

same bulk as those of the female, the vas deferens and its coiled-up lower end taking up a good deal of room. Equally roughly, however, the same is true of *Cyclostoma*, in which the females are larger than the males \*.

We may, perhaps, add that the examination of some forty radulæ did not suggest that further enquiry would lead to the discovery of any sexual character in that organ.

*Summary*.—We have not been able to find any sexual characteristic in the shell of *Neritina fluviatilis*.

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XLV.—*Brief Descriptions of new Thysanoptera*.—IV. By RICHARD S. BAGNALL, F.L.S., F.E.S. (Hope Department of Zoology, University Museum, Oxford).

Suborder TEREBRANTIA.

Family Æolothripidæ.

*Æolothrips gloriosus*, sp. n.

♀.—Length about 1.1 mm.

General colour lemon-yellow. Abdominal segments 9 and 10 and tergite 8 entirely black; tergites 5 to 7 each with a blackish-brown bar almost covering the tergite, and signs of brownish markings on the anterior halves of other tergites. Eyes black. Head shaded with light greyish-brown, excepting the vertex and posterior corners, and pronotum with an indistinct marking down mid-line, expanding anteriorly and posteriorly and in centre of disc. Mesonotum and triangular disc of metanotum greyish-brown. Fore-wings lightly tinged with brown at base and with an irregular brown bar across second and fourth fifths; cilia brown. Antennal joints 1, 2, and basal half or thereabouts of 3 light lemon-yellow; rest black, the apical joints somewhat greyish black. Tips of tarsi with brown fleck.

Head rather long, quadrate, and not quite as long as the pronotum; basal joint of maxillary palpus much larger than the two apical joints together; mouth-cone large and long. Antennæ about 2.5 times as long as the head; joint 2 rather long; 3 pedicellate, cylindrical, and narrower than 2, 4, or 5; 4 distinctly angularly produced distally; 5 to 9 closely united, with 5 as long as 6 to 9 together. 3 1.5 times as

\* 'Journal of Conchology,' vol. xii. (1909) p. 323.



long as 2, scarcely longer than 4; 5 to 9 together about 1.3 times the length of 6; elongate sense-areas on 3 and 4, the latter running into the produced part. Posterior ocelli almost touching margins of eyes.

Pronotum quadrate, without any long bristles, but with a basal-marginal series of minute black setæ.

Wings reaching to abdominal segment 6, typical of the genus; setæ minute, cross-veins distinct.

Abdomen with minute setæ, excepting the long bristles on 9 and 10, and a moderately conspicuous lateral pair on 8. Sutures of sternites 3-4, 4-5, 5-6, and 6-7 showing a dark transverse line; underside and sides otherwise (excepting apex) yellow.

*Hab.* Sorgono, Sardinia; 3 ♀s amongst a tube of *Thysanoptera* collected by Dr. A. H. Krausse, and kindly submitted to me by Dr. W. Horn of the German Entomological Museum.

#### Suborder TUBULIFERA.

#### Family Hystricothripidæ.

#### Genus HOLUROTHRIPS, nov.

Head broad, length to a line across anterior margins of eyes only a little longer than broad, but vertex narrowly produced beyond eyes for 0.75 the length of the head to base of produced part. Series of 4 stout knobbed spines at about middle of produced part. Posterior ocelli between eyes near anterior margins, anterior one near apex of produced vertex. Antennæ, excepting basal joint, very long and slender; longer than tube.

Abdomen broad, depressed, much as in *Hystricothrips*, Karny. Tube long and slender, about three times the length of total length of head and two-thirds the length of abdominal segments 1 to 9.

Differs from allied genera by the striking form of head and the extremely long slender antennæ.

Type. *Holurothrips ornatus*, n.

#### *Holurothrips ornatus*, sp. n.

Total length 4.6 mm.; length of tube 1.4 mm.

General colour dark blackish-brown; prothorax and distal part of mesothorax, anterior corners and margins of abdominal segment 2, and lateral margins of 3-7 yellowish-red,



the lateral margins of 8 reddish-brown. Tube yellowish, greyish near base and shading to blackish-brown at distal third. Legs yellow, shaded lightly with brown in parts.

Surface of head striate or subreticulate; cheeks each with one seta near middle; and a shorter knobbed one on a small wart just behind eye. Eyes moderately finely faceted; stout knobbed bristle protecting each posterior ocellus. Basal antennal joint stout, brown; 2 smaller, light yellow—both with minute knobbed setæ; 3–8 yellowish, stems shaded with greyish-brown in parts. Relative lengths of joints approximately 5 : 4 : 37 : 21 : 18 : 11 : 7 : 7.

Pronotum strongly transverse, about 0.4 times as long as broad; setæ on warts, knobbed, a stout pair at anterior angles forwardly directed, those on posterior angles not quite so stout and mid-lateral pair smaller.

Pterothorax transverse, broadest near juncture with the abdomen. Legs much as in *Hystriothrips*. Wings slender, nearly reaching to the seventh abdominal segment.

Abdomen broadest near base and thence narrowing to base of tube, segment 8 only 0.35 as broad as 2. Tube very long and slender, sparsely and finely setose. Terminal hairs broken in the specimens at disposal. Lateral abdominal setæ rather short, stout, knobbed, and colourless; one at each posterior angle directed at right angles from the body.

*Hab.* Matang, Sarawak, at 1000 ft.; two examples in decaying leaves, 2. xii. 1913 (*G. E. Bryant*).

*Leeuwenia indicus*, sp. n.

Very near *Leeuwenia gladiatrix*, Karny, a little smaller and broader, with a more slender tube, which is about 1.2 times the length of the abdominal segments 1–9 together.

Uniform dark chestnut-brown, surface roughly reticulated. Antennal joint 2 lighter distally and 3–8 yellow, extreme tip brownish.

Antennæ a little longer than head and prothorax together; joints 3–6 clavate, 3 and 4 practically subequal; 5 shorter than 4; 6 shorter than 5; 7 and 8 broadly united, pointed apically and together about as long as 5.

Abdomen broader than in *gladiatrix*, with the dorsal and wing-retaining spines very poorly developed. Tube not so curved as in *gladiatrix* and only sparsely and somewhat minutely setose, with setæ more or less recumbent, the most distal third or fourth being almost destitute.

Separated from *gladiatrix* by its thin and more finely



setose tube, which in that species is coarsely setose, with both long and short, stout, suberect setæ almost to the apex; also by the dark uniform coloration of the body and the poorly developed wing-retaining and dorsal abdominal spines.

The abdomen (excluding tube) is longer and not so stout in *gladiatrix*, and the tube therefore only about 0.6 the length of the segments 1-9 together. The surface of *indicus* is apparently more strongly reticulated and sculptured than in *gladiatrix*.

*Hab.* One specimen from the Indian Museum (no.  $\frac{4297}{20}$ ), Moulmein, Lower Burma, 16. xi. 11 (*F. H. Gravely*).

### Family Idolothripidæ.

#### *Acanthinothrips annulipes*, sp. n.

Length 8 to 9 mm.

Colour black, shining. Antennal joint 3 greyish-yellow, dark at extreme apex, with yellowish patch just before it; stem of 4 greyish-black. Distal half of fore-tibiæ yellow, with black ring just before apex, the intermediate tibiæ similar, but with ring near apex broader and not so sharply defined basally; hind-femora with a yellowish-white ring (in one specimen reddish) at about middle. All tarsi yellowish, dark apically. Wings grey—mid-ribs and cilia dark brown.

Head about 2.7 times as long as broad near base, cheeks slightly narrowed between eyes and base, and furnished with a few slender setæ. Vertex slightly produced beyond eyes. Posterior ocelli on a line drawn through anterior third of eyes, the anterior one near apex of produced part. Antennæ extraordinarily slender (excepting the two basal joints), about 3.7 times the length of the head; relative lengths of joints approximately 7 : 6 : 71 : 42 : 33 : 24 : 11 : 9. Post-ocular bristles close together and set rather far back. Eyes finely faceted.

Pronotum about 0.42 the length of head; setæ weak and colourless.

All femora thickened distally and furnished with several stout and rather long yellow bristles, somewhat as in *Anactinothrips*. Wings reaching to the sixth abdominal segment.

Abdomen long, segments somewhat as in *Actinothrips longicornis*, apical angles of the hindmost segments, at least, each with a short, stout, yellowish-brown spine, and the ninth with an additional pair on each side of the mid-line.

Tube about twice as long as the head, surface coriaceous;



sparsely setose; terminal hairs short, yellowish. Abdominal hairs moderately short, weak, and colourless.

A very distinct species.

*Hab.* Matang, Sarawak; 1 on dead bark, 1000 ft., 13. xii. 13; 2 on the wing, 2000 ft., 24. xii. 13; 1 Sungei China, Fort of Matang, Sarawak, by beating dead leaves, 14. xii. 13 (*G. E. Bryant*).

*Anactinothrips distinguendus*, sp. n.

♂.—Length 7·5 mm.

Colour chestnut-brown, tube darker near base and yellowish distally. Antennæ with second joint yellowish distally, 3 with stem yellowish, lightly shaded with brown about middle and apex brown; 4 with stem yellowish, shaded near middle, and 5 lighter basally. Wings greyish-yellow, cilia tinged with brown.

Head twice as long as prothorax and twice as long as broad near base, shaped as in *A. meinerti*, Bagn., but shorter and broader. The pair of dorsal bristles set at about the basal third, only one-half the length of the postocular bristles, weak; anteocular pair short, pointed, reaching to beyond the middle of the first antennal joint. Eyes finely faceted, occupying laterally about 0·22 the total length of the head. Ocelli moderately large, equidistant, the posterior pair close to inner margins of eyes and on a line through their middle.

Antennæ almost as in *A. meinerti*, but with the fifth joint about four-fifths the length of the fourth (instead of one-half the length in *A. meinerti*); approximate lengths of joints:—14 : 12 : 84 : 50 : 40 : 22 : 15 : 12. Sense-cones very short and slender, scarcely distinguishable.

Prothorax as in *A. meinerti*, the postero-marginal bristles broken off in the single preparation, but presumably long; pair at anterior angles short and curved, and the mid-lateral pair long and strong, about 0·65 the median length of pronotum. Maxillary palpi with the second joint three times as long as the basal.

Pterothorax 0·4 broader than the prothorax, transverse. Wings and legs much as in *A. meinerti*.

Abdomen evenly narrowing to tube, with each of the segments 3 to 7 slightly and roundly produced into a prominence for the seating of bristles, which latter are evidently (from the few that are preserved) not particularly long or strong.

Tube about 0·8 the length of the head, a little more than



twice the length of the ninth segment, not three times as long as broad at base, and twice as broad at base as at apex.

*Hab.* BRITISH GUIANA, Bartica ; 1 ♂ collected by Mr. G. E. Bodkin, with *Dicaiothrips brevicornis*, Bagn., and *D. lævicollis*, Bagn., from the leaves of the mangoe-tree, June 15th, 1913.

The unique example is, unfortunately, imperfect, and has been cleared in caustic potash and mounted in balsam. It is only the second described species of *Anactinothrips*, and is readily separated from *A. meinerti*, Bagn., by the short and relatively broad head and tube, the relative lengths of the antennal joints, and the short dorsal cephalic bristles as compared to the postocular pair. The second joint of the maxillary palpi is only *twice* the length of the basal in *A. meinerti*.

*Phoxothrips breviceps*, sp. n.

♀.—Length 2·7 mm. Form linear.

Dark chestnut-brown, head and abdomen almost black. Fore-tibiæ and all tarsi yellow. Third antennal joint yellow, shaded brown basally and distally ; basal half of 4 and base of 5 yellow. Head only 2·25 times as long as broad at widest, namely at about the posterior fifth, where it is as wide as across eyes. Produced vertex with sides parallel ; 0·25 the total length of head. Eyes laterally occupying about 0·23 the total length of head.

Antennæ at least 1·25 times the length of the head ; relative lengths of joints :—3 : 5 : 11 : 9 : 7 : 6 : 4 : 4—3 to 5 clavate as in *P. pugillator*.

Prothorax about 0·35 the length of head, and 1·4 times as broad as long ; broadest through middle, where it is 1·25 times as broad as the head. A somewhat slender seta at each hind angle.

Pterothorax 1·25 times as wide as the prothorax, longer than broad. Legs somewhat long, especially the hind pair ; fore-femora not incrassate (or armed) in the ♀, and tarsus without tooth. Wings reaching to segment 7.

Abdomen not broader than the pterothorax, narrowing from segment 7 to base of tube. Tube about 0·6 the length of head, and twice as broad at base as at apex ; terminal hairs not quite as long as the tube. Abdominal hairs slender and colourless, those on ninth segment longer than tube.

Easily separated from *P. pugillator*, Karny, by its much



smaller size, the relatively short head, the longer second antennal joint, &c.

*Hab.* Simla, W. Himalayas, at 7000 ft., 7. v. 1910. Coll. Dr. N. Annandale. One specimen in the Indian Museum, 4300/20.

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XLVI.—*A new Genus of Bats allied to Nyctophilus.*

By OLDFIELD THOMAS.

(Published by permission of the Trustees of the British Museum.)

ON examining the various bats in the Museum collection assigned to *Nyctophilus*, I find that one of them, from New Guinea, is a new species so different from the other members of the group as to warrant the formation for it of a special genus, which may be called

PHAROTIS, gen. nov. (*Vespertilionidæ*).

Nearly allied to *Nyctophilus*, but the skull of different shape and the palate much shortened.

External characters essentially as in *Nyctophilus*, but the ear and nasal membranes more developed.

Nose-leaves larger than in that genus, the anterior one broad, high, its upper margin evenly convex, without median depression or notch; no vertical ridge between the nostrils; posterior projection not a mere thickening of the skin, but a more or less definite leaf, as high as, though narrower than, the anterior leaf; concavities in front of and behind it deep, their deepest part naked and peculiarly wrinkled. Ears very large, thin, leafy, connected across the forehead by a high band. Tragus long, narrowed terminally, the peculiar thickened lobe on the back placed in the middle instead of on the outer edge, and extending outwards nearly to each side.

Skull quite different in shape from that of *Nyctophilus*. Brain-case large, smooth, and rounded, without crests; muzzle very short, nasal notch deep, its posterior end behind the level of the anteorbital foramina. Interorbital region very broad, its edges smoothly rounded. Bullæ of medium size, their length about 3.5 or 3.6 mm. Anterior palatal notch deep, ending level with the hinder edge of the pre-molar; posterior palate shortened, ending not far behind the



Bagnall, Richard S. 1914. "Brief descriptions of new Thysanoptera IV." *The Annals and magazine of natural history; zoology, botany, and geology* 14, 375–381.

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