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THE FIRST OCCURRENCE OF THE
BRACHYCARPUS BIUNGUICULATUS (LUCAS) (CRUSTACEA,
DECAPODA, PALAEMONIDAE) IN THE WESTERN INDIAN
OCEAN.*

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THE Palaemonid genus *Brachycarpus* Bate 1888 contains so far only a single species, *Brachycarpus biunguiculatus* (Lucas), which has been reported from numerous widespread localities and appears to have a circum-tropical distribution. Although records from the Caribbean Sea and the Mediterranean Sea are numerous, the presence of this species in other parts of its range seems to have been only infrequently reported. Further specimens obtained during the ninth cruise of the R.V. "Anton Bruun" in the Western Indian Ocean as part of the United States contribution in Biology to the International Indian Ocean Expedition, are therefore of interest.

Brachycarpus biunguiculatus (Lucas). (Fig. 1, A-B.)

- Palaemon biunguiculatus* Lucas 1849. *Explor. Scient. Algérie Anim. art., Crust.*, **45**, pl. iv, fig. 4.
- Brachycarpus swignyi* Spence Bate 1888. *Rep. Voy. Challenger, Zool.*, **24**, 37, pl. cxxix, fig. 4.
- Brachycarpus biunguiculatus*: Kemp 1925. *Rec. Indian. Museum*, **I**, 312-4 (with full synonymy).
- Brachycarpus biunguiculatus*: Holthius 1950. *Siboga Exped., mon.* **39a**, 9, 12.
- Brachycarpus biunguiculatus*: Holthuis 1955. *Zool. Verh.* **26**, 51, fig. 30a.

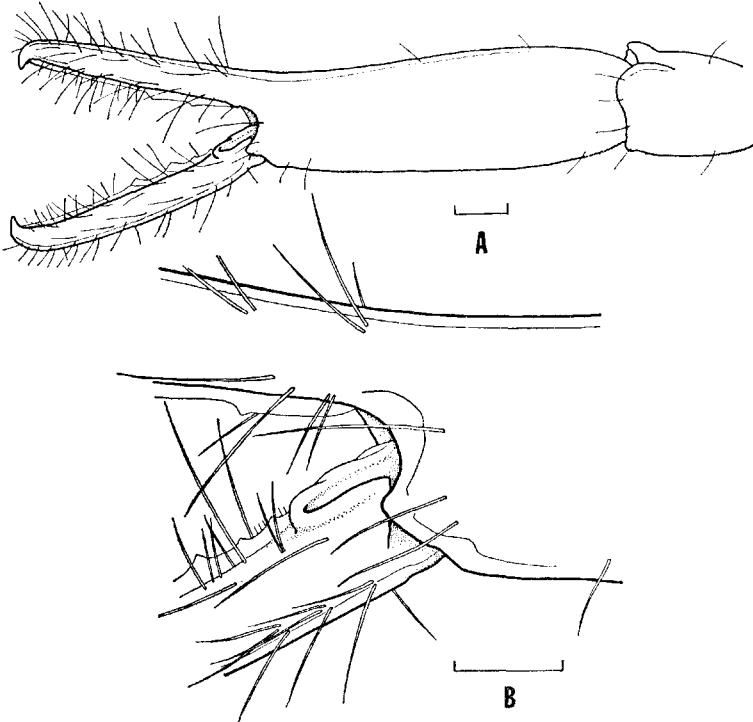
Material Examined: R.V. "Anton Bruun", Cr. 9, 20/11/64, fish poisoning station, Latham Island, 06° 50.2' S., 39° 50.6' E.; two males and two ovigerous females, collected by Dr. H. E. Vokes from a small grotto in old coral rock, 4ft. below L.W. level.

The specimens agree well with the published accounts and no further description is necessary. Kemp has drawn attention to the unusual form of the chela of the second pereopod in this species but did not illustrate it. The present specimens agree with Kemp's description and illustrations are provided. The raised ridge on the dactyl, which lies immediately in front of the hinge, encloses a shallow elliptical depression, the rim of which is deficient proximally and laterally. The depression is situated laterally and is easily visible when the fingers are closed and the chela is viewed dorsally. The morphology of this depression is similar in males and females. It was also observed, under high magnification, that the surface of the palm of the chela is minutely granulated.

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Colour: The general coloration of the body is a bright orange-brown which is most marked on the abdomen, where it forms transverse bars posteriorly across each segment, and the caudal fan. The post-rostral carina is a darker rusty red but the distal part of the rostrum is nearly colourless. The antennal peduncles are pale but the flagella are reddish brown.

Fig. 1, A-B.



Brachycarpus biunguiculatus (Lucas), male, Latham Island, Western Indian Ocean. A, chela of second pereiopod, lateral view. B, same, dactylar hinge, lateral view. Scales equal 1 mm.

The chela of the second pereiopod has the palm orange-brown and a dark brown bar extends across the bases of the fingers, the tips of which are darker brown. The intermediate zone consists of a broad proximal band of yellow and a broad distal band of white separated by a narrower band of dark orange brown. The carpus is orange-brown with greenish distal margins. The merus is banded broadly with orange-red separated by narrow paler bands and the ischium is pale distally with the proximal half orange-red. The third to fifth pereiopods are a similar orange-brown.

DISCUSSION.

The new record confirms the presence of *Brachycarpus biunguiculatus* (Lucas) in the Western Indian Ocean. The nearest locality to the present record, from which this species has been reported, is Ceylon (Holthius, 1950). Nobili reported the presence of this species (as *B. advena* Nobili) in the Red Sea but the origin of the specimens was uncertain and its presence has not been subsequently confirmed. The only other locality in the Indo-West-Pacific region where it has been reported is the Hawaiian Islands.

The function of the oval depression on the dactyls of the second pereopods remains obscure. It seems possible that it may be concerned with sound production in a manner similar to that in the genera *Coralliocaris* Stimpson and *Periclimenaeus* Borradaile (Pontoniinae) or *Alpheus* Fabricius and *Synalpheus* Bate (Alpheidae).

The capture of the four specimens in a small grotto in old coral rock indicates that the species is secretive and this probably explains the paucity of records from the Indo-Pacific Region. Extensive collecting in East Africa between 1959 and 1962, often with the use of rotenone-type poisons, and in a wide range of habitats, failed to produce a single specimen.

REFERENCE.

- HOLTHIUS, L. B. 1950. The Decapoda of the Siboga Expedition. Part X, The Palaemonidae. *Siboga Exped.* 39a (9), 12.

