ON A NEW GENUS AND SPECIES OF STREPSIPTERA.

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(Plate IV.)

While searching for stylopised Jassids on grass and other low vegetation, the writer happened to come across large numbers of a small, very active black cricket (*Tridactylus* sp.) commonly found in superficial tunnels and burrows in damp soil, especially along irrigation channels in orchards and kitchen gardens. Many of these crickets were found parasitised by a species of Strepsiptera and from the material collected a couple of males and a number of triungulins were reared out in Bangalore. Excepting a reference by Hofeneder (1) to a stylopised *Gryllotalpa* found by Voeltzkow in Wituland, Africa, nothing is on record of stylopised Gryllidae. It is not unlikely that more forms associated with these hosts may be found in India.

At the outset it was evident that it belonged to the super-family Halictophagoidea, Pierce, owing to the male having three-jointed tarsi, which is characteristic of this super-family. The super-family is divided by Pierce (4) in the following manner into two families.

Super-family Halictophagoidea, Pierce.

A. Male antennae four-jointed with flagellum of the third and the fourth joint elongate, sub-equal	Diozoceridae, Pierce.
B. Male antennae seven-jointed with the third, fourth, fifth and sixth joints laterally produced, and the seventh elongate	Halictophagidae, Pierce.

This insect has seven joints in the antennae and therefore belongs to the family Halictophagidae. As regards the character of the antennal segments, however, the insect differs from all the species of Halictophagidae so far known, for they all have the third, fourth, fifth and sixth segments laterally produced. In this insect however only the third joint is so produced, the rest being normal.

The structure of the antennae in this insect is so unique that it cannot fit into either of the two families named above.

It may be necessary for the new species to be considered as the type of a new sub-family, but for the present I desist from taking this course. The erection of a separate genus for the reception of the new species seems to me, however, clearly indicated. I propose for it the name *Tridactylophagus*.

Tridactylophagus gen. nov.

Head very much excavated behind. Eyes large and reaching the base of the elytra. Antennae (Pl. IV, fig. 1) slender, elongate, seven-jointed, with sensory pits; third joint laterally produced and longer than the fourth and fifth; seventh joint about as long as the fifth and sixth, pointed at the distal end.

Pro-thorax (Pl. IV, fig. 7) conical, with an indentation at the apex, fitting into the excavated portion of the head. The two lower extremities of the prothorax produced at the sides to form a band.

Meso-thorax consisting of three transverse pieces.

Wings with seven primary veins, most of them broad and smoky in colour.

Oedeagus (Pl. IV, fig. 2) broad and sinuous near the base, obtusely flexed near the apex, with a very minute triangular piece attached to the curve at the outer angle.

Genotype : *Tridactylophagus mysorensis*, sp. nov.

Tridactylophagus mysorensis, sp. nov.

Male : 2·04 mm. long. General colour smoky black, eyes and halters piceous. Base of the scutellum and lower two-thirds of the postscutellum suffused with smoky black. Whole insect covered with fine hairs, and with a silvery bloom. Head large, as broad as thorax or slightly broader ; the facets of the eyes large and well separated with the interspaces hirsute. *Mandibles* large and triangular ; their bases very broad and apices constricted to a fine point which do not meet. *Maxillae* two-jointed, about two-thirds of the length of the mandibles ; the first joint stout, cylindrical, the second very tiny and more or less circular. The frontal portion of the head between the eyes—the portion comprising the epistome and the labrum of Perkins (3)—is highly chitinised and forms a pattern as shown in Pl. IV, fig. 3. The broad distal end of the fourth joint of the antennae with a circular sensorial organ (Pl. IV, fig. 1, *a*) more or less similar to the one described by Hofeneder (1) in *Mengenilla choubati*, by Ogloblin (2) in *Delphacixenos anamalocerus* and by the writer (5) in *Indexenos membraciphaga.*

I have reason to believe that these sensory organs are characteristic of the family *Halictophagidae* because of the fact that these are present in the males of several species reared out by me from different hosts, which have not yet been identified.

Mesonotum pre-scutum oval, with the base slightly arched. Scutum and scutellum broad, with the posterior angles produced to form a band. Halters very long and ladle-shaped. *Metanotum* with the prescutum elongate, key-stone shaped, truncate at the posterior end and well separated from the scutellum. Scuta oblique, the basal portions of their outer angles lower than that of the prescutum and separated very slightly from the scutellum at their outer angles (Pl. IV, fig. 7). *Scutellum* broad, about as broad as the three pieces of the metanotum in the middle. The sides behind the outer angle of the scutii concave, anterior angles rectangular, the posterior very slightly produced upwards at the sides, the base sinuate and the apex arched (Pl. IV, fig. 7). *Post-scutellum* broad, elongate, much longer than prescutum, scutum and scutellum together (Pl. IV, fig. 7). *Abdomen* with the sixth, seventh and eighth segments drawn out to a point underneath, the last prolonged to over half the length of the ninth, the latter being produced very much beyond the tenth (Pl. IV, fig. 4).

Female.—Cephalothorax light brown, more less domeshaped, and very slightly longer than broad ; the edges dark brown and highly

chitinised ; the sides (Pl. IV, 5, *a* and *b*.) constricted at the base, diverging as far as the spiracles, near which there is a slight constriction, and gradually becoming narrow towards the mandibles which are stout and broad and possess one short stout tooth. Four genital tubes entering the brood canal.

Measurement of female.

(Taken with K.7 Zeiss micrometer ocular and A. A. objective, 1 division equals 0·015 mm.)

Length from base to vertex	0·41 mm.
Length from spiracles to vertex	0·32 mm.
Width at emargination at the base of mandibles	0·11 mm.
Width between spiracles	0·32 mm.
Width at base	0·30 mm.
Width at base of head	0·30 mm.

Described from two males bred from *Tridactylus* sp. in Bangalore, Mysore State, in June, 1927 and two females out of a number collected at Bangalore in June, 1927

Triungulins (Pl. IV, fig. 6). These are found to shoot out into space on emergence from the genital opening as described by the writer (5) in *Pyrillozenos compactus*. Only some stray ones are found crawling over the body of the host. Immediately on emergence, the triungulins are dark, with a very light yellowish tint, but the latter is lost after some time. They have a pair of spines, one on each side of the ten abdominal segments. The tenth segment ends in two long and two short stylets. On the ventral side of the ninth segment there are two long spines arising from a more or less triangular space in the middle and two small curved spines arising close to the base of the above. Short hairs are found arranged parallel to one another on the ventral portion of the abdominal segments and also a group of 5 or 6 closely-set hairs on the venter of the three thoracic plates. The triungulins are very active and can hop like typical Trypetid maggots.

The following are the measurements of the triungulins (fresh specimens mounted in glycerine).

Length excluding stylets	0·13 mm.
Length of stylets	0·05 mm.
Width of body at the broadest portion	0·08 mm.
Width of head	0·06 mm.

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