

Three New Records for Micronesia of Cymothoid Isopods (Crustacea) Parasitic on Fishes¹

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ABSTRACT: *Ceratothoa angulata* (Richardson) was found in the mouth of Dussumier's halfbeak, *Hyporhamphus dussumieri*; *Cymothoa bychowskyi* Avdeev in the gill chamber of the red cornetfish, *Fistularia petimba*; and *Elthusa raynaudii* (Milne-Edwards) in the mouth of the blueline snapper, *Lutjanus kasmira*, collected in Guam. *Elthusa raynaudii* has only been reported in the Southern Hemisphere, except for one other record in Japan; *C. bychowskyi* has previously only been found in the Indian Ocean; and *C. angulata* has previously only been found in the Philippines and Borneo. The blueline snapper is a new host for *E. raynaudii*. These great range extensions suggest how poorly cymothoid isopods are known.

MUCH OF THE cymothoid fauna of the small islands of the western and central Pacific is poorly known. We are not aware of any studies of fish-parasitic isopods in Micronesia. Cymothoid records from the insular Pacific are important in understanding these isopods because many species only occur in the continental areas of the Pacific or in islands influenced by the continental areas although their hosts are more widespread (E.H.W. and L.B.W., unpubl. data). We report three new records of isopods from Guam. That these records extend the known range of each isopod species thousands of kilometers is some indication of both how poorly this fauna is known and how important such records are in understanding the distributions of species in this crustacean family.

Fish hosts were collected by trap, seine, and hook and line. Fish specimens were also

examined from the University of Guam Ichthyological Collection (UOG). The external surfaces, mouth, and gill chambers of each fish were examined grossly without the aid of magnification, thus no gnathiid isopods were collected. All isopod specimens were deposited in the U.S. National Parasite Collection (USNPC). Specimens are also noted from the Crustacean Collection of the U.S. National Museum (USNM). The blueline snapper hosts were not preserved. Host lengths are either in fork length (FL) or total length (TL).

A female specimen of *Ceratothoa angulata* (Richardson) (USNPC 088995) 20.0 mm long and 9 mm wide was found in the mouth of a 28-cm FL *Hyporhamphus laticeps* Kami et al., 1968, UOG 1657 [= *Hyporhamphus dussumieri* (Valenciennes), Dussumier's halfbeak], collected 9 October 1968 in the WCS Beach Lagoon, Guam. A male *Cymothoa bychowskyi* Avdeev (USNPC 088996) was found in the gill chamber of a 48-cm TL red cornetfish, *Fistularia petimba* Lacépède, UOG 1110, collected 5 November 1967 north of NCS Beach, Guam. A female-male pair and a solitary female of *Elthusa raynaudii* (Milne-Edwards) (USNPC 088997) each were found in the mouths of two of four 195–232 cm FL blueline snapper [or common bluestripe snapper], *Lutjanus kasmira* (Forsskål), collected 4 October 1997 in 61.0 m depth off

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Gun Beach, north of Tumon and south of Two Lovers Point, in North Tumon Bay, Guam.

Ceratothoa angulata previously was known from a 21.5-mm ovigerous female specimen (USNM 41008) on an unknown host in the Philippines and a 17.5-mm non-ovigerous female (USNM 218692) and a 7.0-mm male (USNM 240023) in the mouth of Dussumier's halfbeak from Borneo (Bruce and Bowman 1989). The specimen reported here doubles the number of taxonomically useful (ovigerous female) specimens and extends the known geographic range 2060 km. This isopod has only been found on Dussumier's halfbeak. Bruce and Bowman (1989) suggested, without the benefit of any data, that this isopod might duplicate the much wider geographic range known for its host in the Indo-Pacific. Our record adds some credence to their assumption.

Cymothoa bychowskyi was described by Avdeev (1979) from the gill chamber of the red cornetfish, *Fistularia villosa* Klunzinger, 1871 [= *Fistularia petimba*, red cornetfish], in the Indian Ocean. The record reported here is the first noted since the description and the first in the Pacific Ocean. In 1985 and 1986, we found this isopod in cornetfishes in Okinawa, Japan (as summarized by Williams et al. 1996), but detailed data will be presented elsewhere (E.H.W. and L.B.W., unpubl. data).

Elthusa raynaudii is common and widespread in the Southern Hemisphere, with records from Australia, Tasmania, New Zealand, South Africa, Uruguay, and Chile (Bruce 1990). However, there is only one published record (in Japan) of this isopod in the Northern Hemisphere (Bruce 1990) [Bruce (1990) doubted the Northern Hemisphere records of this isopod from clupeids by Pillai (1954)]. The record reported here is the second in the Northern Hemisphere and extends the known range of this isopod many

thousands of kilometers. The blueline snapper is a new host for *E. raynaudii*.

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