no. 10) had been killed by an approximately 1 m long black-brown snake in the network and had already been devoured with its power supplies. When we approached about 10 m, the snake quickly choked off its prey and the net, and disappeared. All examined birds are documented by analogue photography. For reasons of space, only a few recordings can be presented here. Skins from some collected birds are kept in the Natural History Museum in Rudolstadt (Thuringia). The tissue samples taken from most individuals are kept in the Zoological Institute of the Johann Gutenberg University Mainz (coll. Prof. Dr. J. MARTENS). The ectoparasite material from Sumatra, embedded into Canada balsam preparations, is integrated into the Phthiraptera collection of the Natural Science Collections of Martin Luther University Halle-Wittenberg in Halle/Saale.

Terminology of the bristles in *Ricinus* after NELSON (1972). With *Ricinus*, the body measurements (mm) were determined as stated by RHEINWALD (1968) and NELSON (1972). At *Sturnidoecus*, a distinction is made between the width of the forehead and the width of the back of the head. The former is measured from head edge to head edge, where the cone protrudes in each case.

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Fig. 5. All those involved who contributed to the success of the zoological venture at Maninjau crater lake in February 2003. Right F. SCHULZE (with glasses), the author left. February 23, 2003, Marapalam.

3. Systematic overview of ectoparasitological and ornithological findings

Mammalia
Hominidae
Homo sapiens LINNAEUS, 1758. Human. Mensch.
FRITZ SCHULZE collected 7 ♂, 6 ♀, 5 larvae of *Pediculus capitis* DE GEER, 1778 (after prep. M. 4616. a-c) from the head hair of a child on March 20, 2002 in Marapalam, West Sumatra.

Bovidae
Capra hircus (LINNAEUS, 1758) forma domestica. Domestic Goat. Hausziege.
On a young goat (Marapalam from February 23, 2003) there was a mass increase of *Bovicola limbatus* (GERVAIS, 1844) (no. 92). Several thousand, mostly larvae in all stages, romped head-first on the entire withers directly above the skin. Several aggregations of 20-30 individuals each could be clearly identified. Wound spots that would explain these louse concentrations were not found there. A *limbatus*-♀ ran amazingly swiftly backwards on one hair, not slower than forwards.

Bos indicus LINNAEUS, 1758 forma domestica. Humped Cattle. Zebu.On March 20, 2002 SUTAN SULAIMAN and SUTAN SATI collected in Marapalam from an adult zebu 2 ♂, 6 ♀ of *Haematopinus eurysternus* (NITZSCH, 1818) (after M. 5121. a-d).

Aves
Phasianidae
Gallus gallus LINNAEUS, 1758 forma domestica. Domestic chicken. Haushuhn.
Ectoparasites (Ph): Three moulting host individuals from a chicken farm in Marapalam with a total of 3 types of feather: *Menopon gallinae* (LINNAEUS, 1758), *Oulocrepis dissimilis* (DENNY, 1842) and *Lipeurus caponis* (LINNAEUS, 1758). *M. gallinae* (3 ♂, 1 ♀ M. 4694. d-e; 4 ♂, 5 ♀ M. 5118. a-b) with mostly several on spring shafts in the trunk plumage and other body regions; the absolutely most common species on all three chickens (each> 100 specimens). *O. dissimilis* twice in a much smaller number (no. 1: 1 ♀ M. 4694. a; 2 ♂, 1 ♀, 1 larva dated March 20, 2002 M. 5118. cd) on the feathers of the back and front chest running extremely quickly to the base of the shaft and hiding there between penna and its afterfeather. *L. caponis* 2 times, no. 1: approx. 20 adults in the plumage of the neck, 1 ♀ on the chest and only 1 ♂ on the primaries (5 ♂, 1 ♀ M. 4694. ac) and no. 2: few adults (not collected) only in the plumage of the neck, none on wings or tail.

Columbidae
Macropygia ruficeps sumatrana ROBINSON & KLOSS, 1919. Little Cuckoo-dove. Kleine Kuckuckstaube.
On the edge of the Dipterocarpacea rainforest near Marapalam (around 750 m above sea level) an individual (no. 79, table 1). I mistakenly asked *M. emiliana* (see MEY 2003). Elevation distribution according to van MARLE & VOOUS (1988) 800-1500 m above sea level and higher.

Streptopelia chinensis tigrina (TEMMINCK, 1809). Eastern Spotted Dove. Östliche Perlhalstaube.
Individuals cooing several times in high palms on 18.2. at Lake Maninjau near Kampung Tangah. Often kept in small, ornate wooden cages, as in Sugai Batang or Bukittinggi (see Fig. 4).

Chalcophaps i. indica (LINNAEUS, 1758). Grey-capped Emerald Dove. Graukappen-Glanztaube
Top side emerald-iridescent. Some flank feathers in blood keels. As a result of fright moult, the pigeon lost numerous feathers from the small plumage when taking it out of the net and during the examination. Therefore the examination was aborted. Individually in secondary forests near Marapalam.

Apodidae
Hemiprocne longipennis harterti STRESEMANN, 1913. Grey-rumped Treeswift. Haubenbaumsegler.
Around the canopy of a group of palm trees 3-4 individuals were hunting on 18.2. at Lake Maninjau near Kampung Tangah.

Aerodramus maximus lowi (SHARPE, 1879). Black-nest Swiftlet. Schwarznestsalangne.
During light continuous rain on 13.2. 5-7 individuals in Marapalam over houses and trees hunting insects.

Cuculidae
Cacomantis merulinus thenodes CABANIS & HEINE, 1863. Plaintive Cuckoo. Klagekuckuck.
On 18.2. an eagerly long calling ♂ near Marapalam. Also on 20.2. one ♂ on the peninsula Panjang in the SE part of Lake Maninjau.

Rallidae
Amaurornis phoenicurus javanica (HORSFIELD, 1821). White-breasted Waterhen. Weißbrust-Kielralle.
Two shy individuals ran into the protection of the dam vegetation in a rice field near Kampung Tangah at Lake Maninjau on 24.2. By EATON et al. (2016) *javanica* has been drawn to the nominate form.

Turnicidae
Turnix s. suscitator (J. F. GMELIN, 1789). Barred Buttonquail. Bindenlaufhühnchen.
On 13.3. one ♀ at Marapalam over way running and finally flying up (typical flight picture).

Laridae
Chlidonias leucopterus (TEMMINCK, 1815). White-winged Tern. Weißflügel-Seeschwalbe.
On 20.2. a maximum of about 50 individuals in resting clothes near Bajor at Lake Maninjau, about 30 of which flew behind a farmer who was working a rice field with a machine. Others flew there, also looking for food, over ripe or harvested rice crops.

Alcedinidae
Alcedo m. meninting HORSFIELD, 1821. Blue-eared Kingfisher. Menintingeisvogel.
Both examined individuals apparently mated with each other. With the ♀ (Fig. 35, addendum) beak-basis until shortly over the nose-openings red, with the ♂ monochrome blackish. Rice fields near Kampung Tangah at Lake Maninjau.
Ectoparasites (Ph, Hi): Kingfisher ♂ of *Alcedoffula brelihi* TENDEIRO, 1967 (2 ♂, 6 ♀, 2 larvae after m. 4722. a-e) more severely infested than ♀ (1 ♂, 1 larva after M. 4645.): on both sides nits dorsally on flag base below and behind the eyes ($\sum > 70$). Imagines and larvae in head plumage. Imagines sat individually apically on feathers (end of abdomen visible from outside!); 5 imagines and 2 larvae had overflowed into the white fabric bag. Except for imago and larva no nits could be found

on ♀. Apparently the ♀ was infected with *Alcedoffula* from the ♂. – A louse fly on the ♂ appeared briefly on the fuselage plumage, but disappeared in it no longer detectable.

Todiramphus chloris laubmanniacus (GROTE, 1933). Collared Kingfisher. Halsbandliest.
According to body measurements (see table 1) and catch circumstances both individuals obviously are a mated pair (Fig. 36, addendum). Claws very pointed, high risk of injury when examining the living large kingfishers. Rice fields near Kampung Tangah on Lake Maninjau.
Ectoparasites (Ph): Both adult birds were about equally weak from *Alcedoecus latigenitalis* EICHLER, 1944 infested: 3 ♂, 2 ♀ after M. 4663. a-c (no. 80) and 4 ♀ after M. 4761. (no. 86). Imagines only found on head and neck. Nits not detected! EICHLER (1944: 75 and 1947: 2) gives the nominate form as the type host, first with reservation, then definitely, but this does not occur in Sumatra. PRICE et al. (2003: 141) have not corrected this.

Picidae
Sasia a. abnormis (TEMMINCK, 1825). Rufous Piculet. Malaienmausspecht.
Female with incubation patch. On the right three feathers of the large wing covers in blood quills.

Dinopium j. javanense (LJUNG, 1797). Common Flameback. Feuerrückenspecht.
To Marapalam between the 14. and 23. 2. a calling ♂. Another caller on 14.3. in primary forest.

Vangidae
Hemipus picatus intermedius SALVADORI, 1879. Barwinged Flycatcher-shrike. Elsterschnäppervanga.
A couple appeared in the crown of a bare tree, which could not be driven away by a *Pycnonotus analis*-♂, which was initially still singing and then reacted aggressively.

Artamidae
Artamus leucoryn amydrus OBERHOLSER, 1917. White-breasted Woodswallow. Weißbauch-Schwalbenstar.
Ectoparasites (Ac): Hundreds of feather mite eggs on vaned feathers on the flanks. After almost 45 minutes of examination, neither mite nor insect was found in the plumage.

Laniidae
Lanius cristatus LINNAEUS, 1758 ssp. Brown Shrike. Braunwürger.
Directly at Lake Maninjau near Bajor in a group of bushes on 20.2. one specimen on a raised hide.

Lanius tigrinus DRAPIEZ, 1828. Tiger Shrike, Tigerwürger.
All three birds (see Table 1) previous year and in large plumage moult. Small plumage not at all (no. 41) or in beginning moult. Head plumage still old. In village gardens of Marapalam.
Ectoparasites (Ph): All 3 host individuals with *Philopterus* sp., exclusively Imagines (∑ 3 ♂, 13 ♀) in the head plumage: 2 ♀ after M. 4748. a-b (no. 41), 1 ♂, 4 ♀ after M. 4666. a-b (no. 58) and 2 ♂, 7 ♀ after M. 5022. a-d (no. 97). No (fresh) nits to be found, only remains of probably previous year's eggshells on forehead, reins and head plate. If the Tiger Shrikes, which are solitary in their winter quarters, have acquired their *Philopterus* clans from their parents in the East Asian breeding area, the question arises according to these findings whether ischnozeran lice can also have an individual life span that can last significantly longer than three months (in our case half a year)?

Dicaeidae
Dicaeum t. trigonostigma (SCOPOLI, 1786). Orange-bellied Flowerpecker. Orangsbauch-Mistelfresser.
On 14.2. one ♂ flies over Marapalam.

Nectariniidae
Arachnothera l. longirostra (LATHAM, 1790). Little Spiderhunter. Weißkehl-Spinnenjäger.
Most common Sunbird (Fig. 6, no. 5) in village gardens and secondary forests around Marapalam. They are extremely susceptible to stress. Of the 8 individuals studied (all without ectoparasites), three collapsed in the net or in the hand. Only one individual (no. 17) showed a incubation patch.

Fig. 6. *Arachnothera l. longirostrum* (no. 5, see Table 1).

Anthreptes m. malacensis (SCOPOLI, 1786). Brown-throated Sunbird. Braunkehl-Nektarvogel.
At Lake Maninjau and in Marapalam several times individually noticed, so 1 ♂ each on 22.2. looking for food in shrub or tree layer and a passing couple on 23.2.

Ectoparasites (Ph): Only one egg of a menoponid below the eye was found (see no. 94).

Aethopygia s. siparaja (RAFFLES, 1822). Crimson Sunbird. Karmesinnektarvogel.
Found several times in Marapalam. There a couple feeds their (very green) fledgling on 19.2. On 25.2. 1 ♂ in the town of Bukittinggi.

Ploceidae
Ploceus h. hypoxanthus (SPARRMAN, 1789). Asian Golden Weaver. Kernbeißerweber.
On 18.2. one ♀ on a palm tree near Kampung Tangah at Lake Maninjau.

Ploceus philippinus infortunatus E. HARTERT, 1902. Baya Weaver. Bayaweber.
Breeding colony (approx. 20 occupied nests in a deciduous tree) near Bajor on Lake Maninjau (20./21.2.). Some ♂ built nests, other adult birds seemed to lead fledglings.
Ectoparasites (Ph, Ac): Of 7, only 2 individuals (1 ad. ♀ with incubation patch, 1 first year young) were ectoparasite-free; one (no. 61) was infested by *Myrsidea* sp., *Sturnidoecus maninjau sp. n.* and feather mites, another (no. 74) by the latter two parasites. Two individuals (no. 67, 73) had only *Myrsidea* sp., one (no. 76) only *S. maninjau sp. n.* Nits of *Myrsidea* sp. were found on throat and chest (no. 67) and more than 200 on the throat (no. 61). In the young bird (no. 73) examined in detail, apart from 3 individual nits on feathers of the eyelids only on throat 50-70 *Myrsidea* nits; as clutch 2-3 nits per feather ventrally at the base of the plume. Feather mites became conspicuous when they were represented in large numbers: Hundreds on head plate and arm wings (no. 61) and in the neck plumage (no. 74). Probably all examined Baya Weaver feather mites inhabited the area.
Remarkably, one *Sturnidoecus* imago had overflowed from the living host (no. 61) in a cloth bag!

Estrildidae
Lonchura punctulata nisoria (TEMMINCK, 1830). Scaly-breasted Munia. Muskatbronzemännchen.
Everywhere in the cultural land around Lake Maninjau in small groups. At abandoned houses (e.g. in the gable of a traditional Minangkabau house) individually or in groups to form several kobel-like nests. Groups in rice fields occasionally with single *Lonchura maja*. On 25.2. in Bukittinggi one *L. punctulata* under 15 *L. maja*. On a small rice field at the southern part of Lake Maninjau two scarecrows and rows of ropes with white strips of cloth across the whole field, which were moved by the wind. Completely unimpressed by this defensive measure, a troop of at least 10 munias, who were there happily eating the ripe grains of rice on the stalks (March 20). Young bird (no. 66) not yet in moult. One adult bird (no. 68) in small-plumage and beginning wing moult, tail tips torn to pieces; the other already completely freshly moulted.
Ectoparasites (Ph, Ac): All three host individuals of Bajor with mixed infections (no. 66, 84: feather mites + *Myrsidea* + *Mirandofures*; no. 68: feather mites + *Myrsidea*). – *Myrsidea cyrtostigma* (KELLOGG & CHAPMAN, 1902) – no. 66: about 30 nits on throat, only 1 niss on forehead, no lice detected. – no. 68: 2 ♂, 1 ♀ (M. 4655.) and some nits around eyes and ears. – no. 84 (briefly examined) leg. 1 ♂, 1 larva (M. 4747. a). – *Mirandofures stenozona* (KELLOGG & CHAPMAN, 1902) – no. 66: 1 ♂, 1 larva sat in the upper third of flank feathers. About 10 larvae and imagines appeared externally on fuselage and wings. On upper and lower tail covers 4 imagines and 2 larvae were present (leg. 5 ♂, 2 ♀ according to M. 4628. a-e). Nits solitary and sparse on flanks. – No. 84 (cursory examination), only 2 ♀ were found (leg. 1 ♂ after M. 4747. a). – Hundreds of feather mites in body plumage and on wings.
One *M. stenozona*-♀ from the living bird (no. 84) overflowed in a cloth bag. It should not remain unmentioned that *M. stenozona* was first described from Hawaii, where her type host was naturalized in the 19th century.

Lonchura maja (LINNAEUS, 1766). White-headed Munia. Weißkopfnonne.
Individually and in small groups (also with *L. punctulata*, see there) at Lake Maninjau and in Bukittinggi.

Passeridae
Passer montanus malaccensis A. J. C. DUBOIS, 1887. Eurasian Tree Sparrow. Feldsperling.
Nesting on many buildings of Kampung Tangah and other places at Lake Maninjau. Always single or in pairs, never seen in troops. The Tree Sparrow (no. 57) under investigation had a distinct incubation patch. In Bugittinggi on 25.2. adultus feeds a fledgling. Rice harvested in the village in front of the houses was laid out to dry on large tarpaulins. This tempting, short-term, but supervised food supply could not be missed by individual Tree Sparrows (max. 5 together). I have not found any House Sparrows *P. domesticus* anywhere.

Motacillidae
Motacilla cinerea [***robusta*** (C. L. BREHM, 1857)?] Grey Waigtail. Gebirgsstelze.
(subspecies see van MARLE & VOOUS 1988: 193)
On rice field dams near Kampung Tangah on 18.2. an eager insect hunter. In Bukittinggi on 25.2. at two places in the city area one individual each.

Cisticolidae
Cisticola juncidis malaya LYNES, 1930. Zitting Cisticola. Zistensänger.
On 18.2. five individuals in territorial disputes on a chili culture near Marapalam. Otherwise everywhere else on rice fields at Lake Maninjau (Bajor, Kampung Tangah),

where it is one of the few breeding bird species with sparse vegetation on the only foot-wide dams between the flooded fields and performs its song flight.

? *Prinia superciliaris dysancrita* (OBERHOLSER, 1912). Hill Prinia. Grauwangenprinie.
Before *Prinia familiaris*, *Orthotomus sericeus* and *O. ruficeps*, the most common cisticolide is found directly at Lake Maninjau (460 m above sea level) and in the crater up to open cultivated land at about 700 m above sea level. Altitude distribution in Sumatra according to van MARLE & VOOUS (1988) between 600 and 2000 m, according to EATON et al. (2016) 800-2200 m above sea level.
Occurs with *Prinia familiaris* and *P. flaviventris* in the same habitats. Only one individual (no. 93) had a distinct incubation patch (i.e. a female). A ♂ (no. 36) twice performed song verses after it had been taken out of the net and put into a white cloth bag. It had no incubation patch (so a male).
At that time the species was determined as *Prinia atrogularis* in reference to MACKINNON & PHILLIPPS (1993), thought already with some reservations. Only newer literature allowed a better, but still not certain determination. The faint white eye-stripe is missing in many individuals or is only rudimentarily hinted at. Flanks and belly are hardly yellow-brown, rather light grey (Figs. 7-10). Afterwards strongly deviating from the subspecies *dysancrita*, which according to EATON et al. (2016: 384 f.) is endemic to Sumatra. In contrast, the *waterstradti* HARTERT, 1902 (endemic to the Thai-Malay peninsula) described by WELLS (2007: 411, plate 28) is much closer to the *superciliaris* individuals from the Maninjau crater. The question remains to which form the individuals in question actually belong.
Ectoparasites: Out of eight, only one host individual (no. 48) with ectoparasites. *Menacanthus* sp.: The xenodeme of this still undetermined, perhaps new species could be recorded almost completely (after M. 4662. a-h, 3 ♂, 18 ♀; larvae not detectable). On throat and chest at least 100 nits. The host, which died suddenly in the cloth bag, remained there for about 20 hours. After about 2 hours the first imagines (1 ♂, 5-6 ♀) had overflowed. All emigrants were recorded. It cannot be excluded that some live feather lice (including larvae) did not leave their dead host and could not be shaken out of the carcass.

Prinia familiaris HORSFIELD, 1821. Bar-winged Prinia. Sundaprinie.
On 18.2.2003 3-4 individuals (apparently a family group) in a waterlogged bush at Lake Maninjau near Kampung Tangah.
Ectoparasites: In no. 63 only about 50 egg shells of a menoponid (*Menacanthus* or *Myrsidea*) ventrally at the vane base of the contour feathers on throat and back of the head.


Fig. 7


Fig. 9


Fig. 8


Fig. 10

Figs. 7-10. Four adults of *Prinia superciliaris*, 2003 Lake Maninjau, West Sumatra. **7**: Feb. 21, Bajor (no. 71). **8**: Feb. 23, Marapalam (no. 95). **9**: Feb. 17, dito (no. 36). **10**: Feb. 18, dito (no. 37). See Table 1. Subspecies affiliation (*dysancrita*) questionable. Note any hinted or missing whitish supercilium.

Prinia flaviventris rafflesi TWEEDDALE, 1877. Yellow-bellied Prinia. Gelbbauchprinie.
One individual (no. 96) in decaying flight feathers moult: 4th arm wing left ½ in blood quills, otherwise all wing feathers new. From rectrices 2 middle ½ in blood quills, all others new.
According to EATON et al. (2016: 384) *rafflesi* is obviously a species of its own.

Orthotomus sericeus hesperius OBERHOLSER, 1932. Rufous-tailed Tailorbird. Rotschwanz-Schneidervogel.
In the Maninjau crater in the same habitats (shrub and bush rich open land and secondary forest) as *O. ruficeps*, but somewhat more frequently. Males sometimes sing intensively. One individual (no. 6) with incubation patch.
In 3 individuals following moulting status: No. 42, some feathers on head plate ½ in blood quills. No. 43, 2 middle rectrices old, all others 1/3 in blood quills. No. 65, wing moult at the end, left 1st primary 1/3 in blood quill, all others new, right 2nd secondary ½ in blood quill, all others new.

Orthotomus ruficeps cineraceus BLYTH, 1845. Ashy Tailorbird. Grauschneidervogel.
At 2 ♀ (no. 43, 46) chin reddish, throat white. 1 ♀ (no. 46) with incubation patch. From 6 individuals 3 in declining moult: No. 42 (♂) – some feathers on the medial edge of the red head mask in blood quills, both outer tail feathers ½ in blood quills (Fig. 11). No. 43 (♀) – except for the two middle ones all rectrices 1/3 in blood quills. No. 65 (♂) – all primaries new, except the 1st one left 1/3 in blood quill; all secondaries new, except the 2nd one right ½ in blood quill.

Locustellidae
Locustella certhiola (PALLAS, 1811) ssp. ? Pallas´s Grasshopper-warbler. Streifenschwirl.
Two previous year's individuals trapped near Bajor on Lake Maninjau. From no. 64 the upper mandible was black, the lower mandible bright, the breast finely dotted. The tips of the primaries and especially of the rectrices were badly torn. Without moulting approach. No. 75 had new plumage.
Ectoparasites (Ac, Ph): No. 64 possessed numerous feather mites on the secondaries. No. 75 possessed about 50 nits of an amblyceran (*Menacanthus* or *Myrsidea*), of which no evidence of a larva or an imago could be found despite an intensive search.


Fig. 11


Fig. 13


Fig. 12


Fig. 14

Figs. 11-14. 11: *Orthotomus ruficeps cineraceus* ♂ (no. 42). **12**: *Pycnonotus dispar* (no. 53). **13**: *Pycnonotus analis* ♀ (no. 39). **14**: *Trichastoma buettikoferi* (no. 25). Endemic to Sumatra and type host of *Ricinus fritzschulzei* sp. n.

Hirundinidae
Hirundo rustica LINNAEUS, 1758, spp. ? Barn Swallow. Rauchschwalbe.
A total of about 70 individuals (most of them last year's), who were hunting insects over rice fields or resting on wires on 20.2. near Bajor at Lake Maninjau. One individual of the previous year in moult: of wings only 1st and 2nd primaries still old, others new. Rectrices old. Large scapulars in blood quills.
Ectoparasites: A freshly-dead previous year's individual was found. Of this one, 3 ♀ and 4 larvae of *Myrsidea rustica* (GIEBEL, 1874) (after M. 5182. 1 ♀) passed over in a cloth bag. About 50 nits dorsally on forehead (often 2-3 per feather), but on throat altogether about 20 ventrally!

Pycnonotidae
Pycnonotus dispar (HORSFIELD, 1821). Ruby-throated Bulbul. Rubinkehlbülbül.
The trapped individual (no. 53, Fig. 12) with metallically shiny ruby red, especially structured chin and throat feathers, whose beauty can only be appreciated by the observer at close range. Apparently inferior to the dominant *P. analis*: 1 ♂ had just recited a pair of verses on a bare tree in Marapalam when it was chased defencelessly away from the song post by a suddenly appearing *analis*-♂.

Pycnonotus analis (HORSFIELD, 1821). Sunda Yellow-vented Bulbul. Sunda-Schwarzzügelbülbül.
Two pairs, of which the chin of ♂ was yellow-red, but the chin of ♀ (no. 39, Fig. 13) was white. Legs black. Showed to be dominant against *P. atriceps* (see there). In the village area of Marapalam almost only conspicuous in pairs on leafless (dead) branches and trees. Was offered as cage bird on the market of Bukittinggi on 25.2. in larger numbers.
Ectoparasites (Ph, Ac): On breast of no. 45 numerous, on upper flanks less clutches of *Brueelia* (altogether at least 150 nits). Despite intensive examination, neither larva nor imago were detectable. On the partner (no. 44) even nits could not be found. The other pair also had an unequal epixenose: ♂ (no. 38) only one tick, ♀ (no. 39) only a few nits on feathers on the upper ear rim, which I had almost overlooked and which might have belonged to *Menacanthus* sp. and/or *Myrsidea*. From the dead host (no. 39) one ♂ each of *Menacanthus* sp. and *Myrsidea* sp. (according to M. 4689.) had defected during the night in a white cloth bag.

Microtarsus a. atriceps (TEMMINCK, 1822). Black-headed Bulbul. Schwarzkopfbülbül.
A ♂ of the normal phase on 14.2. at the edge of the primary forest in Dipterocarpaceen near Marapalam.

Timaliidae
Mixornis g. gularis (HORSFIELD, 1822). Pin-striped Tit-babbler. Rotkappentimalie.
A couple caught in the net at the same time. In ♂ (no. 16) the featherless forehead skin from the bill to just behind and around the eyes was azure blue, in ♀ (no. 15, still without incubation patch) azure blue was only ring-shaped around the eyes. Around Marapalam several pairs (min. > 5).

Pellorneidae
Pellorneum n. nigrocapitatum (EYTON, 1839). Malay Black-capped Babbler. Schwarzkappen-Erddrossling.
Around Marapalam, only two home ranges in the closed secondary forest with a low herb layer were identified.
Ectoparasites (Ac): Two soft ticks of no. 30 in a cloth bag overflowed.

Trichastoma buettikoferi (VORDERMAN, 1892). Sumatran Babbler. Sumatramausdrossling.
In the field according to MACKINNON & PHILLIPPS (1993) I mistakenly mistook it for *T. rostratum*, despite the unusual habitat for this species (no mangroves, altitude). Upper bill grey, lower bill somewhat lighter, pink. Legs pink. Tail slightly reddish brown, other upper side brown without reddish tinge. Cap not solid coloured: feathers olive green with black hem and light-coloured quill (no. 25, Fig. 14). This pattern can only be seen on close inspection. Anterior vane of the primaries and secondaries olive green, inner flag black-brown with beige edge. Cultivated land dwellers (rainforest edge in and around village gardens of Marapalam and in bush vegetation around rice fields at Lake Maninjau).
Ectoparasites (Ph): 3 of 5 hosts with *Ricinus fritzschulzei* sp. n., larvae and imagines in small numbers (1-3 per host). Nits on fore breast on vane of feather base (1x only 7 new; 2x approx. 20 nits, mostly eggshells).

Muscicapidae
Copsychus saularis musicus (RAFFLES, 1822). Oriental Magpie-robin. Dajalschama.
In illustrations (COLLAR 2005 and adopted from del HOYO & COLLAR 2016 and EATON et al. 2016) *saularis* appears too short-tailed. Two of the individuals examined (no. 29, 81) were apparently immature ♂: Throat and chest to the white breast-to-belly area dark grey (female colored), but upper side from head to back shiny black.
Ectoparasites (Ac): In the neck and on large hand and arm covers at no. 28 especially many feather mites. Also in no. 81 they were very common on primaries and secondaries.

Larvivora cyane (PALLAS, 1776) ssp. *bochaiensis* (SHULPIN, 1928)? Sibirian Blue Robin. Blaunachtigall.
After the blue portions in the plumage both examined individuals of Kampung Tangah immatur: no. 82 – except grey wings and tail above blue, chest still in the youth plumage; no. 88 – rump and tail blue, back and hand and arm covers blue overflown, whole head grey-brown, throat brown-yellow, banded like ♀.

Eumyias r. ruficrissa (SALVADORI, 1879). Indigo Flycatcher. Indigoschnäpper.

On 24.2. an individual hunted insects near Marapalam at the edge of the primary forest in high dipterocarpaceen.

Chloropseidae
Chloropsis c. cyanopogon (TEMMINCK, 1830). Lesser Green Leafbird. Blaubart-Blattvogel.
On 18.2. an individual in the shoreline bushes at Lake Maninjau near Kampung Tangah. Seen several times as a cage bird at the bird market of Bukittinggi.

Tab. 2: Body measurements (mm) and head index (occiput width divided by head length) of *Ricinus fritzschulzei* spec. nov. (Amblycera, Ricinidae) ex *Trichastoma buettikoferi* (Vordermann) (Passeriformes, Pellornidae).

	slide: 4665. c	4665. a	4665. b	4627.	6467.
	holotype	paratypes			
	male	females			
Total length	3.16	3.76	3.85	3.73	3.86
Abdominal width	0.81	0.99	1.02	1.03	1.03
Head length	0.73	0.75	0.8	0.76	0.78
Head width	0.66	0.64	0.73	0.71	0.7
Head index	1.11	1.17	1.1	1.07	1.11
Labral width	0.32	0.35	0.35	0.35	0.34
Prothorax length	0.33	0.4	0.4	0.39	0.39
Prothorax width	0.6	0.64	0.67	0.65	0.64

Sturnidae
Acridotheres javanicus CABANIS, 1851. Javan Myna. Javamaina.
On 18.2.2003 a couple flew over a rice field complex near Kampung Tangah at Lake Maninjau. According to the observations of our Indonesian staff, these starlings also appear at Marapalam, where they sit ("ride") on water buffaloes or zebus, allegedly to be able to take in food. The Indonesian name for this species of bird means: "that rides on the buffalo" (according to the Indonesian translation of the field guide by MACKINNON & PHILLIPPS 1993).

4. On the intensity and extensity of ectoparasite infestation in the birds studied

Ectoparasite infestation was recorded in 33 individuals of 15 bird species. Except mainly Phthiraptera were involved: Analgescidae 10 times and Hippoboscidae and soft ticks once each (see Table 1). Of the 31 bird species examined, feather lice and/or their eggs were found on 13 (= 42 %).
Of these 94 host individuals, 27 (= 28.7 %) were infested with feather lice (see Table 1). The following genera were involved per host individual. Amblycera: *Ricinus* 3x, *Menacanthus* 2x, *Menopon* 3x, *Myrsidea* 12x and only eggs of the genus in question (*Menacanthus* or *Myrsidea*) 4x. Ischnocera: *Alcedoffula* 2x, *Alcedoecus* 2x, *Brueelia* 1x, *Lipeurus* 2x, *Mirandofures* 2x, *Oulocrepis* 2x, *Philopterus* 3x and *Sturnidoecus* 2x.
Mixed infections per host individual, involving at least two species of feather lice, have been detected five times: *Menopon* + *Lipeurus* + *Oulocrepis* and *Menopon* + *Lipeurus* (on *Gallus gallus*), *Menacanthus* + *Myrsidea* (on *Pycnonotus analis*), 2 times *Myrsidea* + *Mirandofures* (on *Lonchura punctulata*), *Myrsidea* + *Sturnidoecus* (on *Ploceus philippensis*) Mixed infections with other ectoparasites are shown in Table 1.

5. Description of two new species of chewing lice and some remarks

Class Insecta – superorder Psocodea – order Phthiraptera HAECKEL, 1896 – suborder Amblycera KELLOGG, 1896 – family Ricinidae NEUMANN, 1890.

Ricinus fritzschulzei spec. nov. (Table 2, Figures 15-26)
Type host: *Trichastoma buettikoferi* (VORDERMAN, 1892).
Material: 1 ♂, 4 ♀ from three adult host individuals of *T. buettikoferi*, namely **1.** 1 ♀ (M. 4627.; no. 8 in tab. 1), February 15, 2003 Marapalam (approx. 700 m above sea level), part of Sungai Batang, above the Maninjau crater lake, province of Sumatra Barat (West). – **2.** 1 ♂, 2 ♀ (M. 4665. a-c; no. 12 in tab. 1) same data. – **3.** 1 ♀ (M. 6467.; no. 31 in tab. 1) same data. All leg. E. MEY.
Holotypus ♂ (M. 4665. c) and 4 paratypes in Natural Science Collections, Martin Luther University Halle-Wittenberg in Halle (Saale), Germany.
Description – Slim habitus (Figs. 15-16). Body measurements see Tab. 2.
Head. Frons truncate, circumferential margin of the frons not pigmented (opaque) with 10 setae and 6 sensillae (Fig. 19). (Sensillae on the forehead rim of *Ricinus* are not mentioned by both RHEINWALD 1967 and NELSON 1972). Seta df submarginal on dorsum of the frons relative long, reached over the head margin. Transverse carina wide spanning the Clypeus (Fig. 19). Long, pointed, apically slightly curved mandibles monomorphic (Figs. 22-23). Labium with 12 pairs of setae (Fig. 21). Ovoid sclerites not ornamented. First limb of the maxillary palpus angled towards the following three (genticuloid). Gular plate as in Fig. 21. Gularborsten 2 x 2 (posterior seta 1/4 longer than the anterior). All three praeantennalnodi evident (Fig. 20). Almost circular lunar nodus larger than tentorial nodus. The m 1 is clearly the smallest bristle of the m-series and sits opposite the others submarginal (Fig. 20). From the six pairs of dorsal tiny temples setae (a1- a 6) only the a 3 is missing (Figs. 20 and 24). The pair of

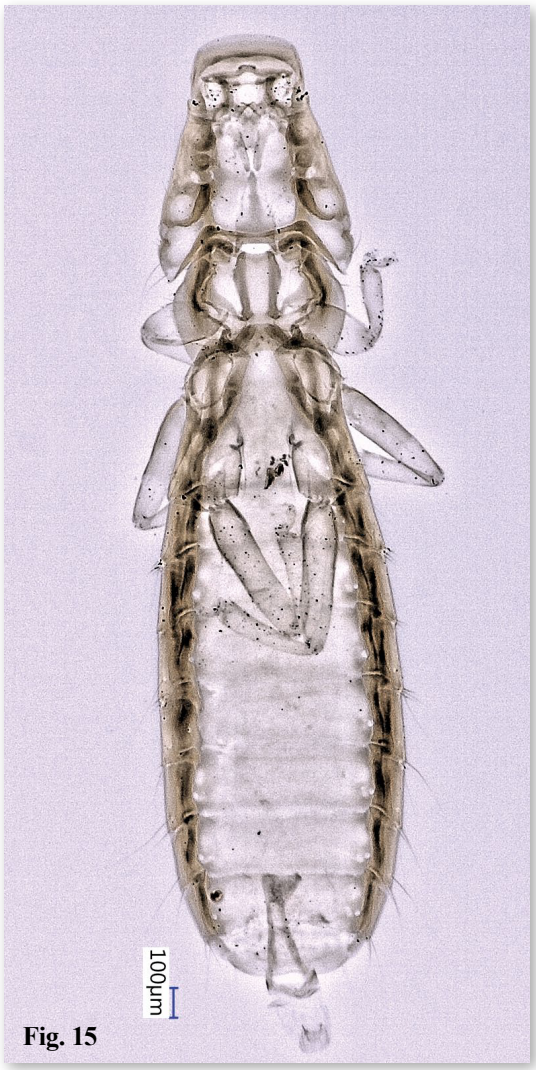


Fig. 15

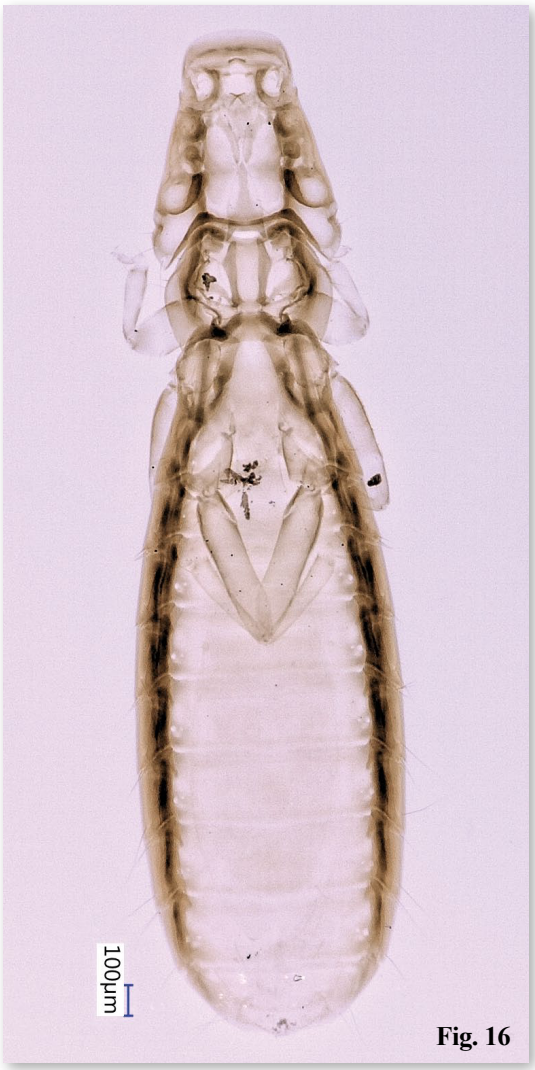
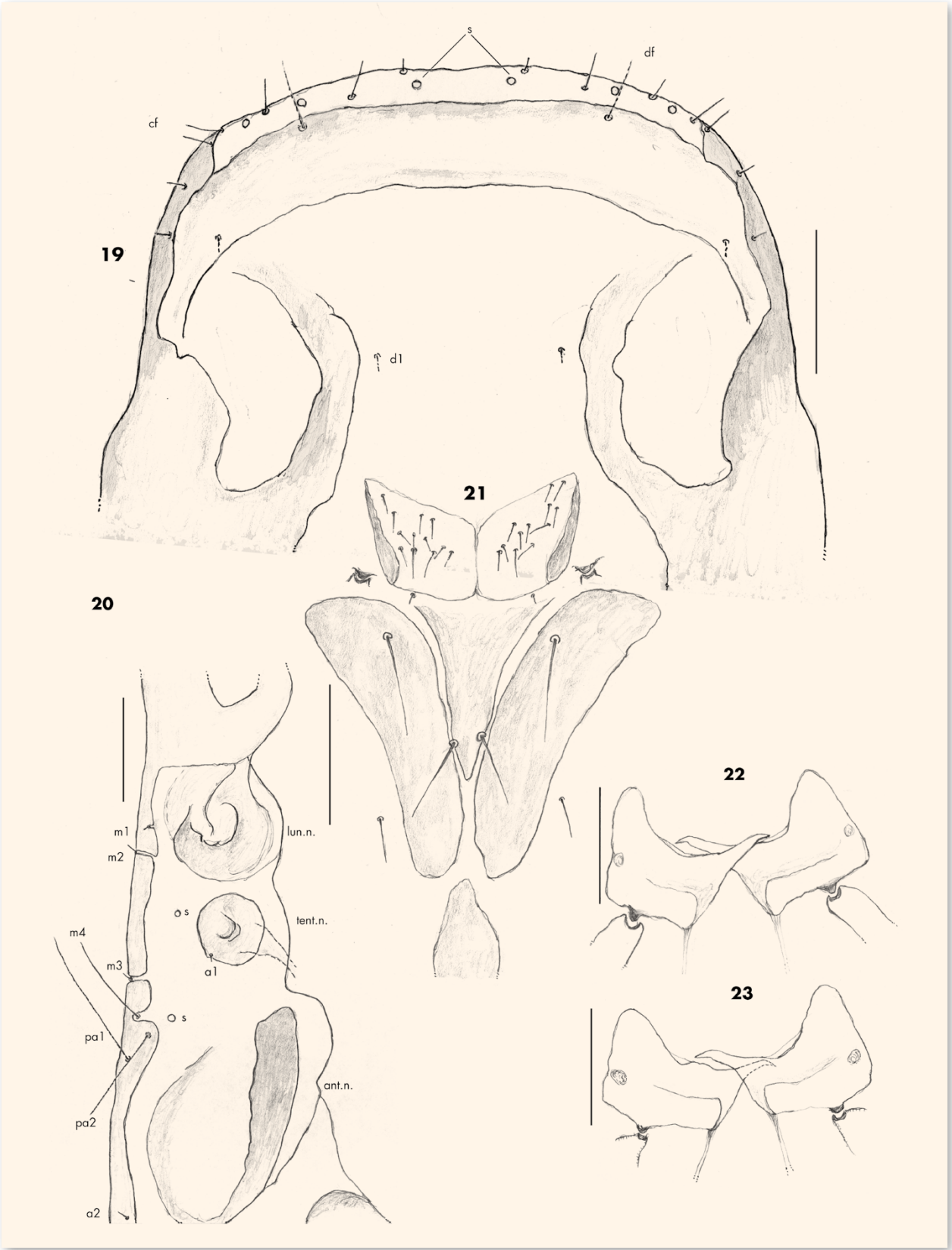


Fig. 16

Fig. 17

Fig. 18

Figs. 15-18. 15: *Ricinus fritzschulzei* sp. n., ♂ holotype. **16**: dito, ♀ paratype (M. 4665.). **17**: *Sturnidoecus maninjaus* sp. n., ♂ holotype. **18**: dito, ♀ paratype (M. 4646. d, top left). Measurements see Tables 2 and 3.



Figs. 19-23. *Ricinus fritzschulzei* sp. n. **19**: Clypeus with 10 frontal setae and 6 sensillae, ♀. Scale 0.1 mm. **20**: Front head side with lunar, tentorial and antennal nodus, ♀. Scale 0.1 mm. **21**: Labium, cardo-stipis (maxille) and gular plate (anteriore part only), ♀. Scale 0.1 mm. **22**: mandible, ♂. Scale 0.1 mm. **23**: dito, ♀. Scale 0.1 mm. – Abbreviations: **a 1-2**, dorsal temple setae; **cf**, setae on circumferential hyaline margin of the frons; **df**, frons seta, dorsal submarginal; **m 1-3**, dorsolateral marginal carina setae; **pa 1-2**, ventral temple setae; **ant. n.**, antennal nodus; **lun. n.**, lunar nodus; **tent. n.**, tentorial nodus; **s**, sensillus.

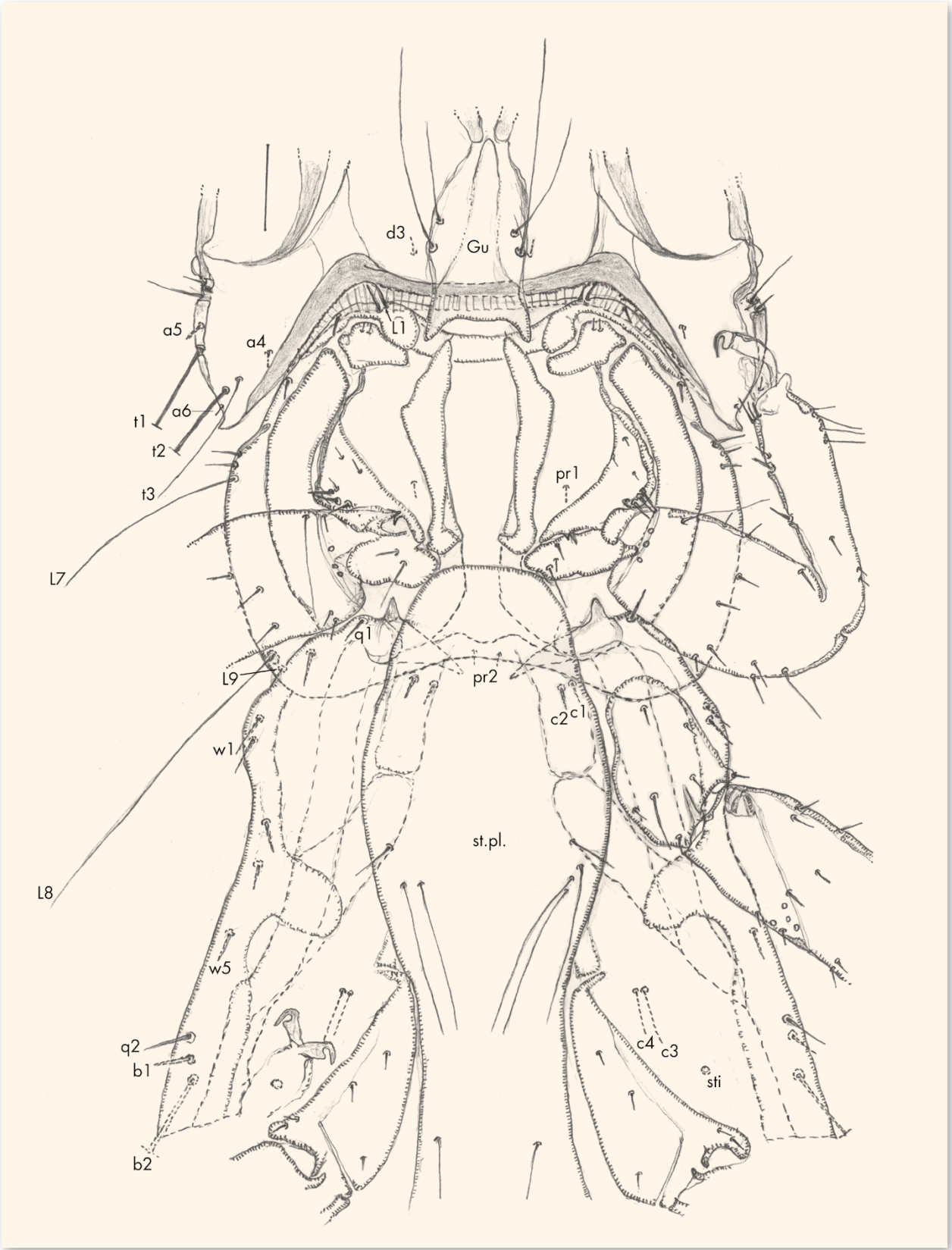
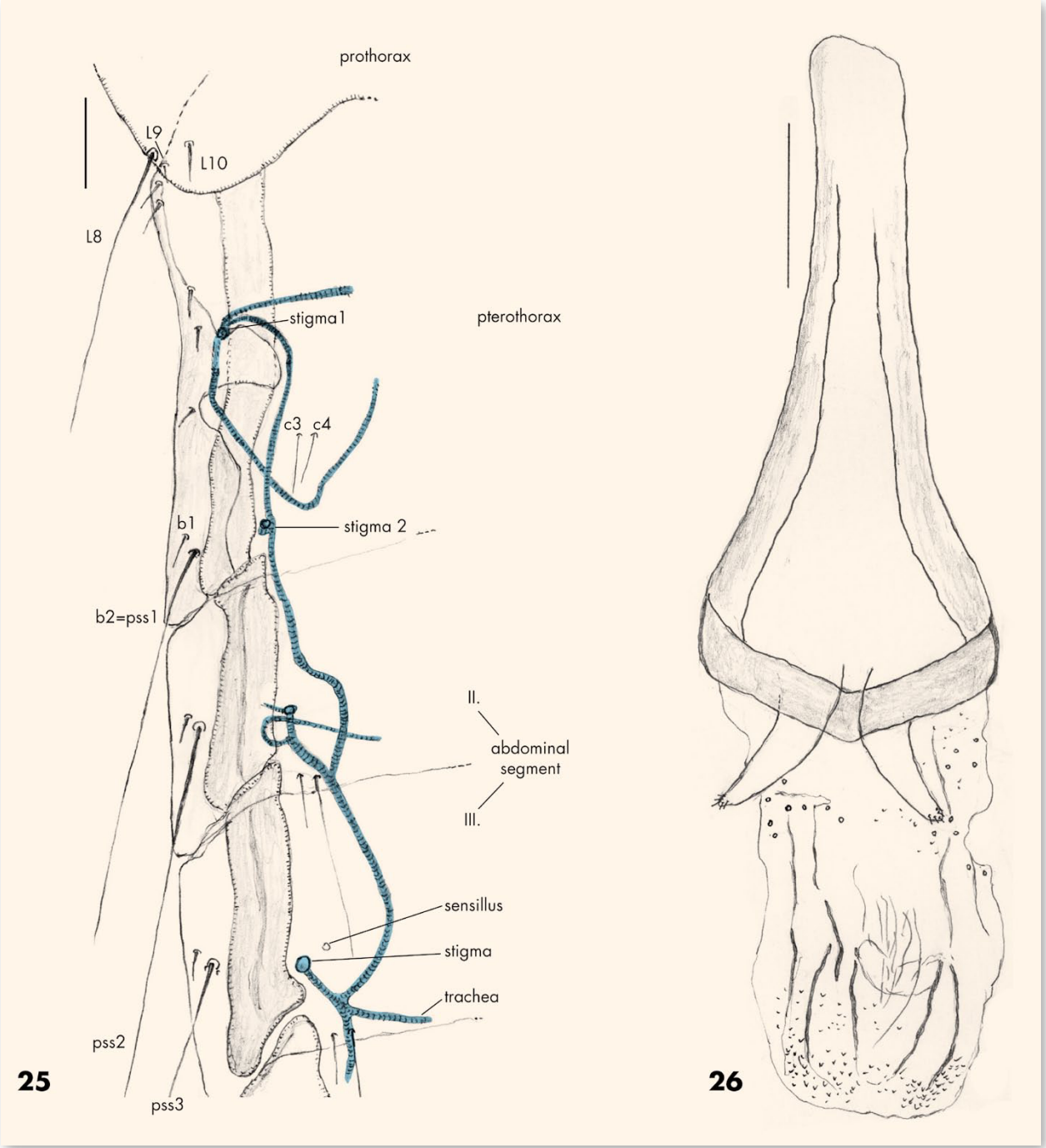


Fig. 24. *Ricinus fritzschulzei* sp. n., ♀. Occiput and Thorax (ventral; dorsal structures dashed). Scale 0.1 mm. – Abbreviations: **a 4-6**, dorsal temple setae; **b 1-2**, posterior margin pterothorax setae (b 2 = postspiracular seta 1); **c 1-4**, dorsal pterothoracic setae pairs; **d 3**, dorsal head seta; **Gu**, gula; **L 1-9**, lateral prothoracic setae; **pr 1-2**, dorsal prothoracic setae; **t 1-3**, long temple setae; **w 1-5**, anterior submarginal pterothorax setae; **st.pl.**, sternal plate of pterothorax; **Sti**, Stigma.

sensillae associated with the a 1 is relatively far apart (0.1 mm) (Fig. 20). Preantennal setae pair strongly spinose, inner seta larger than outer. On each side of antennal lappets 10-12 pilose gaping setae. Apices of temples hooked. Dorsal occipital lamella pronounced.

Thorax. Lateral prothorax setae (L series, Fig. 24): L 1 – 6 spinose, L 5 > L 4 & 6, L 7 macrochaete (extending to the posterior margin of the pronotum), L 8 > L 7, L 9 pilose. In ♂ L 6 is missing on both sides, and L 7 & 8 are formed as macrochaete on one side and as microchaete (< L 5) on the other. Distance between prosternal setae 0.068 mm. Pterothorax (fusion of meso- and metathorax with first abdominal segment) with two stigmata, but without sensillus (Fig. 25). The anterior stigma is not visible under the lateral nodus of the pterothorax. In the posterior corner of the pterothorax there is a pair of setae: postspiracularseta without associated tiny setae and with a short pilose seta anterolaterad. Dorsal lateral pterothorax setae (w series,



Figs. 25-26. *Ricinus fritzschulzei* sp. n. **25**: Pterothorax and abdominal segments II-III (of one side). Trachea and stigmata both in blue. Scale 0.1 mm. **26**: Erect genitals (partially reconstructed), ♂ (holotype). Scale 0.1 mm. – Abbreviations: **II-III**, second and third abdominal segments; **c 3-4**, posterior dorsal pterothoracic seta pair.

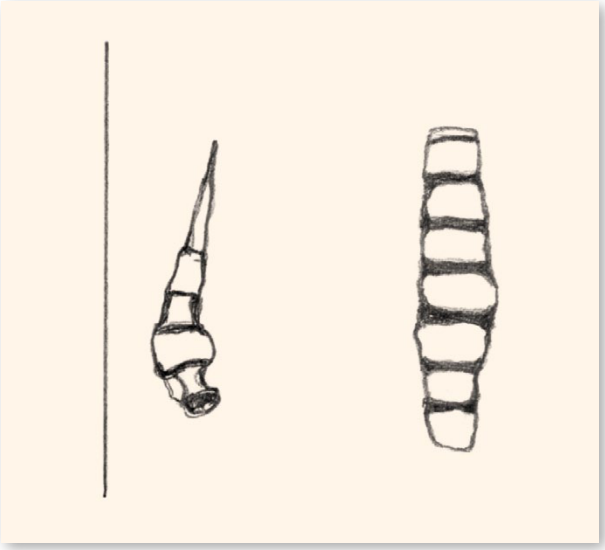
Fig. 24): w 1-2 close together, of equal size, slightly longer than other setae of the w series; w 3-4 of equal size, not close together, w 5 standing alone. Pterosternit each side with one short und two (at 1 ♀ on one side 2, on the other 3) long centrally positioned setae (Fig. 24).

Abdomen. Except for the dark brown pleurites the abdomen appears pale, strikingly colored plates are missing (Fig. 15-16). Segment II with as small stigma (without yard) as on pterothorax and without sensillus. Segment III-VIII each with larger stigmata (with yard) and with sensillus. Complete post-spiracular setal complex pleural on III-VIII Segment (Fig. 25). Ventropleural setae on each side: II-III, 3 spines of equal size; IV, 3 larger spines of unequal length; V, 1 macrochaete flanked by two spines of unequal size; VI-VII, 2 macrochaetes and 1 spine; VIII, 1 spine and 1 macrochaete (on VI-VIII as for *R. tinctus*). Vulva chaetotaxy: between two macrochaetes insert 3-5 mesochaetes (1x 3, 1x 4, 2x 5). Lateral tergal thickening (pleural ridges) slightly curved (much less than in *R. serratus*). Endsegment straight truncated. Male genital (Fig. 26) 0.44 mm length (without parameres) and 0.15 mm breath (mesosomalplate) (parameres and mesosome reconstructed).

Differential diagnosis: In comparison to all *Ricinus* species with three head nodi and monomorphic mandibles it shows the greatest similarity to *R. tinctus* HARRISON, 1916. This one was previously placed in the very heterogeneous *rubeculae* species group (RHEINWALD 1967). It seems opportune to assign both provisionally to a separate species group (*tinctus* group). This group is characterized by the following common features (partly with clear gradual differences): 1. Maxillary palpi genticuloid. 2. Aparte form of the mandibles (Fig. 22-23). 3. Head seta a 3 absent. 4. Gular plate with 2 x 2 bristles, 5. Structure of the male genitals. 6. Anal crown and vulva bristles of the ♀.

R. tinctus (total length ♂ 3.33, ♀ 3.84-4.44; abdominal width ♂ 0.87, ♀ 1.01-1.16; head length ♂ 0.74, ♀ 0.77-0.86; head width ♂ 0.66, ♀ 0.7-0.84 mm, dimensions according to RHEINWALD 1967) is clearly larger than *R. fritzschulzei* n. sp. (see Table 2). Side corners of the prosternite are not rounded as with *R. tinctus* (Fig. 24). *R. fritzschulzei* without sternal pigmentation marks on abdominal segments VI-VII, which however distinguish *R. tinctus*. In *R. tinctus*, m 1 and 2 of the same size stand together marginally, in *R. fritzschulzei*, m 1 sits submarginally, the slightly larger m 2 sits marginally away from it (Fig. 20). Sharpened parameres apical with 5 sensory bristles, in the case of *tinctus* apical only two on rounded parameres (Fig. 26). Unique for *R. fritzschulzei* is the combination of three well developed head nodi with two dorsal sensory nodi at the level of the tentorial nodus, which are as far apart as the associated microchaeta (a 1) (Fig. 20).

Derivatio nominis: The new species is dedicated to Prof. Dr. FRITZ SCHULZE, who did an extraordinary job in organizing and carrying out the zoological excursion undertaken in February 2003 at Maninjau Crater Lake in West Sumatra.



Figs. 27-28. Probably undeveloped *Trenomyces* sp. (Ascomycetes, Laboulbinales). **27**: ex *Ricinus fritzschulzei* sp. n. (left). **28**: ex *Sturnidoecus maninjaus* sp. n. (right). Scale 0.05 mm.

Biological notes on *R. fritzschulzei* sp. n.: One female (M. 4665. b) is gravid. The egg (1.38 mm long, 0.48 mm wide) occupies more than ¾ of the total length of the abdomen. It seems unlikely that a *Ricinus* female could be pregnant with more than one egg at the same time (as is sometimes seen especially in Ischnocera). Fine structures are not visible on the operculum.

At the edge of the head mediad under the occipital lamella of a female (M. 6467.) there is an apparently still immature specimen of an unknown Laboulbenia. It is 0.023 mm long and at the 4th limb the widest at 0.012 mm (Fig. 27). It is probably one of the few, if not the first evidence of this ectoparasitic ascomycetes group on *Ricinus*.

Type host of *Ricinus tinctus*: Is (1 ♂) on a skin of a Greater Coucal "*Centropus eurycerus*" [= *Centropus sinensis bubutus* HORSFIELD, 1821] from Sumatra recovered by E. PIAGET and described in 1880 under *Physostomum thoracicum*. Because of homonomy with *Physostomum thoracicum* PACKARD, 1870 the species was renamed *Ricinus tinctus* by HARRISON (1916). Since the host indicated by PIAGET (1880) is without doubt an error, RHEINWALD (1968: 284) felt compelled to search for the actual type host of *R. tinctus*. He found that *Ricinus* individuals (4 ♀) of (today) four Bulbul species (*Ixos mcclellandii* from Nepal, *Hypsipetes philippinus* and *H. guimarasensis* from the Philippines and *Phyllastrephus scandens* from Cameroon) available to him could be morphologically matched to the holotype (♂) of *R. tinctus*. By arbitrary determination he established *Pycnonotus zeylanicus* (J. F. GMELIN, 1789)

as type host of *R. tinctus*. He did this after he discovered that two species of bulbuls (*Pycnonotus goiavier* [= *P. a. analis*] and *P. zeylanicus*) were among the bird skins that SNELLEMAN (1887) had brought back from Sumatra and which PIAGET had examined. As far as these skins are still present in the Naturalis in Leiden, their examination would be useful at least for the presence of *Ricinus* eggs. This might make it possible to put the arbitrary type host determination of RHEINWALD (1968) on a truer basis, especially since CLAY (1972: 199) *R. tinctus* also reported ex *Alophoixus ochraceus* from Malaysia. Because of their size, *Ricinus* nits can be easily detected on skins, even though they may be well over 100 years old.

Remark to host association of *Ricinus* DE GEER: It is the first *Ricinus* record on the former songbird family Timaliidae (with 273 species; DICKINSON 2003), which meanwhile includes the Timaliidae (46 spp.), Pellorneidae (54 spp.) and Leiothrichidae (125 spp.) as well as other related groups (including Pnoepygidae, Vireonidae) are assigned (DICKINSON & CHRISTIDIS 2014, del HOYO & COLLAR 2016).

Systematic notes on Ricinidae: Not everything THERESA CLAY has created in her fantastic systematic taxonomic work is carved in stone. CLAY (1970) explains on page 82: "All the Amblycera have one pair of thoracic spiracles and six pairs of abdominal ones opening on segments III-VIII, with the exception of the Trimenoponidae and the Gliricolinae which have five pairs on segments III-VII." And on page 84: "There are no spiracles on segments I-II in any of the Phthiraptera …"[3] And it goes on to say: "Postspiracular setal complex each end of central tergites." According to CLAY (1970), this systematic feature is shared by Menoponidae, Boopidae, Laemobothriidae and Ricinidae. Without explicitly drawing attention to the fundamental difference of the Ricinidae in this feature, NELSON (1972: 25) states soberly: „In *Ricinus* the postspiracular setae are on the dorsal halves of the pleurites, somewhat removed from the spiracles. The spiracles and their associated sensilla are on the tergites of segments III through VIII. No spiracles occur on segment II, even though sensilla and postspiracular setae are present. Associated with each postspiracular seta is a short pilose seta anterolaterad to it." What NELSON (1972) calls sensilla on II. abdominal segment is in fact a stigma, and it applies equally to the apparent sensillum on the posterior part of the pterothorax. On the latter, there is another stigma in the anterior angle of the nodular thickening of the pleural ridge ventrally, the opening of which is difficult to detect on total specimens. But several well visible tracheal cords lead there. Both stigmata, thus on the one hand the one at the posterior end of the pterothorax and on the other hand the one on II. (= first visible) abdominal segment, are only half as large in diameter as the stigmas on III-VIII segment. Tracheal cords also lead to these, which make it appear certain that these are breathing orifices serving the exchange of gas.
We take note that: *Ricinus* has two stigmata on the pterothorax on each side: a ventral anterior stigma under the pleural crest and a dorsal posterior distad of the pleural crest. The third "new" stigma on the abdominal segment II is without accompanying sensillum and on the alveolus of the postspiracular seta the tiny setae pair is missing (which are otherwise present on III-VIII segments) (Fig. 25). Within the Amblycera this feature complex is a previously unrecognised autapomorphy of the Ricinidae *sensu stricto* (cf. MARSHALL 2003). To what extent it could also be peculiar to Trochiloecetidae (with *Trochiloecetes* CARRIKER and *Trochiliphagus* CARRIKER) remains to be examined.

Class Insecta – superorder Psocodea – order Phthiraptera HAECKEL, 1864 – suborder Ischnocera KELLOGG, 1896 – family Philopteridae BURMEISTER *sensu lato*

Tab. 3: Body measurements (mm) and head index (occiput width divided by head length) of *Sturnidoecus maninjaus* spec. nov. (Ischnocera, Philopteridae s. l.) ex *Ploecus philippinus infortunatus* E. Hartert (Passeriformes, Ploceidae).

	slide: 4646. a	4670. a	c (above)	c (center)	c (below)	4646. b	4646. c	d (right)	d (left)	4670. a	b (right)	b (left)
	holo-type	paratypes										
	males (n = 5)					females (n = 7)						
Total length	1.27	1.26	1.23	1.2	1,16	1.41	1.51	1.32	1.5	1.47	1.44	1.38
Head length	0.45	0.43	0.44	0.43	0.43	0.49	0.49	0.49	0.48	0.47	0.48	0.48
Forehead width	0.33	0.31	0.32	0.32	0.31	0.35	0.38	0.36	0.35	0.35	0.36	0.35
Occiput width	0.49	0.43	0.44	0.43	0.43	0.49	0,5	0.48	0.49	0.48	0.49	0.48
Head index	0.97	1	1	1	1	1	0.98	1.02	0.98	0.98	0.98	1
Prothoracic width	0.26	0.25	0.24	0.24	0.24	0.29	0,29	0.27	0.27	0.26	0.26	0.26
Mesometathoracic width	0.39	0.39	0.38	0.38	0.36	0.42	0.42	0.41	0.42	0.4	0.41	0.41
Abdominal width	0.57	0.57	0.54	0.55	0.56	0.64	0.65	0.57	0.6	0,6	0.64	0.6

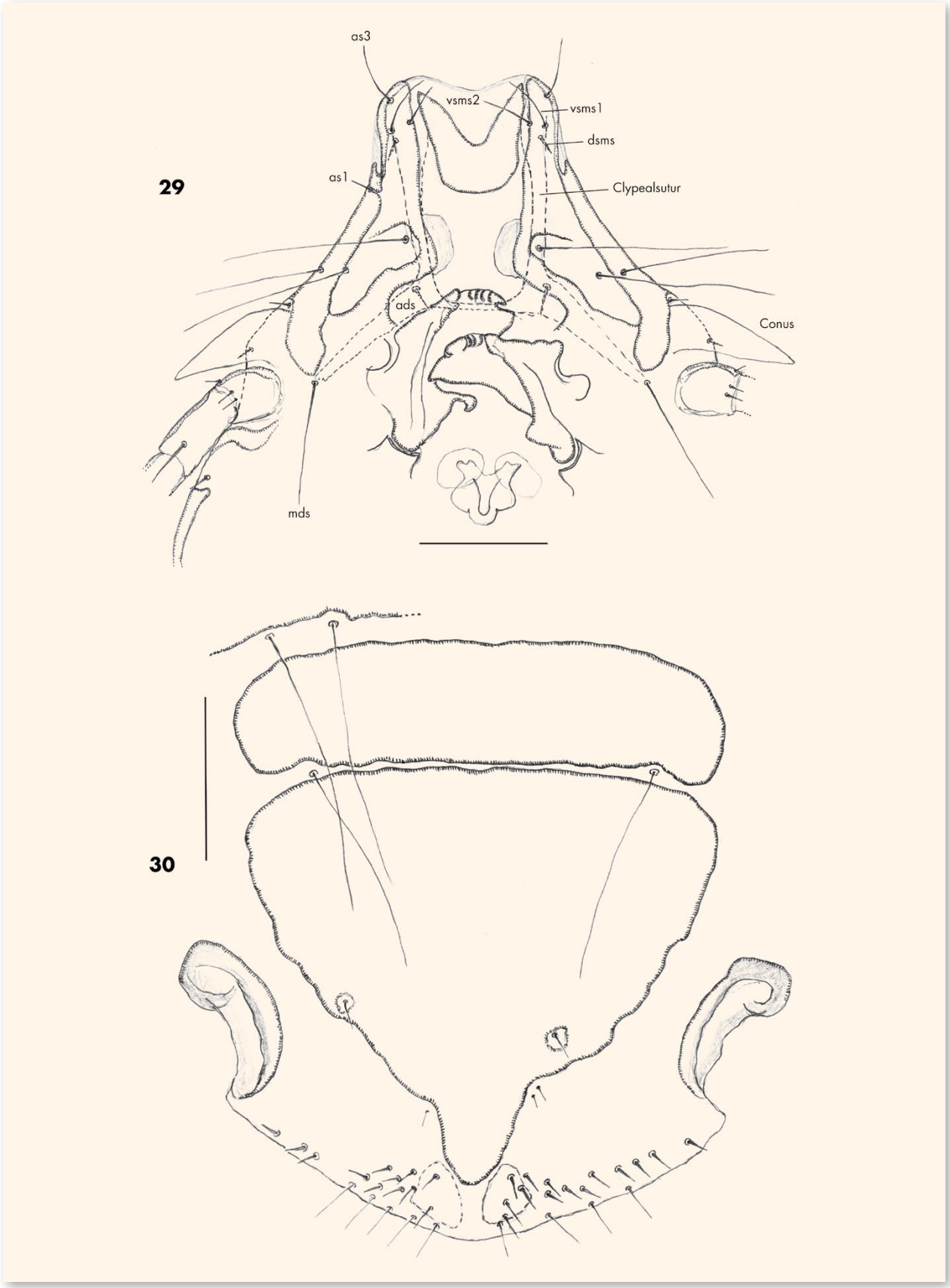
Sturnidoecus maninjaus spec. nov. (Table 3, Figures 17-18, 29-33)
Type host: *Ploceus philippinus infortunatus* E. HARTERT, 1902.
Material: 5 ♂, 7 ♀, 2 larvae from two adult host individuals of *P. p. infortunatus*, namely **1.** 1 ♂, 4 ♀ (M. 4646. a-d; no. 74 in tab. 1), February 21, 2003 Bajor (approx. 460 m above sea level), on the Maninjau crater lake, province of Sumatra Barat (West). – **2.** 4 ♂, 3 ♀, 2 larvae (M. 4670. a-c: no. 61 in Tab. 1) same data. All leg. E. MEY.
Holotypus ♂ (M. 4646. a) and 11 paratypes in Natural Science Collections, Martin Luther University Halle-Wittenberg in Halle (Saale), Germany.

Description – Habitus as in Figures 17-18. See Table 2 for body measurements. **Head:** Of the frontal clypeus setae as 3, vsms 1 and 2 are relatively long, while the dsms reach only one third of their length (Fig. 29). The as 2 is absent, while the as 1, as a tiny seta with a seta channel in the marginal carina, is hardly visible. Only at one ♀ is the as 1 actually absent, but only on one side of the head (Fig. 29). Anterior of the as 1 bends the narrowing clypealcarina ventro-proximad slightly, to be completely marginal again at about the level of vsms 1 up to the clypealhyaline. This results in the small but striking wedge-shaped hyaline section in the clypealcarina, which, however, does not cause a real division into premarginal and postmarginal carina, but is to be regarded as a functional-morphological modification (with regard to mobility of the anterior tip of the head) at this point of the clypealcarina. Slightly curved conus completely hyaline, significantly longer than scapus (Fig. 29). Of the marginal temporal setae (mts 1-5), only mts 3 is a macrochaete that extends to the posterior margin of the mesometanotum.
Thorax: Pronotal seta reaches over the posterior edge of the mesometanotum. Posterior-marginal at the mesometanotum (without consideration of trichobothrium and accompanying spine) at ♂ 16-20, at ♀ 16-22 meso- and macrochaetes. Mesosternum with 2 (♂) or 2-3 (♀), metasternum with 4-5 (♂, ♀) setae.
Abdomen: Except for the pleural vertebrae (or pleural nodi), the mediadally rounded tergites, which end clearly before the middle of the body, are much brighter than the sternal plates III-VI and subgenital plates (Figs. 17-18). Tergopleurite IX of the ♂ outer margin two-headed. Number of macrochaetes on tergopleurites: II, 11-14 (♂ and ♀); III, 12-16 (♂) or 14-17 (♀); IV, 16-18 (♂) or 14-17 (♀); V, 13-16 (♀) or 16-18 (♂); VI, 12-15 (♂) or 13-17 (♀); VII, 13-14 (♂) or 13-15 (♀); VIII, 9-12 (♂) or 11-14 (♀); IX, 13-15 (♂) or 7-9 (♀). Segment II-III without pleural seta. Number of macrochaete on each side pleural to pleurosternal on the segments at ♂ and ♀: IV, 3-4; V, 3-5; VI, 4-5; VII, 3-4; VIII, 3 (without trichobothrium); IX, 2 (♂) or 6-8 (♀) (same number of seta on each side or one bristle less or more on only one side). Except subgenital plate only 4 broad, laterally mostly rounded off sternites on segments III-VI. Sternite on segment II is completely missing on ♂ and ♀ (Figs. 31-32), but most of the setae are located posterior-marginally: II, 7-9 (♂) or 7-10 (♀); III, 4-6 (♂) or 6-9 (♀); IV, 2 (♂) or 3-6 (♀); V, 2 (♂) or 2-4 (♀); VI, 2 each (♂ and ♀).
Genitals of the ♂ (Fig. 33) 0.27-0.30 mm long, basal plate 0.1-0.16 mm wide and 0.11-0.18 mm long, parameres 0.1-0.11 mm long. Hypandrium (Fig. 31) and hypogynium (Fig. 32) of prominent shape. On one ♀ some setae (5 or 4 on each side) of the flanges flanking the subgenital plate are missing, but on each side a stronger one with a yard sits directly on it (Fig. 30). Strongly pigmented rounded triangular plate pair in the genital chamber of ♀ (at the posterior end of the hypogynium) (Figs. 18, 30). Anal cone of ♂ with 12-13 macrochaetes (10-11 dorsal, 2 ventral).

Differential diagnosis[4]: Compared to the 6-8 African *Sturnidoecus* forms (see GUSTAFSSON & BUSH 2017: 239) of *Ploceus* spp., the Asian *S. maninjaus* sp. n., which is habitually very similar to them, is characterized by these features. 1. In the mesosoma of the male genitals the 2 anterior and 3 posterior bristles are of equal size and relatively long (Fig. 33). 2. The II. central abdominal sternite is completely absent in ♂ and ♀ of *maninjaus*, in the species of *basilewskyi*-group, it is present although both groups have a number of maximally approx. 10 posterior-marginal setae (Figs. 31-32). However, the photos of TENDEIRO (1963: 25) show that with *S. basilewskyi minor* (♀; but not with ♂ and ♀ of the nominatform) the sternites II-III, with *S. lopesi* (♂) even II-IV can be missing. 3. The abdominal sternites III-VI of ♂ and ♀ are more than twice as large in *maninjaus*- as in the *basilewskyi* group (Figs. 31-32). 4. Hypandrium and hypogynium are larger in *maninjaus* and have a shorter part of the tongue than the same in their African relatives (Figs. 30-32). It seems justified to assign *S. maninjaus* to a separate species group.
The two other recently described *Sturnidoecus* species of African ploceids (*Quelea quelea* and *Euplectes hordeaceus*) each represent a monotypic group of species for the time being and are apparently quite distant from the *basilewskyi* group (see GUSTAFSSON & BUSH 2017: 239 ff.).[5] However, their subgenital plates are quite similar to those of *S. maninjaus* sp. n.

Derivatio nominis: Lake Maninjau meaning „overlook" or „observation" in the Minangkabau language. Grammatically, "*maninjaus*" is masculine.

Biological notes on *Sturnidoecus maninjaus* sp. n.: Of the 14 individuals, only one ♀ (M. 4670.b, left) has an immature specimen of a probably unknown Laboulbenia median on its mesometathorax (Fig. 28). It measures 0.034 mm in length and a maximum of 0.011 mm in width. From *Sturnidoecus sturni* (SCHRANK, 1776) *Trenomyces helveticus* EICHLER, 1951 has been described from Cen-



Figs. 29-30. *Sturnidoecus maninjaus* sp. n., ♀. **29**: Fore head (ventral; dorsal structures dashed). Scale 0.1 mm. **30**: abdominal sternit VI and subgenital plate (hypogynium). Scale 0.1 mm. – Abbreviations: **as 1** and **3**, marginal setae 1 and 3; **ads**, anterior dorsal seta; **Cs**, clypeal suture; **dsms**, dorsal submarginal seta; **mds**, mandibular seta; **vsms 1** and **2**, ventral submarginal setae.

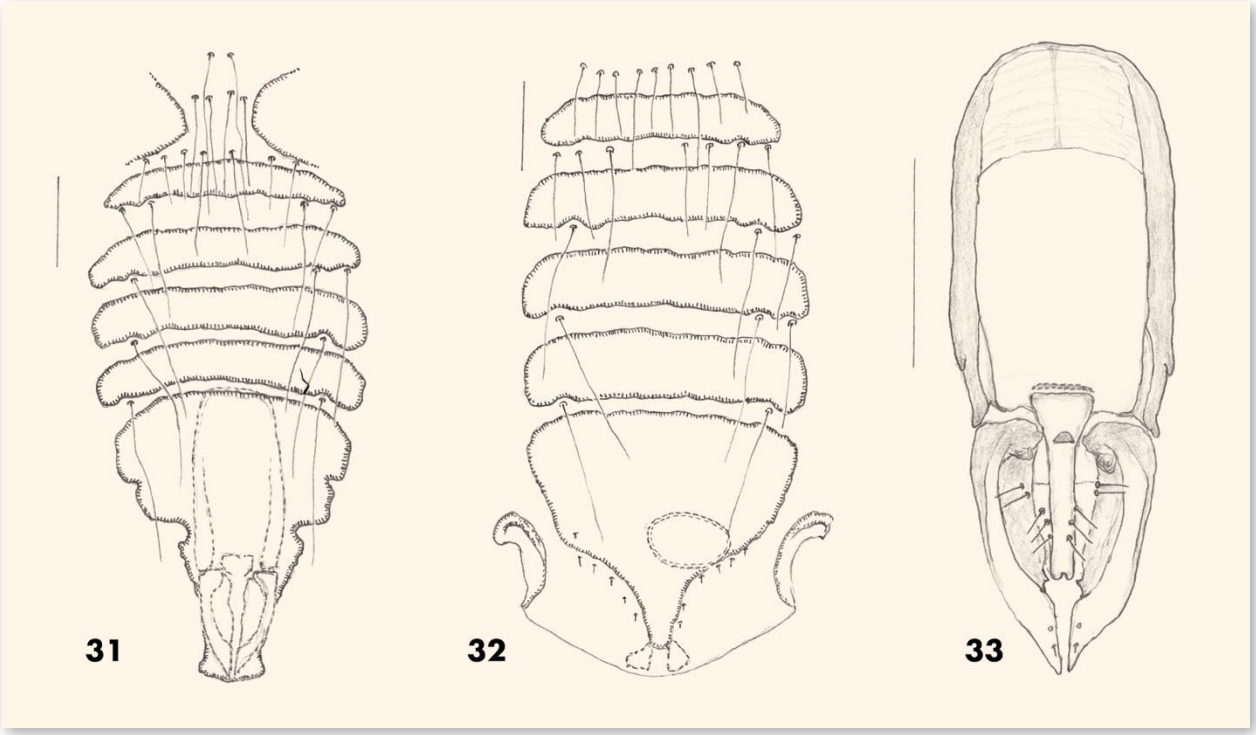
tral Europe. In their material survey GUSTAFSSON & BUSH (2017: 244) refer to the slide "437 [b]" from the Eichler collection, but fail to state correctly that it is the holotype of the mentioned *Trenomyces* species (see EICHLER 1951).

Remarks on head chaetotaxy of Ischnocera: GUSTAFSSON & BUSH (2017) have problems with the correct assignment of the clypeal marginal setae as 1-3 in *Sturnidoecus* EICHLER, 1944, *Rostrinirmus* ZŁOTORZYCKA, 1964, and the genera *Schizosairhynchus* and *Buphagoecus* (and also other genera) newly established by them. It is correct that in all the genera mentioned here the as 2 is always missing, while the as 3 is always present. Only in *Rostrinirmus* not only the as 2 but also the as 1 cannot be detected.
As a principle can be applied to philopterids: The as 1 is the posterior, the as 2 the middle and the as 3 the anterior seta on the clypealcarina (= plesiomorphy) (Fig. 29). Their position is relatively constant in the context of other Clypeus setae and easy to determine after modifications have been made to the forehead. At the point where the clypeal carina separates into a premarginal and a postmarginal section, the as 2 can fall victim to reduction in the *Brueelia* complex. In contrast, the dsms (dorsal submarginal seta), which is otherwise "associated" with it, is always retained.

***Sturnidoecus* spp. ex Ploceidae**: From the Weavers family, only African representatives of *Sturnidoecus* species are known so far.[6] The first were described by TENDEIRO (1963, 1964). They were first nomenclatically correctly treated by LEGDER (1980: 145). PRICE et al. (2003: 242 f.), however, take a different view by not accepting the *S. b. basileweskyi* and *S. basilewskyi minor* nomenclatically validly described by TENDEIRO (1963), since the former were described by TENDEIRO in 1964 as "n. sp.", the latter however was formally introduced in 1963 as "n. subsp.". Therefore, *S. basilewskyi* must be a synonym of *S. minor*. GUSTAFSSON & BUSH (2017) correct this view, but erroneously following PRICE et al. (2003) overlook the fact that *S. textoris* was already validly described in 1963 (not 1964). They list 6 species (*S. lopesi* TENDEIRO and *S. basilewskyi minor* TENDEIRO are synonymous with *S. basilewskyi*), which they group together according to morphological characteristics of the male genitalia in the *basilewskyi* group. Newly described by GUSTAFSSON & BUSH (2017) are two *Sturnidoecus* species: *mon* ex *Euplectes h. hordeaceus* (LINNAEUS, 1758) and *somnodraco* ex *Quelea q. quelea* (LINNAEUS, 1758).

6. Notes on the animal louse fauna of Sumatra

There is no current overview of known animal lice (Phthiraptera) for Sumatra. However, more than a thousand species can be expected, yet only a few hundred may have been scientifically investigated so far. Among others, PIAGET (1880), SNELLEMAN (1887) and EICHLER (1947) have described and/or mentioned a number of species. It is not up to us to provide an inventory of Su-



Figs. 31-33. *Sturnidoecus maninjaus* sp. n. **31**: meso- and metasternal setae, sternits and subgenital plate, ♂. **32**: sternits and subgenital plate (without setae on vulval margin), ♀. **33**: genitalia, ♂. Scale 0.1 mm.

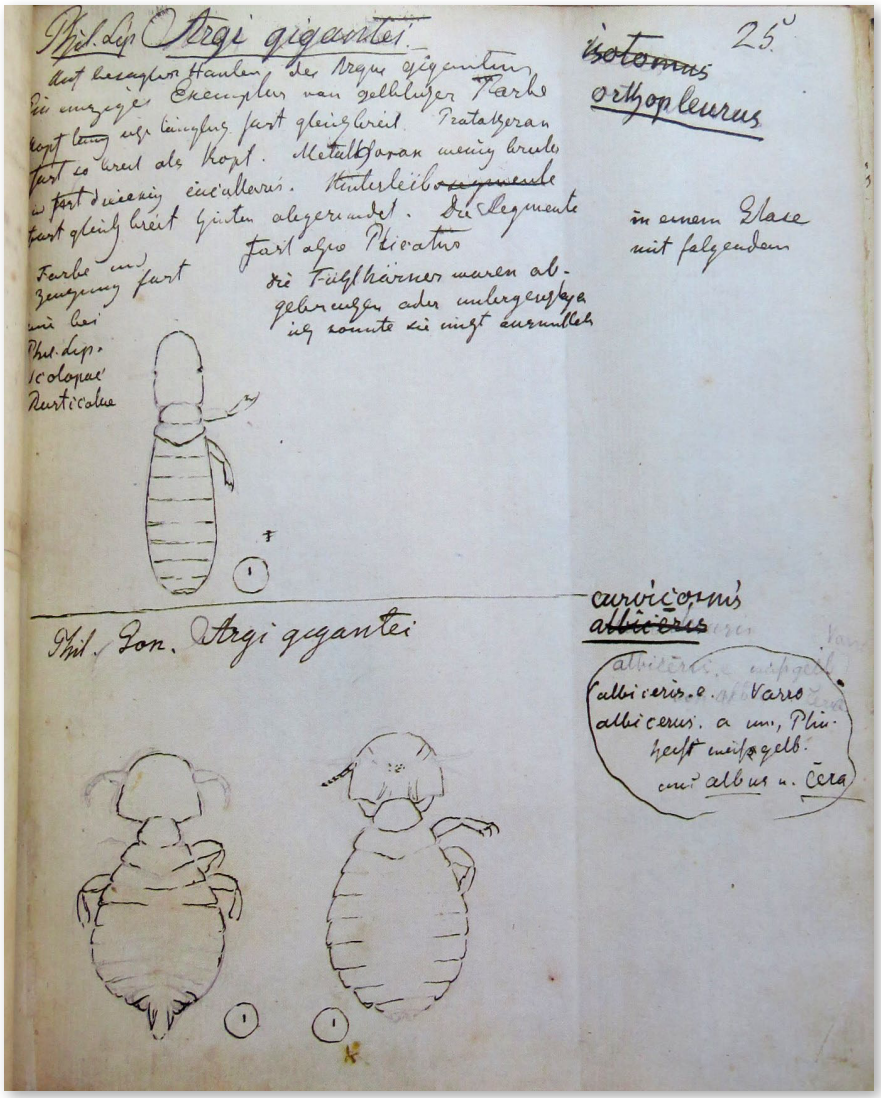


Fig. 34. In 1836 C. L. NITZSCH had collected a female of *Lipeurus orthopleurus* and a pair of *Goniodes curvicornis*, described them and kept them in an alcohol tube. Although GIEBEL (1874: 217) reported that the *orthopleurus*-♀ was no longer there, TASCHENBERG (1882: 32) found it with the remaining ♂ of *Goniodes curvicornis*. But he erred in considering both individuals, whom he described in detail, to be conspecific. With Nitzsch's original description in mind, this mistake could have been avoided. This was not recognized and continued by KÉLER (1940) and EICHLER (1947). It was not until HOPKINS (1947) that the facts became clear. From Nitzsch's Epizoographische Adversarien V (1835-1837), p. 25 (manuscript), University and State Library Sachsen-Anhalt in Halle (Saale), RAR B 273.

matran animal lice here. Therefore, we refrain from going into the faunistic classification of our findings, many of which are probably the first evidence for Sumatra. Nevertheless, we do not want to abstain from correcting two old statements.

● The type host of "*Nirmus sexmaculatus* PIAGET, 1880" [= *Brueelia sexmaculata* (PIAGET, 1880)] and of "*Docophorus trabecula* PIAGET, 1880" [= *Philopterus trabeculus* (PIAGET, 1880)] is the Greater Racket-tailed Drongo *Dicrurus paradiseus platurus* VIEILLOT, 1817.
Both HOPKINS & CLAY (1952) and PRICE et al. (2003) erroneously state "*Dicrurus remifer* (TEMMINCK)" (Lesser Racket-tailed Drongo) as type host for both philopterids. In the case of *Philopterus*, the error goes back to HARRISON (1916: 105), who may have thought that PIAGET's "*retifer*" was a spelling mistake of "*remifer*". While he (HARRISON 1916: 123) correctly retained "*retifer*" in the case of *Brueelia*, HOPKINS & CLAY (1952: 61) erroneously turned PIAGET's "*Dicrurus retifer*" into "*Bhringa r. remifer* (TEMMINCK)". They were also followed by GUSTAFSSON & BUSH (2017). According to VAURIE (1949: 324 f.) "*Dicrurus retifer*" is a synonym of *Dicrurus p. paradiseus* (LINNAEUS, 1766). However, in Sumatra not the nominate form but *Dicrurus paradisaeus platurus* (VIEILLOT) occurs (DICKINSON & CHRISTIDIS 2014, del HOYO & COLLAR 2016). The type host of *Brueelia sexmaculata* (PIAGET) and of *Philopterus trabeculus* (PIAGET) had been indicated by SNELLEMAN (1887: 54) as "*Dicrurus paradisaeus*" and that it originates from Sumatra was also made clear.[7] PIAGET (1880) does not tell us anything about its geographical origin.

● "*Goniodes argus* EICHLER, 1947" ex *Argusianus argus* (LINNAEUS) (probably from Sumatra) is an absolute synonym of *Goniodes curvicornis* NITZSCH in GIEBEL, 1874 by the same host species.
In his handwritten Adversaries V (1835-1837), p. 25, C. L. NITZSCH described two species of feather lice that he had collected from a skin of a Great Argus (Fig. 34). Their descriptions was published by GIEBEL: *Goniodes curvicornis* NITZSCH in GIEBEL, 1866 and *Lipeurus orthopleurus* NITZSCH in GIEBEL, 1874. TASCHENBERG (1882: 32, 170) considered the *orthopleurus*-♀ to be the ♀ of *curvicornis*, even though he was not entirely convinced of it. KÉLER (1940) did the same, only that he placed both of them conspecifically in his new genus *Pachysklerotes*. When HOPKINS (1947) (see also CLAY 1947) reported in detail the erroneous classifications of TASCHENBERG l. c., KELLOGG & PAINE (1914) and KÉLER l. c., EICHLER (1947) with his "*Goniodes argus*" again entered the old confusion about *Goniodes curvicornis* and

Pachysklerotes orthopleurus. This has been concealed by HOPKINS & CLAY (1952: 150) and PRICE et al. (2013: 183), as they accept the species status of *G. argus*. According to my abundant material, "*Goniodes argus* EICHLER" is nothing else than *Goniodes curvicornis* NITZSCH in GIEBEL. This will be discussed again in a later contribution.

Footnotes

(1) The special exhibition took place from February 14 to April 16, 1998 in the so-called court kitchen in the Thuringian State Museum Heidecksburg in Rudolstadt and was curated there by the Natural History Museum. The following were involved with loans and other support and assistance: the Friedrich Schiller University of Jena (Oriental Linguistics, Thuringian State and University Library, ressort Culture), the Embassy of the Republic of Indonesia in Bonn, the Museum of Ethnology in Leipzig, Dr. ROLAND GARVE from Lüneburg, Dr.-Ing. RALF LASCHIMKE from Straßberg, the Saxon State and University Library Dresden (Book Museum, German Photo Library) and the Weimar Classic Foundation (Goethe and Schiller Archives Weimar, Duchess Anna Amalia Library). The joint exhibition was under the patronage of His Excellency IZHAR IBRAHIM, Ambassador of the Republic of Indonesia to Germany. More than 400 people attended the opening event. The exhibition was visited by well over ten thousand visitors. Five evening lectures during the exhibition were enthusiastically received by the audience: "Living with ancestors and spirits – Indonesian tribal religion today" (D. GRUNDMANN, Leipzig), "Nature conservation in Indonesia – 30 years of WWF work" (M. ARGELOO, Zeist, NL), "Goethe's diverse relationships with "Indonesia ‘" (R. CARSTENS, Jena) and "Expeditions to the indigenous people in the unexplored highlands of Irian Jaya in the Indonesian part of New Guinea" (R. LASCHIMKE, Straßberg Castle). The volume "Contributions to the Cultural and Natural History of Indonesia", published in Rudolstadt in 1999, put a conclusion to these museum events. Finally, it should not go unmentioned that FRITZ and Dr. HOLGER WARNK won over for the idea of holding a mini symposium in the Natural History Museum of the Heideckburg Castle in 2012. The theme was "Birds in the Malay Archipelago: Ornithological and Cultural History Studies". Three of the five contributions have been published (HOSSFELD 2014, SCHULZE 2014, SCHULZE & MEY 2014).

(2) The project, which at the time was under the subject „Untersuchung des Mallophagen-Befalls bei lebenden Vögeln im immergrünen tropischen Regenwald von Sumatra", was financially supported in 2003 by the "Deutsche Ornithologen-Gesellschaft e.V."

(3) This finding is also no longer valid for the bird Ischocera. Many philopterids have "scarred" stigmas on the abdominal segment II. They have apparently not become functionless in many groups, as it could be proven for example in the case of *Strigiphilus splendens* (GIEBEL) (MEY 1995).

(4) According to descriptions by TENDEIRO (1963, 1964) and GUSTAFSSON & BUSH (2017) as well as 2 ♂, 5 ♀ (M. 6515. – 6518.) of an undescribed *Sturnidoecus* species of the *basilewskyi* group (ex 4 skins of *Ploceus r. rubiginosus* RÜPPELL, 1840: 15.-24.4.1964 Arusha, Tanzania; coll. Zoological Museum of the University of Zurich, leg. E. MEY).

(5) It is noticeable that quite a few of the statements "new synonymy", "new combination" and/or "new host record" highlighted in bold in GUSTAFSSON & BUSH (2017) are incorrect, i.e. not new. We would like to refer explicitly only to p. 239, where *Sturnidoecus basilewskyi minor* TENDEIRO has been marked with "new synonymy" by these authors (see LEDGER 1980: 145). MEY & BARKER (2014: 93, footnote 5) have already expressly referred to the species described by M. A. R. ANSARI "erroneously" in *Sturnidoecus*, which actually belong to *Penenirmus* or *Philopterus* (see GUSTAFSSON & BUSH 2017: 237 and 321).

(6) The Ploceidae have their absolute distribution centre in the Aethiopis, namely according to DICKINSON & CHRISTIDIS (2013) with 111 of a total of 115 species and according to del HOYO & COLLAR (2014) with 119 of a total of 124 species. Only 4 resp. 5 species of weavers occur in the Orientalis.

(7) It is to SNELLEMAN's (1887) credit that he compiled the feather lice collected by E. PIAGET from skins in Leiden by name, which came from the 1874 Sumatra expedition. This contribution was erroneously attributed by CLAY (1957), PRICE & BEER (1963), RHEINWALD (1968) and PRICE et al. (2003) to the authorship of P. J. VETH. 25 species (7 Amblycera, 17 Ischnocera, 1 Anoplura) are listed by SNELLEMAN l. c., who, after comparison with PIAGET (1880), points to quite a few contradictory and questionable dates of origin for the latter. This will have to be discussed in a later article.

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Addendum

Fig. 35: *Alcedo m. meninting* ♀ (no. 50, see Table 1).

Fig. 36: *Todiramphus chloris laubmanniacus* (no. 80, see Table 1).