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LXIII.—A List of the Type-hosts of the Mallophaga and the Lice described from them.* By GORDON B. THOMPSON.

[Continued from Ann. & Mag. Nat. Hist. p. 382, vol. xii. 1950.]

Order PICIFORMES.

Suborder GALBULÆ.

Superfamily GALBULOIDEA.

Family Galbulidæ.

991. *Galbula ruficauda* Cuvier.
Menacanthus caudatus (Giebel), 1876. On *Galbula ruficauda*, no locality.

* It must be borne in mind when using this list that the type-hosts of the various species of Mallophaga are not fixed but only listed.

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Superfamily CAPITONOIDEA.

Family Capitonidæ.

992. *Megalaima corvina* (Temminck).
Penenirmus limbatus (Piaget), 1885. On *Megalaima corvina*.
993. *Lybius rolleti* (Defilippi).
Menacanthus germanus (Piaget), 1880. On *Pogonorrhynchus rolleti*, Leyden Museum.

Superfamily RAMPHASTOIDEA.

Family Rhamphastidæ.

994. *Aulacorhynchus prasinus atrogularis* (Sturm).
Austrophilopterus truncatus (Piaget), 1888. On *Aulacorhynchus rubrogularis*, Trouessart Coll.
Brüelia laticeps (Piaget), 1888. Same data.
995. *Ramphastos sulfuratus brevicarinatus* Gould.
Austrophilopterus cancellosus (Carriker), 1902. On *Ramphastos tocard* from Pozo Azul, Costa Rica.
Brüelia rhamphasti (Carriker), 1902. Same data.
996. *Ramphastos* ? sp. (probably *swainsonii* Gould).
Menacanthus balfouri Waterston, 1915. On "black and yellow-billed Toucan" (probably *Ramphastos tocard* Vieill.) from Colombia.
Myrsidea victrix Waterston, 1915. Same data.
997. ? Toucan.
Brüelia nesiotis (Kellogg and Mann), 1912. ? Straggler on "*Hæmatopus bachmani*" from San Martin Island, Baja California.

Suborder PICI.

Family Picidæ.

Subfamily JYNGINÆ.

998. *Jynx torquilla* Linn.
Penenirmus serrilimbus (Burmeister), 1838. On *Jynx torquilla*.

Subfamily PICINÆ.

999. *Colaptes cafer* (Gmelin).
Sæmundssonina cephalosus (Carriker), 1902. Straggler. On *Colaptes cafer* (Red-shafted Flicker) from Lincoln, Nebraska, U.S.A.

1000. *Colaptes auratus* (Linn.).
Menacanthus colaptis Durrant, 1908. On *Colaptes auratus* from Columbus, Ohio, U.S.A.
Penenirmus alienus (Kellogg), 1896. On *Colaptes auratus* (Yellow-shafted Flicker) from Lawrence, Kansas, U.S.A.
Penenirmus auritus (Children), 1836 (*nec* Scopoli, 1763). On *Picus auratus* from Arctic Canada.
Penenirmus jungens (Kellogg), 1896. On *Colaptes auratus* (Flicker) from Lawrence, Kansas, U.S.A.
1001. ?*Colaptes* sp.
Picicola mississippiensis (McGregor), 1917. On "Flicker" from Hamburg, Miss., U.S.A.
1002. *Campethera abingoni mombassica* (Fischer and Reichenow).
Picicola campethera Clay and Meinertzhagen, 1938. On *Campethera abingoni mombassicus* from Amani, Tanganyika.
1003. *Picus viridis* (pluvius) Hartert.
Menacanthus pici (Denny), 1842. On *Picus viridis* (Green Woodpecker) from Cambridgeshire and Norfolk, England.
1004. *Picus viridis* Linn.
Penenirmus pici (Fabricius), 1798. On *Picus viridis*.
Penenirmus scalaris (Burmeister), 1838 (part; see 1012). On *Picus viridis*.
1005. *Picus squamatus squamatus* Vigors.
Penenirmus tuktola (Ansari), 1947. On *Picus s. squamatus* Vigors (Himalayan Scaly-bellied Woodpecker) from Kulu, Punjab.
1006. *Picus flavinucha* Gould.
Penenirmus macrotrichus (Kolenati), 1859. On *Chrysophlegma flavinucha*.
1007. *Dryocopus martius* (Linn.).
Myrsidea inaequalis (Burmeister), 1838. On *Picus martius*.
Penenirmus auritus (Scopoli), 1763 (part; see 1012). On *Picus martius* from Carniola, Yugoslavia.
Penenirmus pici (Schrank), 1803 (*nec* *Pediculus pici* Fabricius, 1798). On "Schwarzspechte".

- Degeeriella heteroscelis* (Nitzsch), 1866. On *Picus martius*.
1008. *Dryocopus pileatus* (Linn.).
Picicola marginatulus (Harrison), 1916 (*nom. nov.* for *Nirmus marginatus* Osborn, 1896). On *Ceophloeus pileatus*, Burnett Collection.
1009. *Melanerpes formicivorus bairdi* Ridgway.
Penenirmus californiensis (Kellogg), 1896. On *Melanerpes formicivorus bairdi* from Palo Alto, California.
1010. *Melanerpes hypopolius uropygialis* (Baird).
Menacanthus præcursor (Kellogg), 1899. On *Melanerpes uropygialis* (Gila Woodpecker) from Baja, California.
1011. *Melanerpes aurifrons hoffmannii* (Cabanis).
Menacanthus (*præcursor* var.) *meridionalis* (Carriker), 1903. On *Melanerpes aurifrons hoffmanni*, from Juan Vinas, Costa Rica (and stragglers on *Odontophorus leucolæmus* from Irazu, Costa Rica).
1012. *Dendrocopos major* (Linn.).
Penenirmus auritus (Scopoli), 1763 (part: see 1007).
On *Picus major* from Carniola, Yugoslavia.
Penenirmus scalaris (Burmeister), 1839 (part: see 1004). On *Picus canus*.
Penenirmus superciliosus (Burmeister), 1839. On *Picus major*.
Picicola candidus (Nitzsch), 1866. On *Picus canus*.
1013. *Dendrocopos major anglicus* (Hartert).
Brüelia straminea (Denny), 1842. On *Picus major* * (Great Spotted Woodpecker) from England.
1014. *Dendrocopos major poelzami* (Bogdanov).
Brüelia sublucida (Blagoveshtchensky), 1940. On *Dryobates major poelzami* Bogd. from Alexeyeka, Azerbaijan.
1015. *Dendrocopos assimilis* (Blyth).
Picicola præposterus Clay and Meinertzhagen, 1938. On *Dryobates sindeanus* (sic) from Peshawar, India.

* Type-host fixed by Thompson, 1937, p. 80.

1016. *Dendrocopos pubescens* (Linn.).
Menacanthus hirsutus Carriker, 1910. On *Dryobates pubescens* from Huron Co., Michigan, U.S.A.
Penenirmus evagens (Kellogg), 1896. On *Dryobates pubescens* (Downy Woodpecker) from Lawrence, Kansas, U.S.A.
1017. *Dendrocopos pubescens gairdnerii* (Audubon).
Myrsidea funerea (Kellogg and Chapman), 1899.*
 On *Dryobates pubescens gairdnerii* (Gairdner's Woodpecker) from Sunol, California.
1018. *Dendrocopos nuttallii* (Gambel).
Philopterus singularis (Kellogg and Chapman), 1899.
 On *Dryobates nuttallii* (Nuttall's Woodpecker) from Ione, California.
1019. *Picoides tridactylus crissoleucus* (Reichenbach).
Ricinus maculatus (Piaget), † 1885. On *Apternus crissoleucus*, Leyden Museum.
1020. *Picoides tridactylus dorsalis* Baird.
Menacanthus picicola (Packard), 1872 (part: see 1021). On *Picoides dorsalis* from Lower Geyser Basin, Wyoming Territory, U.S.A.
1021. *Picoides arcticus* (Swainson).
Menacanthus picicola (Packard), 1872 (part: see 1020). On *Picoides arcticus* from Lower Geyser Basin, Wyoming Territory, U.S.A.
1022. *Thripas namaquus namaquus* (A. Lichtenstein).
Picicola thripas Clay and Meinertzhagen, 1938. On *Thripas namaquus namaquus* from Kenya.
1023. *Phloeocastes melanoleucos* (Gmelin).
Menacanthus exsanguis (Paine and Mann), 1913. On *Campophilus melanoleucus* Gm. from Rio Nhamunda Brazil.
1024. ???
Penenirmus maculipes (Piaget), 1880. On "Picus" from "Bangka".

* Straggler from Passerine, probably Blue Jay.

† Straggler from Passerine.

LXIV.—Note on the Fishes of the genus *Antigonia* (Caproidæ).
 By A. FRASER-BRUNNER, Associate, British Museum
 (Natural History).

A NUMBER of species of *Antigonia* have been proposed from time to time, of which five appear to me to be acceptable on the basis of published data and the specimens available to me. These are *Antigonia capros*, *A. browni*, *A. eos*, *A. rubicunda* and *A. rubescens*. All except *A. eos* are represented in the British Museum collection.

These forms fall into two groups sharply distinguished by the number of soft dorsal and anal rays—over 30 and less than 30. Only once has a count of 30 dorsal rays been recorded (by Gilchrist), but as in that case one fewer spinous ray was counted it is probable that the last spine was thought to be a soft ray.

It could be thought that these two groups are in fact two widely dispersed species and that the lesser differences noted have only subspecific value. If this is true, they can scarcely be geographical subspecies, for all except *A. eos* occur at widely separated localities. Moreover it would seem possible to recognize geographical subspecies of *A. capros*. Pending evidence to the contrary, therefore, it seems justifiable to recognize five species as follows:—

Key to the species of *Antigonia* Lowe, 1843.

- I. Soft dorsal and anal rays more than 30. Cleft of mouth nearly vertical.
- A. Third dorsal spine shorter than head. Dorsal rays VIII 34–35 (Atlantic, etc.) or VIII 36–38 (Pacific). Depth equal to standard length, or but little greater. 1. *capros*.
- B. Third dorsal spine longer than head.
1. Dorsal rays VIII 34. Depth of body much greater than standard length 2. *browni*.
2. Dorsal rays IX 32–34. Depth of body not greater than standard length 3. *eos*.
- II. Soft dorsal rays less than 30. Third dorsal spine shorter than head. Dorsal rays IX 26–29. Depth of body equal to standard length, or but little greater.
- A. Cleft of mouth large, nearly vertical. 4. *rubicunda*.
- B. Cleft of mouth small, nearly horizontal 5. *rubescens*.
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