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***Neobrachiella kabatai* n. sp. (Copepoda: Lernaeopodidae) parasitic on *Isacia conceptionis* (Cuvier) (Osteichthyes: Pomadasyidae) from Peruvian waters**

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Abstract

Neobrachiella kabatai n. sp., parasitic on the pomadasyid fish *Isacia conceptionis* (Cuvier) from the Peruvian central coast, is described and illustrated. The new species differs from other species of *Neobrachiella* in a combination of characters, including the number of trunk posterior processes and the trunk-cephalothorax length ratio.

Introduction

The number of studies on lernaeopodid copepods parasitic on fishes from the South American Pacific has increased in recent years. Twelve species of the genus *Neobrachiella* Kabata, 1979 are known, the majority being from the Chilean coast and only one, *N. insidiosa* (Heller, 1865) being known from Peruvian marine fishes (Ho, 1982; Durán & Oliva, 1983; Castro & Baeza, 1986, 1987, 1989).

As part of a parasitological study in Peruvian waters, specimens of a new species of *Neobrachiella* (Lernaeopodidae) were collected from the gills of the marine fish *Isacia conceptionis* (Pomadasyidae). The parasite is described and compared with related species.

Materials and methods

Fishes examined were obtained from the fish-market in Chorrillos, Perú (12°30'S, 76°50'W). The

copepods were fixed in 70% ethanol and the appendages were dissected, cleared with lactic acid, and in some cases mounted in glycerine-jelly. Drawings were made with the aid of a camera lucida. All measurements are given in millimetres and expressed as the mean followed by the range in parentheses. The nomenclature of the appendages follows that adopted by Kabata (1979). The following institutional abbreviations apply: BM(NH), British Museum (Natural History); LPURP, Laboratorio de Parasitologia, Universidad Ricardo Palma, Perú.

***Neobrachiella kabatai* n. sp. (Figs 1–13)**

Type-host: *Isacia conceptionis* (Cuvier, 1831) (Pomadasyidae).

Site of infection: Gills.

Type-locality: Chorrillos, Peru.

Record of specimens: Six ovigerous females and 2 males (taken Feb. 22nd, 1988); 4 ovigerous females and one male (taken June 14th, 1988).

Type-material: Holotype (female), No. 1989.1021 BM(NH); Allotype (male), No. 1989.1022 BM(NH); Paratypes (one female with male attached), No. 1990.133–135 BM(NH); (6 females), No. 112 LPURP Collection.

Description

Female (Fig. 1)

Cephalothorax subcylindrical, twice as long as trunk; with conspicuous dorsal shield. Trunk pyriform or sub-oval; posterior margin (Fig. 7) with 3 pairs of dorso-lateral processes and 2 pairs of shorter, digitiform processes. Uropods poorly developed (length about 75% of dorso-lateral process). Genital process absent.

Dimensions (based on 6 specimens): Cephalothorax length 2.55 (2.30–2.90); width 0.26 (0.20–0.31). Trunk length 1.17 (0.95–1.35); width 0.60 (0.45–0.75). Second maxilla length 1.20 (1.05–1.35); width 0.34 (0.30–0.35). Postero-lateral process length 0.23 (0.20–0.25); width 0.10 (0.08–0.13). Egg-sacs length 1.34 (1.17–1.50); width 0.27 (0.22–0.30).

First antenna (Fig. 2A, B) four-segmented, its apical armature comprising tubercles (1, 2, 3) (tubercle 3 not shown in Fig. 2), one digitiform seta (4), 3 setae (complex 5) and one slender seta (6); middle segment bearing one short digitiform seta. Second antenna (Fig. 3) typical of *Neobrachiella*; bulbous exopod apparently without denticulation; endopod indistinctly two-segmented, with apical armature comprising 3 spines and prominent ventral process densely covered with blunt spinules. Mandible (Fig. 4) with dental formula P1S1, P1S1, P1S1, B4. First maxilla (Fig. 5) endopod with 2 papillae bearing one terminal seta each, numerous dorsal short spinules located at endopod base; exopod ventro-lateral, short, tubercular, bearing at its apex 2 short setae. Second maxilla (Fig. 1) approximately 50% of cephalothorax length. Bulla with short manubrium and subconical anchor. Maxilliped (Fig. 6): corpus strong, with myxal area bearing conspicuous short digitiform processes; spinulate pad and one spine at base of subchela; claw slightly curved; shaft

with barb and minute spinules at distal inner margin.

Male (Fig. 8)

Total length 0.45 (0.40–0.50) (based on 3 specimens). Cephalothorax separated from trunk by constriction; latter fusiform, with subconical posterior extremity bearing uropods; external genitalia not observed.

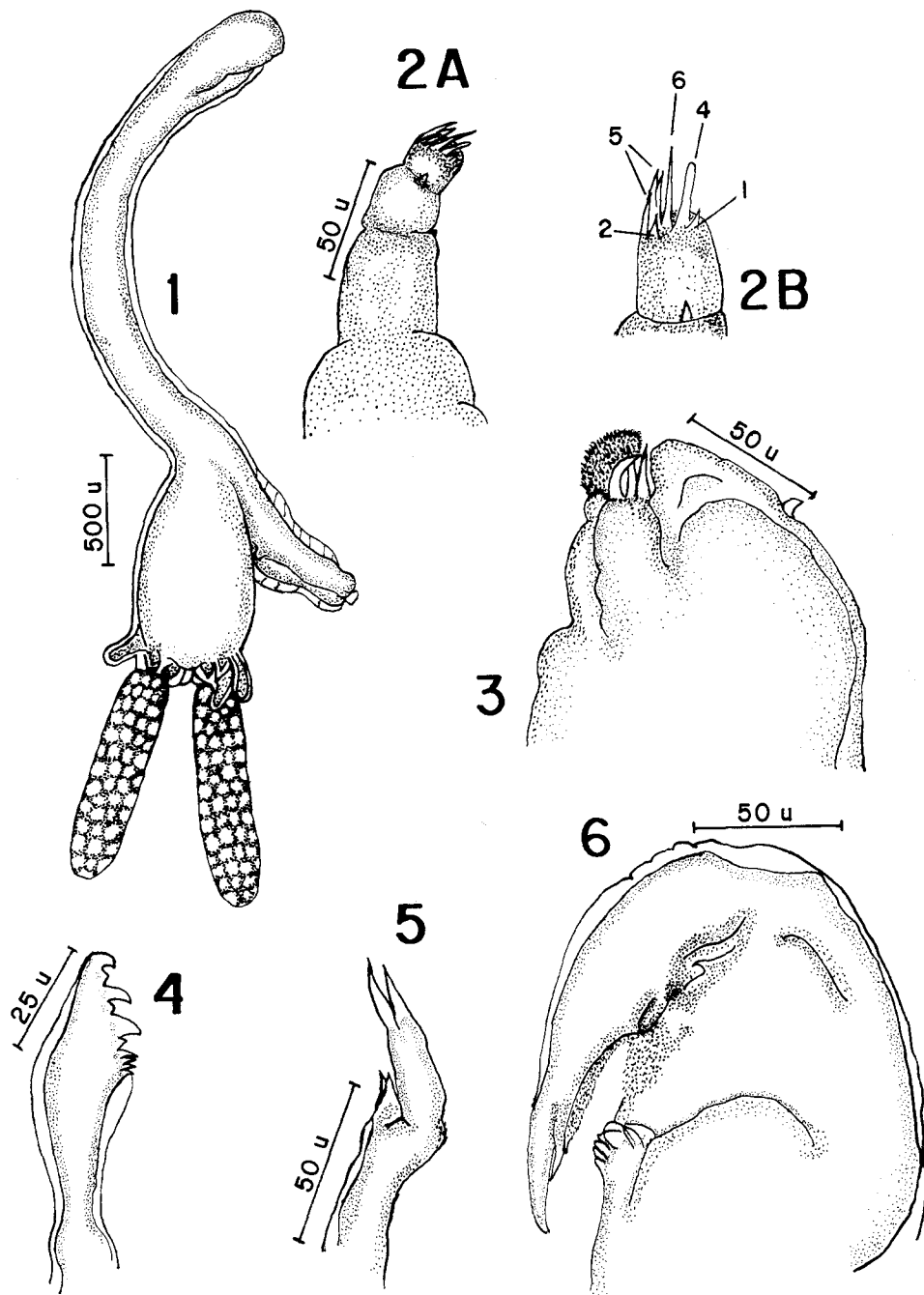
First antenna (Fig. 9) apparently three-segmented, apical armature similar to that of female. Second antenna (Fig. 10) exopod shorter than endopod, with denticulated ventral surface; endopod apparently two-segmented, proximal segment with spinulate pad on ventral margin; distal segment with armature comprising 2 spines of unequal size and densely spinulate ventral process. First maxilla (Fig. 11) similar to that of female. Second maxilla (Fig. 12) with sub-quadrangular corpus and short, sharply bent subchela. Maxilliped (Fig. 13) with subconical corpus, subchela curved and unarmed.

Etymology

The specific name is in honour of Dr Zbigniew Kabata for his contributions to parasitic copepod taxonomy.

Comments

According to the key proposed by Castro & Baeza (1987), the *Neobrachiella* species described above should be compared with the species bearing more than two pairs of posterior processes and uropods which are not well developed or very short. In this group are included *N. bera* (Yamaguti, 1939), *N. papillosa* (Pearse, 1952) and *N. exilis* (Shiino, 1956); the latter species has been recently redescribed by Castro & Baeza (1986) from specimens collected on *Mugil cephalus* L. in Chilean waters. *N. kabatai* n. sp. is easily differentiated from these species by the number of posterior processes, the new species bearing three pairs of dorso-lateral and two pairs of short, digitiform processes. *N. bera* and *N. exilis* have three pairs of posterior processes and *N. papillosa* four pairs of short and

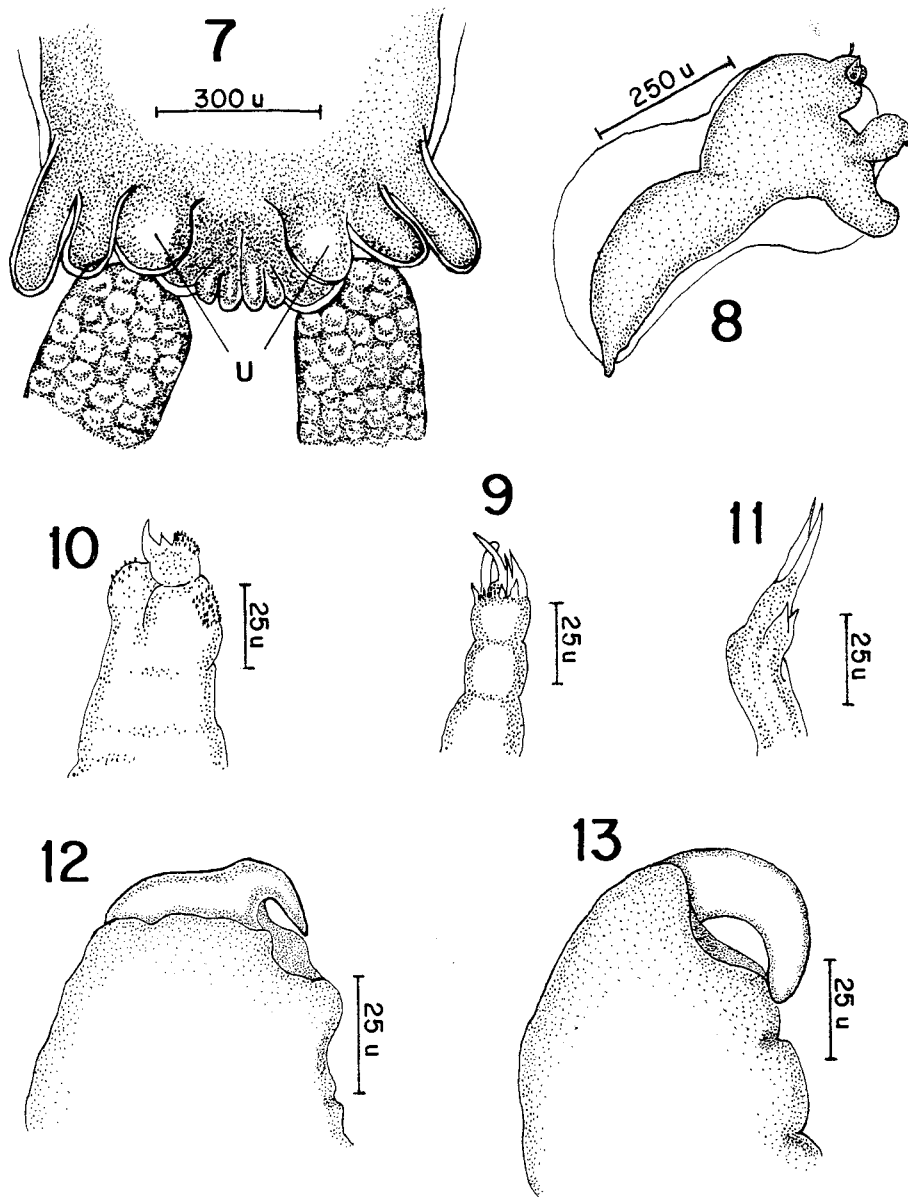


Figs 1–6. *Neobrachiella kabatai* n. sp. Female. 1. Lateral view. 2A. First antenna; 2B. Same, detail of apical armature. 3. Second antenna. 4. Mandible, 5. First maxilla. 6. Maxilliped.

subspherical processes. Another significant distinguishing feature is the length of the cephalothorax, which twice as long as the trunk in *N. kabatai*.

The last species of *Neobrachiella* to be described was *N. anisotremi* Castro & Baeza, 1989,

parasitic on *Anisotremus scapularis* (Tschudi) from the Chilean coast. *A. scapularis* belongs to the same host family (Pomadasyidae) as *Isacia conceptionis*. However, *N. anisotremi* differs from *N. kabatai* in several morphological characters,



Figs 7–13. *Neobrachiella kabatai* n. sp. 7. Female. Posterior end. 8–13. Male. 8. Lateral view. 9. First antenna. 10. Second antenna. 11. First maxilla. 12. Second maxilla. 13. Maxilliped. Abbreviation: u, uropods.

including the number of posterior processes, the presence of a genital process and the trunk-cephalothorax length ratio.

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