

XXXIV.—MALLOPHAGAN PARASITES FROM INDIAN BIRDS.
PART II. *PECTINOPYGUS (PHILICHTHYOPHAGA)*
MAKUNDI, SP. N. (ISCHNOCERA), FROM THE LITTLE
CORMORANT, *PHALACROCORAX NIGER* (VIEILLOT).

By BHUP KISHORE TANDAN,
Department of Zoology, University of Lucknow, India.

THE material forming the basis of this paper was collected from the Little Cormorant, *Phalacrocorax niger* (Vieillot), brought by my friend Mr. R. D. Vidyarthi, to whom I am grateful for allowing me to examine the bird.

My best thanks are due to Professor K. N. Bahl, under whose supervision this work was done. I am equally thankful to Miss Theresa Clay of the British Museum (Natural History) for the loan of the slides of *Pectinopygus (Philichthyophaga) excornis* (Blagoveschtchensky), 1940, and *P. (P.) afer* (Kellogg), 1907; to Mr. G. H. E. Hopkins (Zoological Museum, Tring, Herts.) for his kindness in providing me with Kellogg's account of *P. afer*.

Genus *PECTINOPYGUS* Mjöberg, 1910.

Subgenus *Philichthyophaga* Harrison, 1935.

Pectinopygus (P.) makundi, sp. n. (Figs. 1-7.)

Material examined.—Fifty-three males and forty-five females, off *Phalacrocorax niger* (Vieillot), from Lucknow, U.P. Collected on 4. x. 47.

Type-material.—Holotype male and allotype female, on slides nos. 588 and 589 respectively, presented to the British Museum (Natural History). Paratypes will be deposited in the collections of the leading Mallophagologists.

Well sclerotized and pigmented form.

Description of male.—Slender and elongated; general characters as shown in fig. 1.

Head and antenna as shown in fig. 2 *b* and fig. 3 respectively. The antennæ differ markedly in the two sexes. C.I. 0.70-0.73. Clypeal signature and eye-spots distinct.

Prothorax with slightly divergent sides and with a narrow unpigmented median line dorsally. Pterothorax quadrangular, slightly broader than long, and with slightly projecting postero-lateral angles. Strongly pigmented laterally, and with a narrow unpigmented median line dorsally. Metasternal plate pointed posteriorly.

Thoracic chaetotaxy as shown in fig. 1.

Abdomen approximately three and a half times as long as broad, being broadest in segment V or VI. Second segment with almost parallel sides, being slightly longer than broad. Segments III-V or VI becoming broader progressively, the others (VII-IX) tapering gradually to the tip.

Fig. 1.

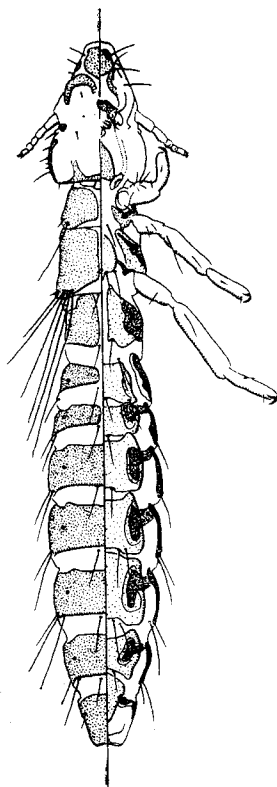


Fig. 2.

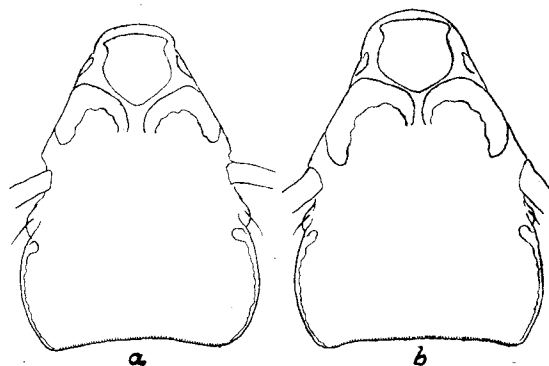


Fig. 3.

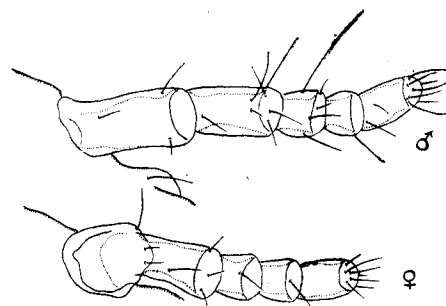


Fig. 1.—*Pectinopygus (P.) mukundi*, male.
 Fig. 2.—Male heads. (a) *Pectinopygus (P.) excornis*; (b) *P. (P.) mukundi*.
 Fig. 3.—*Pectinopygus (P.) mukundi*, male and female antennae.

Tergal plates separated medianly in segments II-IV, but continuous in segments V-IX. Sternal plates and abdominal chaetotaxy as shown in figs. 1 and 4. Male genitalia as shown in fig. 5.

Body-measurements as given in Table I.

TABLE I.

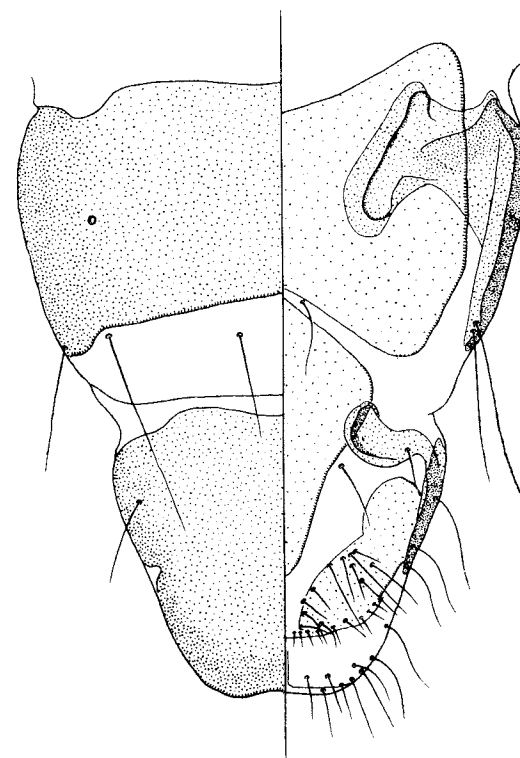
| | Male. | | Female. | |
|-------------------|-------------|-------------|-------------|-------------|
| | Length. | Breadth. | Length. | Breadth. |
| Head | 0.459-0.487 | 0.329-0.341 | 0.447-0.520 | 0.390-0.434 |
| Prothorax | 0.125-0.142 | 0.255-0.276 | 0.138-0.178 | 0.300-0.333 |
| Pterothorax | 0.197-0.227 | 0.284-0.317 | 0.186-0.235 | 0.377-0.439 |
| Abdomen | 1.404-1.545 | 0.341-0.411 | 1.328-1.465 | 0.650-0.788 |
| Total | 2.237-2.382 | | 2.117-2.350 | |
| C.I. | 0.70-0.73 | | 0.82-0.88 | |

(All measurements are in millimetres.)

Description of female.—Considerably stouter than male. Head and antenna as in fig. 6 b and fig. 3 respectively. C.I. 0.82-0.88.

General characters of pro- and pterothorax as in the male, except for differences in various measurements.

Fig. 4.



Pectinopygus (P.) mukundi, terminal segments of male abdomen.

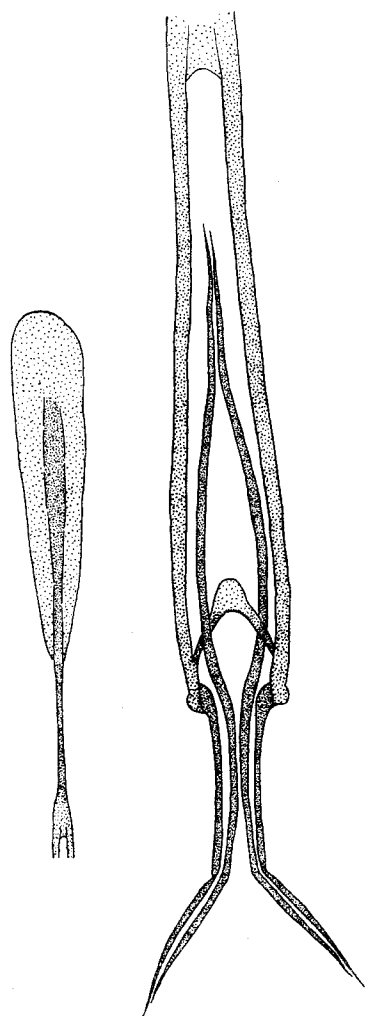
Abdomen about twice as long as broad, being broadest in segment V. Tergal plates not continuous. Pleurites strongly sclerotized and pigmented. Sternal plates in the form of deeply pigmented laterally placed ovoid or kidney-shaped thickenings in segments III-VIII, those on segments III-VII being joined across the segments by weakly pigmented plates. Dorsal and ventral chaetotaxy, and tergal and sternal plates of the terminal segments as shown in fig. 7.

Various measurements as given in Table I.

Remarks.—The species described here is closely related to *Pectinopygus (P.) excornis* (Blagoveschtchensky), 1940, parasitic on *Phalacrocorax pygmaeus*, and *P. (P.) afer* (Kellogg), 1907, parasitic on *Phalacrocorax*

africanus. The males of the three species *P. (P.) makundi*, *P. (P.) excornis* and *P. (P.) afer*, as well as the females but to a lesser degree, exhibit differences in the shape of their heads. In this character *P. (P.) makundi*

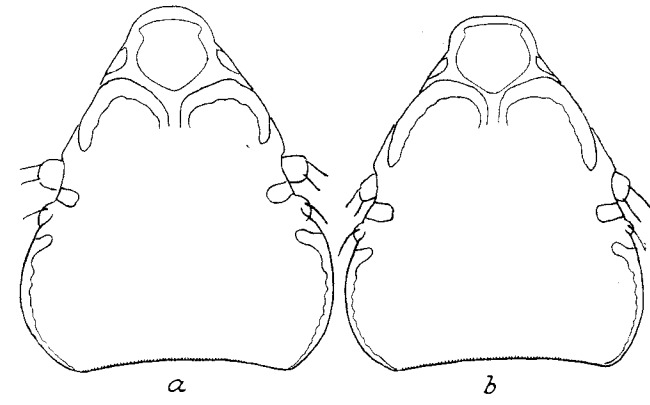
Fig. 5.



Pectinopygus (P.) makundi, male genitalia.

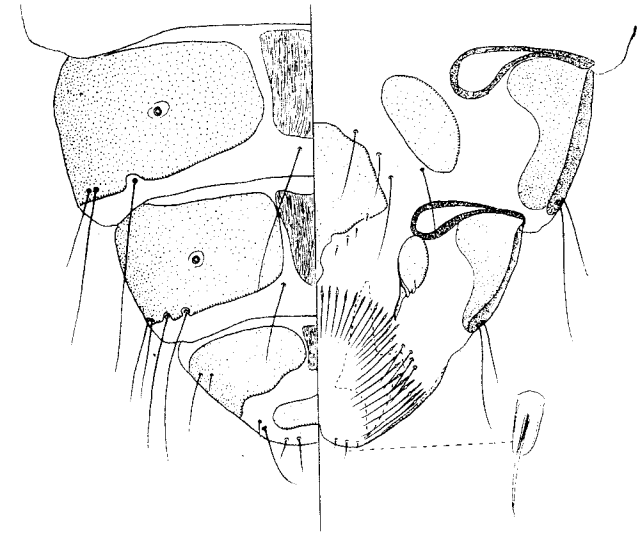
is closer to *P. (P.) excornis* rather than to *P. (P.) afer*; in the latter species the shape of the head at the temples and frons is markedly different than in the two former species. The differences in the shape of the heads of

Fig. 6.



Female heads. (a) *Pectinopygus (P.) excornis*; (b) *P. (P.) makundi*.

Fig. 7.



Pectinopygus (P.) makundi, terminal segments of female abdomen.

both the sexes of *P. (P.) makundi* and *P. (P.) excornis* are shown in figs. 2 and 6, drawn to the same scale.

As the male genitalia of the present species (fig. 5) could not be compared with those of *P. (P.) excornis* and *P. (P.) afer*, twenty males (and as many females) of *P. (P.) makundi* (paratypes), in alcohol, have been deposited in the British Museum (Natural History) so that material may be available for comparing the male genitalia, as well as the biometrical data, of this species with that of the already known species.

The species has been named after my former teacher Dr. M. B. Lal, Reader in Zoology, University of Lucknow.