states "During the breeding season the very robust ♀♀ are constantly pursued by the ♂♂ with, as Schönbeck has observed, the rostral appendage nudging the region of the vent. The eggs are probably strewn at random over the bottom". Thus far the authors have not come across any account giving distinct character indicating sexual dimorphism among the members of the family Mastacembelidae.

For the present study about thousand specimens of milting males and oozing females of *Mastacembelus puncalus* were examined in the months of May and June. The fish were collected locally from the Ramgarh lake and their size ranged between 72 to 140 mm for males and 106 to 178 mm for females. This indicates that the females are larger in size than the males a fact that lends support to Sterba's account. The male and female ratio was found to be approximately 1 : 1.

Both the sexes possess urinogenital papilla. With the naked eye one can see in females a urinogenital papilla hanging from below the anal aperture bearing a pore near its tip, while in males only two pores (anal and urinogenital) are visible.

Careful examination with the aid of a binocular reveals that males too have a feebly developed urinogenital papilla represented by a fleshy elevation encircled by a groove (Figs. 2 and 2 *a*). The urinogenital pore is situated at the posterior end of this elevation and it is marked by heavy concentration of chromatophores around it (Fig. 2 *a*). In females the urinogenital papilla is more distinctly observed as fleshy translucent structure hanging from below the anal aperture with a transverse slit-like opening the urinogenital pore (Figs. 1 and 1 *a*). As in males the urinogenital pore has heavy concentration of chromatophores around it.

It has been observed by gently pressing the oozing females that the opening of their urinogenital papilla permits the exit of a single ovum at a time. This is perhaps an adaptation due to the strewn nature of the eggs.

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1. Dalela, R. C., "The urinogenital system of Indian freshwater eel, *Macrognathus aculeatus* (Bloch)," *Vestnik Ceskspolecnost Zool*, 1967, **31**(1), 15.
2. Kamlaveni, S., "Morphology of the urinogenital system in some Indian teleostean fishes," *Rec. Indian Mus.*, 1961, **59** (1 & 2), 83.
3. Sterba, G., *Fresh-water Fishes of the World* (Translation) (C) Vista Books, Longacre Press Ltd., London, 1962, p 834.

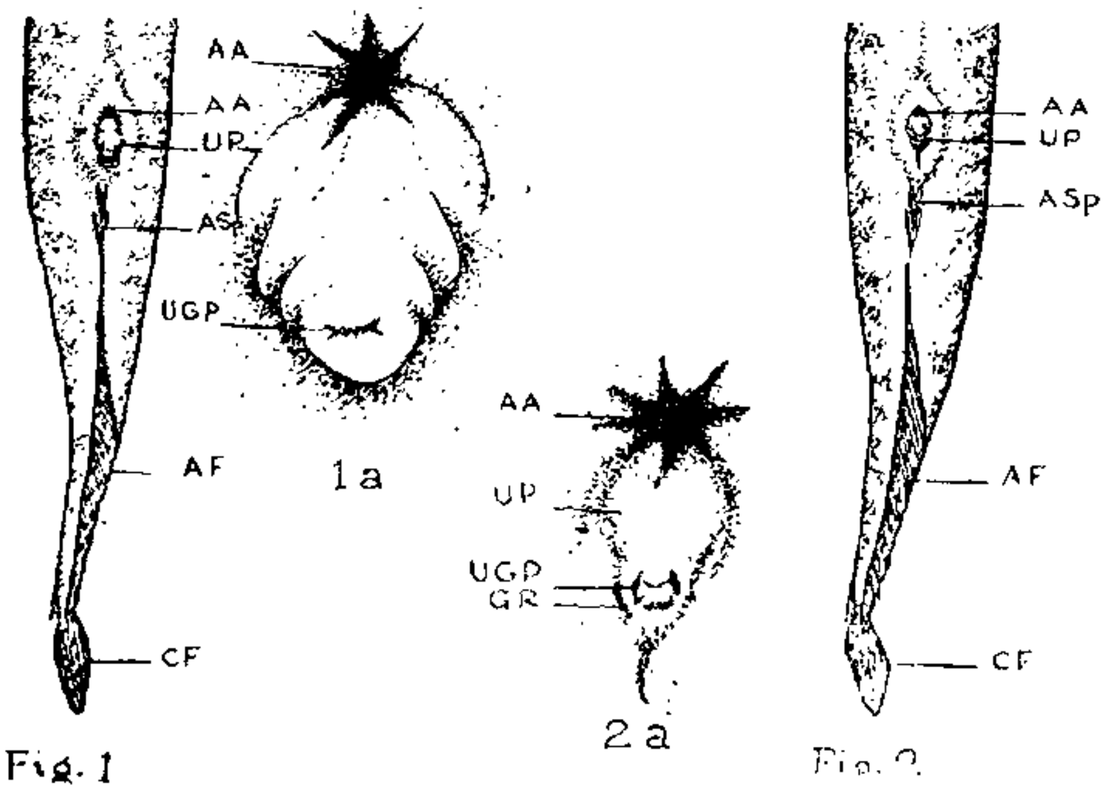

Fig. 1 Fig. 2

FIGS. 1–2 *a*. **Fig 1.** Ventral view of the female *Mastacembelus puncalus*, × 1·73. **Fig. 1*a*.** Magnified view of the female urinogenital papilla, × 25 **Fig. 2.** Ventral view of the male *Mastacembelus puncalus*, × 1·68. **Fig. 2*a*.** Magnified view of the male urinogenital papilla, × 25.

(**AA**, Anal aperture; AF, Anal fin; ASp, Anal spine; **CF**, Caudal fin; GR, Groove; UGP, Urinogenital pore; **UP**, Urinogenital papilla.)

A NOTE ON *MEGASELIA CURTINEURA* (BRUES) (DIPTERA, PHORIDAE) IN THE SUDAN

DURING the growth of *Nocardia asteroides* (Eppinger) and *Bacillus* sp. in 5% horse blood agar, some larvae of *Megaselia* destroying these colonies on solid medium were observed at the Biological product unit of the Veterinary Research Division at Khartoum. Because of the difficulty of accurate determination of *Megaselia*, references on its bionomics are limited. Borgmeier[2-4] has placed the taxonomy of the family on a relatively firm foundation.

Megaselia spp. are known to be of considerable economic importance. According to Patton[7] and James[5] *Megaselia scalaris* Loew causes cutaneous, ophthalmic and intestinal myiasis in man and animal. It is also suspected as a transmitter of cholera in Philippines by Bohart and Gressit[1].

Larvae were collected from two different cultures of blood agar media in petri dishes containing *Nocardia asteroides* isolated from dog and *Bacillus* sp. isolated from foot rot of a sheep and reared in glass cage traps.

The adults were identified by the British Museum (Natural History) as belonging to the genus *Megaselia* and eventually determined by W. H. Robinson* as *Megaselia curtineura*

(Brues). This agrees with description of *M. insulana* (Brues) *Synonymous* with *M. curtineura*.

Description.—Adults are recognized by the presence of anteromedial yellow areas on its abdominal brownish-black tergites and by a dark apical spot on its hind femora, as well as the chaetotaxy of the wings.

Female : Length 1·7–1·8 mm. Frons reddish-brown. Antennae reddish-brown.

Thorax : Reddish-yellow to reddish-brown. Scutellum with 4 bristles, the anterior is about three-fourth of the posterior in length, with length 1·7 mm.

Abdomen : Brown, tergite with conspicuous yellow seams.

Male : Length 1·3–1·4 mm. Frons dark brown to black. Antennae reddish-yellow to dark brown, opaque, greyish-pollinose, with conspicuous pubescence and a distinct median line. Antennae dark brown, arista bare, palpi pale yellow with rather long bristles on apical half.

Thorax : Dark brown to reddish. Pubescence short, scutellum with two bristles and two minute hairs, legs yellow, hind femur darkened at tip, one-and-half times as long as broad, basal half of ventral edge with about eight short inconspicuous hairs. Hind tibia with about 13 posterodorsal cilia, those on basal third very weak, the remainder distinct but short.

Wing length 1·4 mm. Costal cilia short, abdomen opaque, venter yellow, tergites black to brown with yellow apical seams. Pubescence scarce and short.

Megaselia curtineura (Brues) is believed to be the first record of a phorid in the Sudan. *M. scalaris* Loew was reported from Egypt by El Miniawi[6] on stored potato tubers, cabbage foliage, rotten fruit, dead insects, slugs, manure; dung and in glass cage traps containing diammonium phosphate solution used for trapping some Diptera of vegetable and horticultural crops. Also, W. H. Robinson stated that *M. curtineura* which is similar to *M. insulana* was previously recorded from Formosa, Philippine and Hawaii from dead snails *Achatina fulica* and dead grasshoppers, but recently in the Sudan it was detected in culture of 5% horse blood agar containing colonies of *Nocardia asteroides* and *Bacillus* sp.

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1. Bohart, G. E. and Gressit, J. L., *Bemise, P. Bishop Museum, Bull. No. 204*, 1948.
2. Borgmeier, T., *Stuata Entomologia*, 1963, **6**, 1–256.
3. —, *Ibid.*, 1964, **7**, 257–416.
4. —, *Ibid.*, 1966, **11**, 1–367.
5. James, M. J., *U.S. Dept. Agric. Misc. Publ. No. 631*, 1947.
6. El Miniawi. S. F., *Bull. Soc. ent., Egypt*, 1966, **59**, 79–80.
7. Patton, W. S., *Indian Jour. Med. Res.*, 1922, **9** (4), 683–691.

ON SOME UNDESCRIBED MORPHS AND NEW RECORDS OF APHIDS (HOMOPTERA: INSECTA) FROM KUMAON HIMALAYAS, INDIA

KUMAON range of Western Himalaya is well known for its richness of flora (Rau[1]) and collections of Aphids from different plants in the area have so far revealed a total of 85 species (Chakrabarti *et al.*[2], David *et al.*[3]). Further collections of Aphids were made by one of the authors, S. Chakrabarti during a "Scientific Expedition to Kumaon Himalaya" sponsored by the University of Calcutta. These were mostly from new localities, *viz.*, Almora (*c* 1080 m), Beluni (*c* 3660 m), Bharari (*c* 1080 m), Dhakuri (*c* 2640 m), Dhakuri pass (*c* 2990 m), Dhaunadung (*c* 2780 m) Jatoli (*c* 2660 m), Kapcot (*c* 1082 m), Kathalia (*c* 3130 m), Kousani (*c* 1740 m), Loharkhet (*c* 1760 m), Omla (*c* 2520 m), Oucham (*c* 2580 m) and from Sundardonga valley (*c* 3050 m). Out of a total 132 collections made during the expedition, *Longicaudus dunlopi* nom. nov. Hille Ris Lambers, is reported for the first time from India and 18 other species including undescribed morphs of 6 species, have been collected for the first time from the state of Uttar Pradesh. Besides the above, alate males of *Cavariella* sp. (Vagrant) on *Rhododendron* sp. ; *Masonaphis anaphilidis* ; Basu on *Oxalis corniculata* and *Rumex* sp., *Myzus ornatus* Laing on *Frageria nilgeriensis* ; *Myzus persicae* (Sulzer) (Vagrant) on *Rhododendron campylocarpum* and hitherto unknown alate males and alate oviparous females of *Mollitrichosiphum* (*Metatrichosiphon*) *alni* Ghosh *et al.* on *Alnus nepalensis* and males of *Tricaudatus polygoni tuberoculatus* Hille Ris Lambers and Basu (Vagrant) on