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NEOBRACHIELLA ANISOTREMI (COPEPODA: LERNAEOPODIDAE), A NEW SPECIES PARASITIC ON AN INSHORE FISH, *ANISOTREMUS SCAPULARIS,* OFF THE CHILEAN COAST

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Abstract.—*Neobrachiella anisotremi,* parasitic on *Anisotremus scapularis,* an inshore fish of the northern coast of Chile, is described and illustrated. The new species can be distinguished from all the species in the genus by a combination of characters including second maxilla, trunk-cephalothorax length ratio, and specially the posterior processes.

The existing literature contains very little information on the genus *Neobrachiella* Kabata, 1979, in Chilean waters. Only five species have been recorded. Krøyer (1863) gave a sketchy decription of *Anchorella* (=*Neobrachiella*) *appendiculata,* without recording its host. Ho (1983) described *Neobrachiella amphipacifica,* a species occurring in both the North and South Pacific. In the latter it was found on *Psichrolutes sio* Nelson, a deep water fish, in northern Chile. Castro & Baeza (1986) added to the list *Neobrachiella exilis* (Shiino, 1956) parasitic on *Mugil cephalus* L., 1758; *N. chevreuxii* (van Beneden, 1891), from *Paralonchurus peruanus* (Steindachner, 1785) and *N. paralichhyos,* Castro & Baeza, 1986. Recently we decribed four other species collected from sciaenid hosts from the Chilean coast (Castro & Baeza 1987).

In the course of our studies of the parasitic copepods of Chilean fishes, we discovered another species of *Neobrachiella,* parasitic on an inshore fish, *Anisotremus scapularis* (Tschudi). This species is described and illustrated below. Terminology used is that proposed by Kabata (1979).

Neobrachiella anisotremi, new species
Figs. 1–7

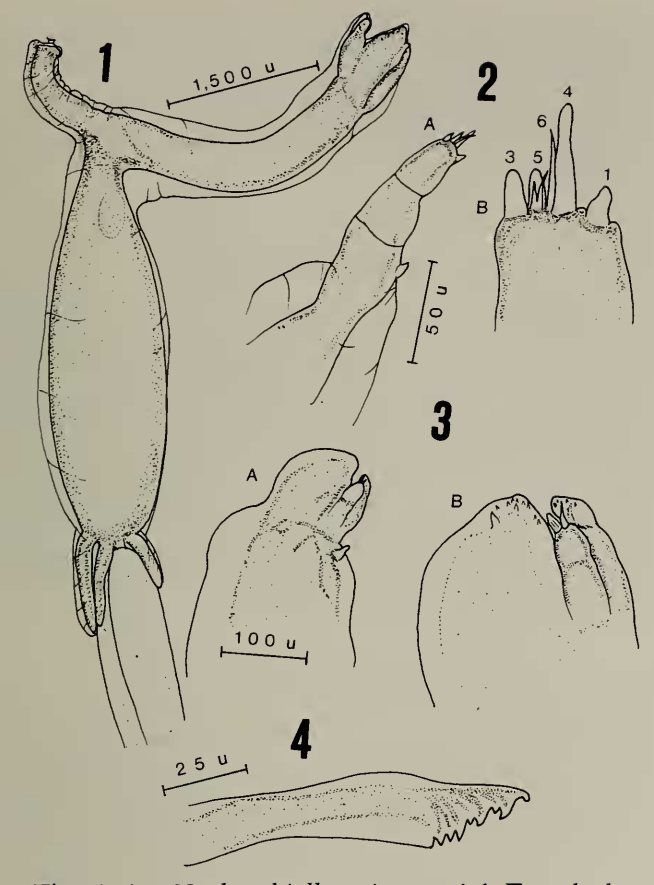
Material examined.—Four ovigerous females (8 Jan 1982); one female (12 Mar 1982) and three females (14 Jul 1982). Types deposited in National Museum of Natural History (USNM), Smithsonian Institution. Holotype USNM 210517; Paratype USNM 210158.

Habitat.—Branchial arches of *A. scapularis,* collected by beach seining.

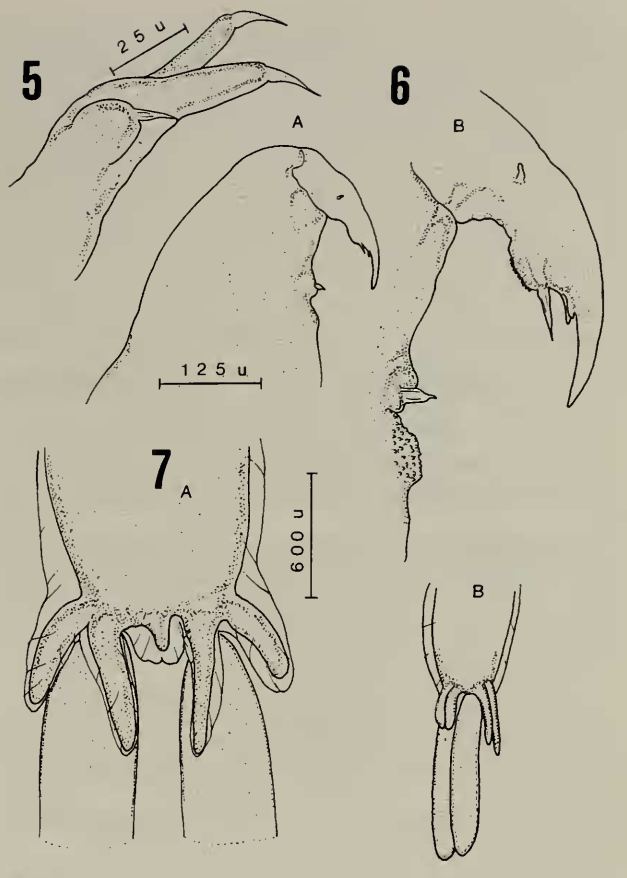
Locality.—Isla Santa Maria, Antofagasta (23°27′S; 70°25′W).

Description.—Female (Fig. 1). Cephalothorax subcylindrical, arching with slightly expanded cephalic region, mean length 2636 μm (range 2242–2908 μm), width 455 μm (range 364–545 μm); dorsal shield well delimited, subrectangular. Trunk much longer than wide, mean length 2909 μm (range 2121–3636 μm), width 1136 μm (range 909–1333 μm); its length varying from 75 to 123% of that of cephalothorax; posterior extremity with two pairs of processes (Fig. 7A, B); first pair ventral to egg sacs, mean length 736 μm (range 606–805 μm); its length 20–38% that of trunk; second pair dorsal to egg sacs and shorter, mean length 570 μm (range 483–606); its length 73–83% that of first; genital process of varying length, mean 186 μm (range 113–145 μm); poorly developed in some specimens. Egg sacs subcylindrical, multiseriate, mean length 2651 μm (range 1818–3515 μm); their length 71–112% that of trunk.

First antenna (Fig. 2A, B) apparently 4–



Figs. 1–4. *Neobrachiella anisotremi*: 1, Female, lateral view; 2A, First antenna; 2B, First antenna, detail of apical armament; 3A, Second antenna; 3B, Second antenna, detail of apical armament; 4, Mandible.



Figs. 5–7. *Neobrachiella anisotremi*: 5, First maxilla, ventral; 6A, Maxilliped; 6B, Maxilliped, detail of myxal area and claw; 7A, Posterior end of trunk, female; 7B, Lateral view of same, showing processes and egg sacs.

segmented; first and second segments indistinctly separated, second armed with spine on distoventral margin; third short, unarmed; fourth segment with apical armament as follows: tubercles 1 and 3 well developed, 4a centrally situated, digitiform seta; 6a single slender seta, and 5a complex, consisting of a bifid seta and an additional simple process; gibber absent. Second antenna (Fig. 3A, B) strongly sclerotized, its long axis running through sympod and exopod; sympod bearing short robust spine on its distoventral border; exopod bulbous, apex spinulose on dorsal side; endopod 2-segmented, distal segment with apical spiniform process (reduced hook one, see Kabata 1979) and two setae (spinulation on ventral surface of distal segment can be seen on distended cuticle in Fig. 3B). Mandible (Fig. 4) with dental formula P1,P1,S1,P1, S1,B3. First maxilla (Fig. 5) with papilliform exopod situated ventrally, bearing single seta; endopod armed with two subcylindrical, setiferous papillae, ventral papilla stouter than dorsal; no spinulation observed. Second maxilla (Fig. 1) fused only at tip, slender, less than half length of cephalothorax; mean length 1051 μm (range 909–1273 μm); without conspicuous collars (bulla with short manubrium and anchor of narrow diameter).

Maxilliped (Fig. 6A, B) corpus strong, slightly tapering, with spiniform process and denticulate pad in myxal area; patch of spinules near maxilla with subchela; shaft of subchela with barb and spinulose pad on distomedial part, claw gently curved, with two accessory teeth.

Male.—Unknown.

Etymology.—The specific name *anisotremi,* is derived from the generic name of the host.

Discussion.—To establish the identity of *Neobrachiella anisotremi* it must be compared with all the species of the genus possessing two pairs of posterior processes. A comparison within this group must be based on a combination of gross morphological characters (cephalothorax length; trunk length; relationships between the length of posterior process and other parts of the body), since descriptions of the appendages are not available for all species. Using these criteria, the present species can be distinguished from all of them by a combination of characters. It resembles most closely *N. gulosa* (Wilson, 1915) but can be differentiated from this species by the posterior processes.

Wilson's species has ventral processes as long as the trunk, whereas in *N. anisotremi* they are only 20–38% of the trunk length. Slight differences exist also in the structure of the second maxilla, that of *N. gulosa,* in contrast to *N. anisotremi,* having a prominent swelling accommodating the excretory glands.

Another difference can be found in the cephalothorax-trunk length ratio. In *N. gulosa* the cephalothorax is considerably longer than the trunk, whereas in *anisotremi* the trunk is longer than the cephalothorax.

A unique feature of *N. anisotremi* is the presence of a short spine on the distolateral border of the sympod of the second antenna.

The four recently described species, parasitic on host fishes of the genus *Sciaena* (*N. oralis, N. auriculata, N. fasciata,* and *N. dispar*), which are included in the same group as the present one, can be differentiated by a combination of characters that clearly distinguish between each one and *N. anisotremi.* Their differences are given in the key to the species of *Neobrachiella* (Castro & Baeza 1987).

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