

SOME INDIAN SPECIES OF *CHARTOCERUS* (HYM. : CHALCIDOIDEA : SIGNIPHORIDAE)

Mohammad Hayat

Desert Regional Station, Zoological Survey of India, Jodhpur, India

ABSTRACT. A new species *Chartocerus (Signiphorina) intermedius* is described and two already known Indian species of *Chartocerus (Matritia)*, viz., *kurdjumovi* (Nikol'skaja) and *kerrichi* (Agarwal) are further reported upon. The male genitalia of the species dealt here are figured for the first time. The male genitalic characters can be utilised in separating not only genera but closely related species also (see also Rosanov, 1965). The new species which is otherwise indistinguishable as female from *C. (S.) fimbriae* Hayat, is recognised mainly on the basis of genitalic characters.

1. *Chartocerus (Matritia)* kerrichi* (Agarwal) (Fig. 7)

Matritia kerrichi Agarwal, 1963, *Z. Parasit k.*, 22 : 390-393, ♀, des., figs., key, host. (Aligarh, India; types Zool. Dept., Alig. Musl. Univ., Aligarh).

Chartocerus (Xana) kerrichi : Rosanov, 1965, *Ent. Rev.*, 44 : 513; De Santis, 1968, *Revista fac. Agron. La Plata*, 44 : 12; Hayat, 1970, *Entomophaga*, 15 : 391, 394-5, ♀ ♂, des., figs. 23-27, hosts; Aligarh, Avadi, Hubli, Joginder Nagar, Kancheepuram, Madurai, Ponnur, Ranipet, Shoranur, Tenkasi, Villupuram.

Specimens examined : INDIA : TAMIL NADU : Srirangam, 27.ii.1967, 56 ♀♀, 4 ♂♂, M. Hayat, Coll. No. 38MD.

This species is widely distributed in India. The males are characterised by the presence of a short but considerably expanded antennal club. In all the other Indian species the club is more or less elongate and cylindrical. The male genitalia are shown in figure 7.

Distribution : India : Andhra Pradesh, Himachal Pradesh, Karnataka, Kerala, Tamil Nadu, Uttar Pradesh.

*Hosts*** : Asterolecanidae : *Cerococcus* sp. on *Hibiscus rosasinensis*; Dactylopiidae : *Eriococcus greeni*; Pseudococcidae : *Centrococcus insolitus*, *Nipaecoccus viridis* (= *N. vastator*), *Nipaecoccus* sp. on *Casuarina equisetifolia*, *Rastrococcus* sp.; Coccids on *Citrus limonum* and *Saccharum officinarum*.

*Subba Rao (1974) states "Bouceck (in Peck *et. al.*, 1964) correctly synonymised *Xana* with *Matritia* Mercet. Rozanov's reinstatement of *Xana* is incorrect as the date of Mercet's name (1916) gives it priority over Kurdjumov's (1917)." Hence I am using the subgeneric name *Matritia*.

**Signiphorids are primary (ecto) parasites of chalcids and other primary parasites of coccoids, psyllids etc., and so are considered harmful. The Homopterous hosts recorded in literature are the hosts from which these parasites were bred along with other chalcidoids.

2. *Chartocerus* (*Matritia*) *kurdjumovi* (Nikol'skaja)

Xana nigra Kurdjumov, 1917, *J. Appl. Ent.*, 1 : 80-81, ♀ ♂, des., figs., hosts (Poltava, Crimea, U.S.S.R.; types Zool. Inst. Acad. Sci. Leningrad); preoccupied by *Signiphora nigra* Ashmead, 1900.

Xana kurdjumovi Nikol'skaja, 1950, *Dokl. Akad. nauk. SSSR.*, 75 : 320, figs., key, hosts; U.S.S.R. (n. name for *X. nigra* Kurdjumov); Nikol'skaja, 1952. *Opred. faune SSSR.*, No. 44 : 507, key, hosts, distrib., U.S.S.R.; Erdős, 1958, *Folia Ent. Hungaric.*, 11 : 75, Hungary; Erdős, 1964, *Fauna Hungarici*, 73 : 325-6, figs, key; Hungary.

Matritia kurdjumovi : Agarwal, 1963, *Z. Parasitk.*, 22 : 389, key.

Chartocerus (*Xana*) *kurdjumovi* : Rosanov, 1965, *Ent. Rev.*, 44 : 512, 513, fig., taxonomy, distrib.; De Santis, 1968, *Revista fac. Agron. La Plata*, 44 : 12; Hayat, 1970, *Entomophaga*, 15 : 391, 394, ♀, figs. 17-22, key, hosts; Aligarh, Patiala, Salem, Tuticorin.

Specimens examined : INDIA : TAMIL NADU : Tuticorin, 1.v.1969, 3 ♀♀, ex *Nipaeococcus viridis* on *Achyranthes* sp., M. Hayat, Coll. No. 353M.

Distribution : India : Punjab, Tamil Nadu, Uttar Pradesh.

Hosts : Pseudococcidae : *Centrococcus insolitus*, *Nipaeococcus viridis*, *Nipaeococcus* spp. on *Accia* sp. and *Hemigraphes* sp., *Rastrococcus iceryoides*.

3. *Chartocerus* (*Signiphorina*) *fimbriae* Hayat (Fig. 8)

Chartocerus (*Signiphorina*) *fimbriae* Hayat, 1970, *Entomophaga*, 15 : 396-8, ♀ ♂, des., figs., hosts (Tenkasi, India, type Zool. Surv. India, Calcutta*), No. 6064/H3 (not Aligarh as stated in the original publication); paratypes Z.S.I., No. 6084/H3, Zool. Dept. Alig. Musl. Univ. Aligarh and Hayat coll.), also Tuticorin.

The species differs from *C. (S.) subaeneus* (Foerster) and *C. (S.) novitzkyi* (Domenichini) mainly by the relative lengths of antennal segments and longer marginal fringe of fore wings. The male genitalia are illustrated here (Fig. 8) for comparison with those of the new species described here.

Distribution : India : Tamil Nadu.

Hosts : Coccidae : *Ceroplastodes cajani*; Pseudococcidae : *Nipaeococcus viridis*.

4. *Chartocerus* (*Signiphorina*) *intermedius*, sp. nov. (Figs. 1-6)

The new species is very closely related to, and almost indistinguishable in female sex, from *C. (S.) fimbriae* Hayat in colour, sculpture etc., but is distinct in the male by the antennal dimensions and details of the genitalia. The description given for *fimbriae* (Hayat, *op. cit.* p. 396-8) applies equally well to the new species; so in the following description only those characters are given in which the new species differs from *fimbriae*.

Female (Figs. 1-4) : Length 1.00 mm. Antennal club seven times as long

*The holotypes of all the chalcid species described by me and stated in print as deposited in Zoology Museum, Aligarh Muslim University, Aligarh (U.P.), have since been transferred to the National Collections, Zoological Survey of India, Calcutta. However, paratypes are in Aligarh, Calcutta and in Hayat collection.

as wide. Mesopostphragma, measured from the apex of propodeum, as long as scutellum, metanotum and propodeum combined.

Male (Figs. 5, 6) : Antennal club elongate, curved in basal third, about ten times longer than wide. Genitalia differ from those of *fimbriae* (Figs. 6 and 8) in having slender and elongate (about four and a half times longer than wide) digits.

Holotype ♀, *paratypes* 1♀, 1♂, (mounted on 3 slides, Nos. 373MA, 1, 2, 3), INDIA : UTTAR PRADESH : Bareilly, 28.x.1969, ex mealy bug along with encyrtid parasites, Coll. M. Hayat. In the National Collections, Zoological Survey of India, Calcutta.

Distribution : India : Uttar Pradesh.

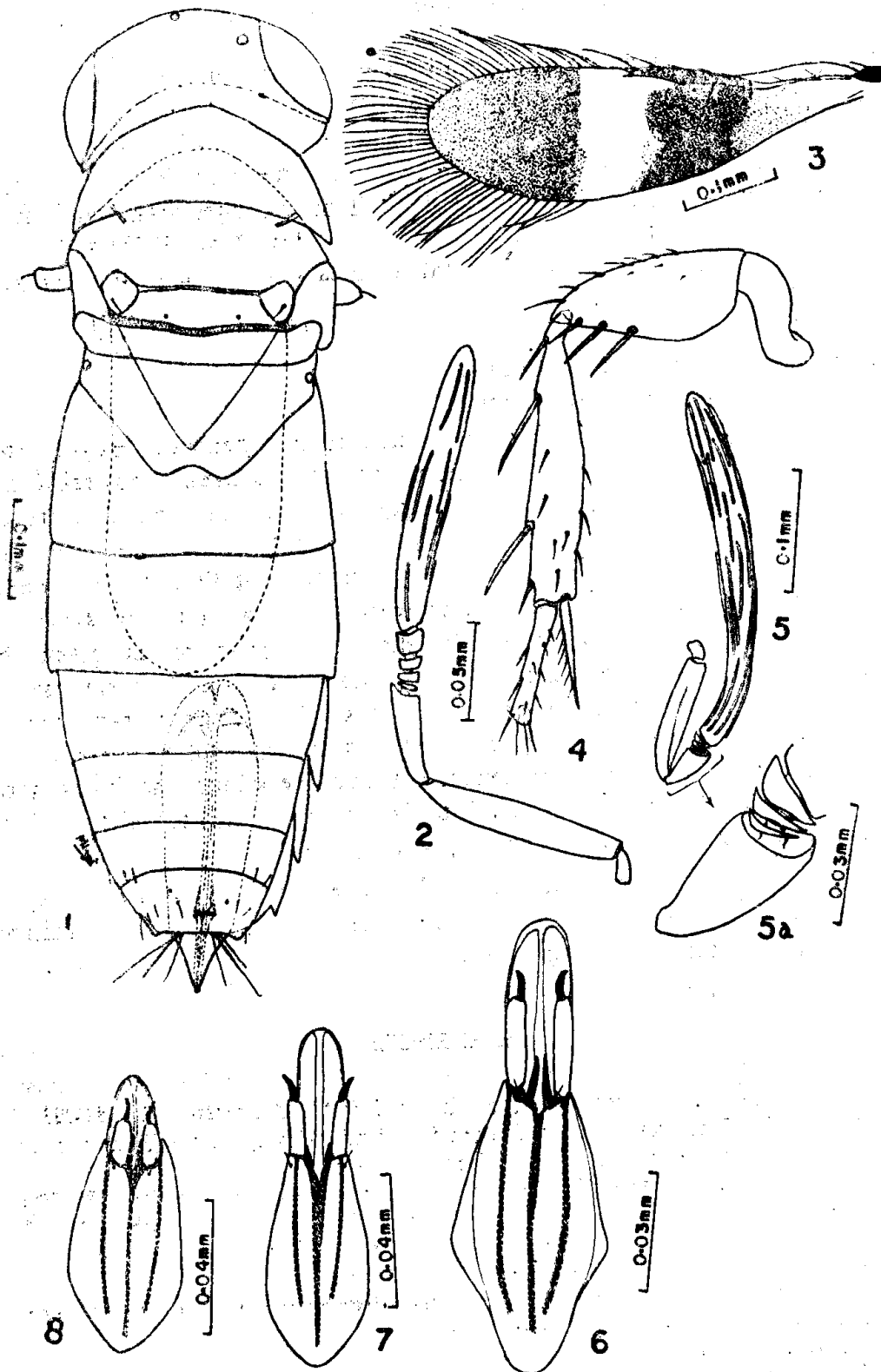
Host : Pseudococcidae : mealy bug.

The two Indian species of subgenus *Signiphorina* (*fimbriae* Hayat, *intermedius*, sp. nov.) are apparently very closely related to *subaeneus*, *novitzkyi* and *elongatus* (Girault), but are at once distinguished by the long marginal fringe of the fore wings and different conformation of the male genitalia (see Domenichini, 1955, for a detailed study of the variations of these three species). The comparative lengths of marginal fringe of fore wings expressed as a percentage of the maximal width of the disc of fore wing as given by Domenichini are as follows : *subaeneus*—42.2-59% ; *novitzkyi*—48.3% ; *elongatus*—34.3-36.4% ; whereas in both the Indian species it is 75%. In the new species the male genitalia resemble much more closely with those of *subaeneus* but differ in having comparatively more slender digits and very long and but slightly curved denticles on phallobase. These denticles in *subaeneus* are short, thick and strongly curved [Domenichini, l.c., fig. 4(7)].

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Figs. 1-6. *Chartocerus (Signiphorina) intermedius*, sp. nov., ♀, ♂: 1, Entire female dorsal, excluding antennae, wings and legs, holotype; 2, Antenna, ♀; 3, Fore wing, ♀; 4, Part of middle leg, ♀; 5, Antenna, ♂; 5a, The same, pedicel and funicle enlarged; 6, Genitalia, ♂.

Fig. 7. *Chartocerus (Matritia) kerriichi* (Agarwal), ♂ genitalia.

Fig. 8. *Chartocerus (Signiphorina) fimbriae* Hayat, ♂ genitalia.