Ledoyer (1973) described a new family of gammaridean amphipods, the Maxillipiidae. The only species, *Maxillipius rectitelson*, was found living in less than 1 m of water among a sea grass *Enhalus* at Nosy-Bé, Madagascar. Ledoyer had 7 females, all with oostegites, but none of his specimens was complete.

During a recent collecting trip to Bootless Bay, Papua New Guinea, I found a second species, *Maxillipius commensalis*, living in 5 m of water among the branches of a gorgonacean, *Melithaea* sp. Individuals are identical in colour to the gorgonacean and appear to be obligate commensals for they are found in no other habitat.

**Maxillipius** Ledoyer, 1973

Diagnosis. — Body depressed; head small, eyes bulging laterally. Antennae long and narrow, peduncular articles of antenna 1 short and subequal in length, aesthetascs present on flagellum. Mouthparts not projecting conspicuously below head. Mandible without palp; incisor well-developed, projecting, dentate; lacinia mobilis asymmetrical, left 5 dentate, right a large spine; accessory spines present; molar well-developed, triturating. Lower lip broad with well-developed inner lobes; outer lobes with weakly developed mandibular processes. Maxilla 1 with well-developed 1-articulate palp bearing terminal articulating teeth; outer plate with at least 10 spine-teeth; inner plate small. Maxilla 2 with subequal plates bearing terminal spines. Maxilliped with small, narrow inner plates; outer plates small, reaching about halfway along palp; palp large, 4-articulate with article 2 broadly expanded.

Coxa 1 vestigial. Remaining coxae small, broader than long, overlapping. Coxa 2 may be acuminate. Coxa 4 not excavate posteriorly. Gills present on gnathopod 2 to peraeopod 6. Oostegites large, present on gnathopod 2 and peraeopods 3 and 4. Gnathopods not strongly developed. Gnathopod 1 weakly subchelate. Gnathopod 2 simple. Peraeopods 5 to 7 with article 2 linear and
bearing acutely projecting posteroventral corners. Peraeopod 6 with articles 6 and 7 apparently fused and extremely long and thin.

Urosomites 1 and 2 with small dorsal teeth. Urosomite 1 elongate, twice as long as urosomite 2. Uropods biramous with elongate peduncles and lanceolate rami. Telson short, entire, broader than long.

Remarks. — Bousfield (1978, 1982) has placed the Maxillipiidae in the superfamily Leucothoidea near the families Anamixidae and Colomastigidae. However the family does have affinities with other groups. *Maxillipius* resembles some podocerids in general head and body shape, in the shape of the peraeopods, and the shape of the urosomites, uropods and telson, particularly the elongate urosomite 1. But it differs from the podocerids in having short subequal peduncular articles on antenna 1, antennae 1 and 2 with flagella longer than peduncle, weak simple second gnathopods, and well-developed third uropods. These are some of the characters Laubitz (1983) used to remove *Icilius* from the Podoceridae in order to reestablish the family Iciliidae. In fact *Maxillipius* closely resembles *Icilius*. Species in both genera have small heads with laterally bulging eyes, depressed bodies, short coxae with coxa 4 not excavate or slightly excavate, short peduncular articles and long flagella on the first antennae, first antennae shorter than second antennae, weak simple second gnathopods, large oostegites, posterodistal processes on peraeopods 5 to 7, elongate first urosomites, long, narrow uropods and short entire telsons.

Species of both genera are usually found in association with sponges and gorgonaceans. R. T. Springthorpe and I have found species of *Icilius* living on the gorgonacean *Mopsella zimmeri* Kükenthal and on the sponges *Chalinopsilla radix* Lendenfeld and *Callyspongia* sp. in New South Wales waters. It may be argued that the similarities between *Icilius* and *Maxillipius* are the result of convergence to similar habitats. But if the similarities are considered homologous then the genera should be considered as closely related members of the superfamily Eusiroidea and placed in the family Iciliidae near to the Parmaphithoidae which they resemble in head and eye structure, gnathopod shape and particularly the posterodistal corners of peraeopods 5 to 7.

### *Maxillipius commensalis* sp. nov. (figs. 1-3)

**Type material.** — Holotype, female, 2 mm, AM P32333; 52 paratypes AM P32334; living on the branches of the gorgonacean *Melithaea* sp. attached to a bommie on South Patch Reef, Bootless Bay, Papua New Guinea (9°34.3’S 147°16.7’E), 5 m depth, J. K. Lowry and S. P. Arnam, 6 November 1980.

**Diagnosis.** — Gnathopod 1 weakly subchelate, palm extremely oblique, article 5 elongate, not lobate posteriorly. Gnathopod 2 simple, coxa anteroventrally acuminate.

**Description.** — Female, 2 mm, head small, eyes bulging laterally. Body dorsoventrally depressed; coxae small, contiguous, coxa 1 vestigial, coxa 2 acuminate. Colour in life orange to red, mimicking colour of host.