

## ON A CHALCIDOID PARASITE BRED FROM A FLEA LARVA.

By JAMES WATERSTON, D.Sc.

(With 1 Text-figure.)

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FOR the opportunity to examine the material on which the following descriptions are based I am indebted to the courtesy of Dr P. A. Buxton and Miss E. Sikes of the London School of Tropical Medicine, where the life-history of certain fleas is being studied. A detailed examination of the parasite showed it to be referable to the Pirenine tribe of the Miscogasteridae—a family of Chalcidoid wasps. The genus and species appeared to be new. The fact, however, that the parasite had been bred from a species of flea known to have been recently introduced into Britain suggested the advisability of comparison with American representatives of the Pirenine group. This has now been done by my friend Mr A. B. Gahan of the Bureau of Entomology, Washington, D.C., to whom my hearty thanks are due. As the result we are agreed that a new genus is required. *Bairamlia* n.g. has obvious affinities with *Pirene* Hal., but differs in antennal, neurational and propodeal characters. *Ecrizotes* Forst. (*vide* A. B. Gahan) may also be a nearly related genus. As regards the species, I am satisfied that it is very different from anything described by Walker of which material is still extant in the British Museum. Mr Gahan, however, tells me that *Pirene marylandensis* Gir. (*Canad. Ent.* 48, p. 116, 1916) is a congeneric though distinct species.

### Family MISCOGASTERIDAE.

#### Tribe PIRENINI.

#### *Bairamlia* n.g.

**Head.** Transverse, wider than thorax, eyes rather small, vertex wide. Temples well developed, occiput strongly concave not margined; genae long; median clypeal lobe short and straightly truncate. Toruli very low down, nearly on apparent mouth edge. No genal keel or line.

Mandibles similar, 4-dentate; labrum simple, transverse; palpi normal. Antenna, scape, pedicel, 3 ring joints, 5 in funicle and 3 in club, funicle and club widening very little.

**Thorax.** Pronotum campanulate, transversely finely margined. Parapsidal furrows complete. Scutellum frenate. Propodeon truncate triangular with

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broad nucha, considerably extending beyond the insertion of hind coxa. Fine median keel, no lateral plicae, spiracles small, oval. Wings; submarginal greater than marginal greater than post-marginal greater than radius.

Abdomen oval acuminate, shortly petiolate; the petiole nearly perpendicular. First tergite basally shortly crenulate.

Genotype the following species:

**Bairamlia fuscipes n.sp.**

A blackish shining species ( $\delta$ ,  $\varphi$ ) with sub-metallic reflections at most on discs of thorax and abdomen. *Antennae* and *femora* concolorous with body. *Tibiae* piceous; in mid and fore legs paler at base and apex, in hind legs only narrowly at base.

Fifth tarsal joint piceous, the others not quite so dark, and paler at the articulations. Wings hyaline, veins pale brown. [In some individuals there is a faintly tinted transverse streak connecting the hairs standing in the position of the vanished basal vein. See fig. 1, *a*.]

**Head.** *From in front* broadly oval, wider (8 : 7) than deep. Eyes occupying one-half of the depth; orbits sub-parallel, very slightly divergent ventrally, separated by about two-thirds the breadth. Genae strongly convergent towards mouth edge. Genal space long, five-sevenths of the depth of the eye. Distance between anterior ocellus and toruli equal to that between the eyes. The toruli, small sub-circular, one and two-thirds of the diameter apart, are set practically on the apparent mouth edge, the clypeus being inturned and partly horizontal. The clypeal and inter-torular swellings are separated by a shallow furrow; eyes bare.

*From above* more than one-quarter wider than thorax, and measured across eye, about two and a half (17 : 7) times as broad as long, but in middle shorter (17 : 8) as the occiput is strongly concave. Temples posteriorly convergent.

Surface generally smooth and shining. Anteriorly and on vertical half the face and perioral parts show a distinct elongate scaly reticulation, strongest at sides above toruli, but hardly raised. Whole posterior aspect reticulate unraised. The slightly projecting truncate median clypeal lobe is just wider than the distance between the toruli. Antenna (Fig. 1, *c*) length 65 mm., scape (6 : 1) equal to pedicel, ring joints and first three funicular joints together. Pedicel (11 : 6), as long as two-fifths of the scape, or the fourth and fifth funicular joints together; all the funicular joints transverse. Funicle practically cylindrical, club (5 : 4 : 4) hardly wider than funicle and as long as the last four joints of the latter. The major sensoria are about as long as the joints.

Labrum, simple transverse, edge sub-concave; bristles 2, 2. Mandibles (Fig. 1, *d*) (9 : 5) flat and elongate. The apical edge unusually oblique; the three upper teeth sub-equal. Trophi, stipes 5 bristles. Max. palp 4 : 6 : 9 : 17. The width increases from 4 to  $6\frac{1}{2}$ . First two joints bare, third, 1 bristle, fourth, 1 lateral, 4 apical bristles.

Lab. palp 7 : 4 : 10, the last joint with 3-4 short bristles.

**Thorax and propodeon** (Fig. 1, *b*). Pronotum shining along the hind edge, but elsewhere with rather strong well-defined pattern (not shown in figure). Mesonotum entirely shining, the pattern on mesoscutum and parapsides not affecting the surface. *Scutellum entirely smooth and glassy*, broadly truncate posteriorly. Prepectora broadly fused—the median (ventral) area smooth. Pattern on sides weak. Mesosternum smooth, sternopleura dull, pattern raised, mesepisternite nearly quite smooth and very shining.

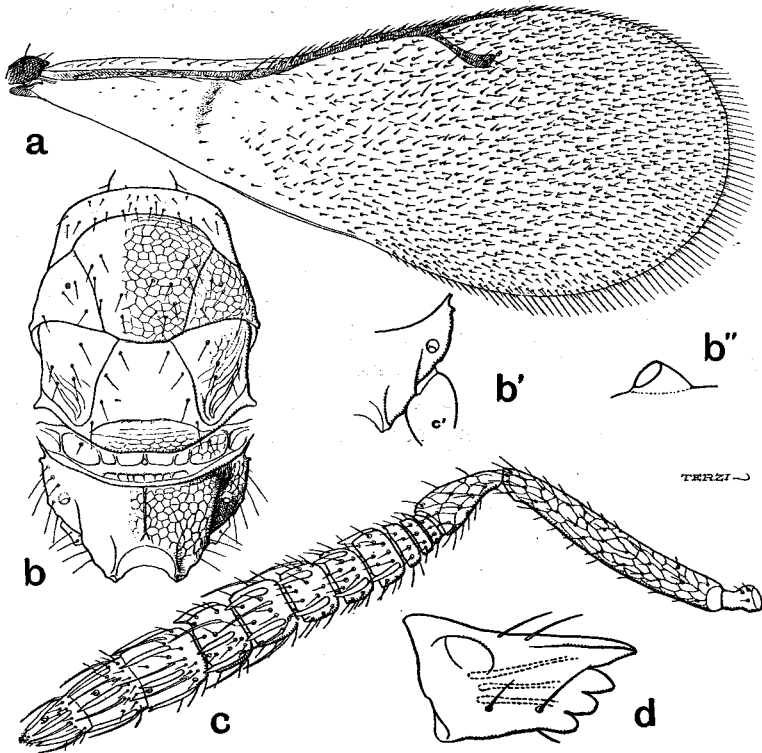


Fig. 1. *Bairamilia fuscipes* Waterston ♀; *a*, forewing; *b*, dorsum of thorax; *b'*, attachment of hind coxa (*c'*); *b''*, detail of spiracle; *c*, antenna; *d*, mandible.

Propodeon dull, pattern strongly raised. The only carina is the fine median one. The surface is dimpled on each side of the nucha; there is a larger depression in front of the slightly projecting spiracle behind which the surface falls rapidly to the insertion of the hind coxa. Metasternum smooth, the coxae inserted just behind the middle at sides.

**Wings.** Forewings (Fig. 1, *a*) 1 = 1.1 mm., two and a quarter times as long as broad; sub-marginal: marginal: radius: post-marginal 28 : 23 : 9 : 12.

**Legs.** Fore legs, coxa (11 : 6), large faint pattern. Femur (4 : 1). Tibia (7 : 2), comb of first tarsal joint 8-9 short spines: 6-7 more on plantar aspect of same joint. Tarsus 26 : 14 : 12 : 10 : 21. Mid legs coxa (4 : 3). Femur

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(4 : 1). Tibia (13 : 2). Tarsus 26 : 20 : 13 : 11 : 20. Hind legs, coxa (3 : 2), pattern raised. Femur (22 : 5). Tibia (8 : 1). Tibial comb 8-10 spines. Spurs short; the longer barely one-half the first tarsal joint, which bears about 12 plantar spines. Tarsus 38 : 22 : 17 : 12 : 22.

**Abdomen.** Length of visible tergites approximately 3, 2, 1, 1, 2. At base of first (third) tergite a small truncate triangular heavily chitinised area giving out short rugae from its sides; on same tergite a trace of pattern and a patch of about 20 short stiff bristles on the overlaps anteriorly. Disc of abdomen smooth and bare except for a single row of short bristles (6, 6) on the tergites.

Spiracles small and nearly circular.

Length about 1.4 mm. Expanse about 2.5 mm.

The differences between the sexes are extremely slight. In the male the antenna is rather more slender with relatively shorter club, longer funicle, and broader scape. The mesonotal sculpture is a trifle coarser, the petiole just perceptibly longer and the propodeon with a slightly narrower nucha, *i.e.* the sides more strongly convergent. Dimensions about the same as in female.

Holotype ♀, allotype ♂ and paratypes (♂, ♀) in British Museum, from a small series bred from cocoons of *Ceratophyllus wickhami* Baker, taken from a squirrel's nest, Gerrard's Cross, Bucks, England (E. K. Sikes coll.).

♂, ♀, paratypes in U.S. National Museum, Washington.

*Ceratophyllus wickhami*, the flea of the introduced American Grey Squirrel (*Sciurus carolinensis* Gmel.), is now common in the London district.

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