

On a Hitherto Unknown Phyllosoma Larval Species of the Slipper Lobster *Scyllarus* (Decapoda, Scyllaridae) in the Hawaiian Archipelago¹

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IN A PREVIOUS ANALYSIS of plankton from 140 scattered oceanographic stations in the Hawaiian area, mainly around Oahu Island, six scyllarid larval species were found (Johnson 1971). Five of these species were assigned respectively to *Parribacus antarcticus* (Lund); *Scyllarides squamosus* (H. Milne Edwards); *Arctides regalis* Holthuis; *Scyllarus timidus* Holthuis; and *Scyllarus modestus* Holthuis. These five species comprise all of the then known adult slipper lobsters of the Hawaiian area. The sixth larval species, a *Scyllarus*, could not be identified specifically and appears to represent an unknown adult species of that genus inhabiting the area.

It is of interest to report here yet another unknown larva of *Scyllarus* that was probably produced in this relatively isolated oceanic area. Two phyllosoma larval specimens are available, one about midway in the larval developmental series and one in the final (gilled) stage. They were both caught in a single plankton haul, 8 August 1955, at 31°23' N 172°24' W by R. V. Hugh Smith of the National Marine Fisheries Service during the North Pacific (NORPAC) investigations.

Scyllarus sp. phyllosoma. Length 16 mm (Figure 1-1).

The cephalic shield is 13.6 mm wide and 11 mm long with a truncated posterior margin; the thorax is 7.4 mm wide at the level of the second pair of pereopods (legs) and is broadly confluent with the abdomen which terminates in a pair of heavy spines on the telson (Figure 1-1 and 1-3). Dorsally the

thorax has a short spine situated at the base of each of legs 1-4 (Figure 1-2). Coxal and subexopodal spines (Figure 1-1, sp.) are present and the exopods of legs 1, 2, and 3 are provided with 21, 21, and 19 pairs of swimming setae, respectively; pleopods and uropods are bilobed buds (Figure 1-3). The eyestalks are 2.4 mm long and the first antennae are about equal in length to the slender second antennae (Figure 1-4). Only very rudimentary second maxillae and first maxillipeds are present and the second maxillipeds bear no exopod buds (Figure 1-5).

Scyllarus sp. phyllosoma. Length 30.1 mm, final fully gilled stage (Figure 2-6).

The cephalic shield is broadly elliptical, 23.3 mm wide at the midline and 17.5 mm long with a truncated posterior margin; the thorax is 11.2 mm wide and broadly confluent with the abdomen; dorsally the thorax has a small spine at the base of each of the legs 1-4 as in the 16-mm specimen. The pleopods and uropods are biramous and the terminal heavy spines on the telson are somewhat more laterally situated than in the younger specimen (Figure 2-6 and 2-9). Coxal and subexopodal spines are well developed and the exopods of legs 1, 2, and 3 have 29, 29, and 23 pairs of swimming setae, respectively, and the endopods have short dactyls (Figure 2-7); leg 5 remains short and uniramous. The eyestalks, 3.3 mm long, are relatively short. The first and second antennae remain about equal in length but the latter have become two-segmented with a bladelike terminal segment and a much broadened basal segment (Figure 2-10). Short rudimentary exopod buds now occur on the second and third maxillipeds.

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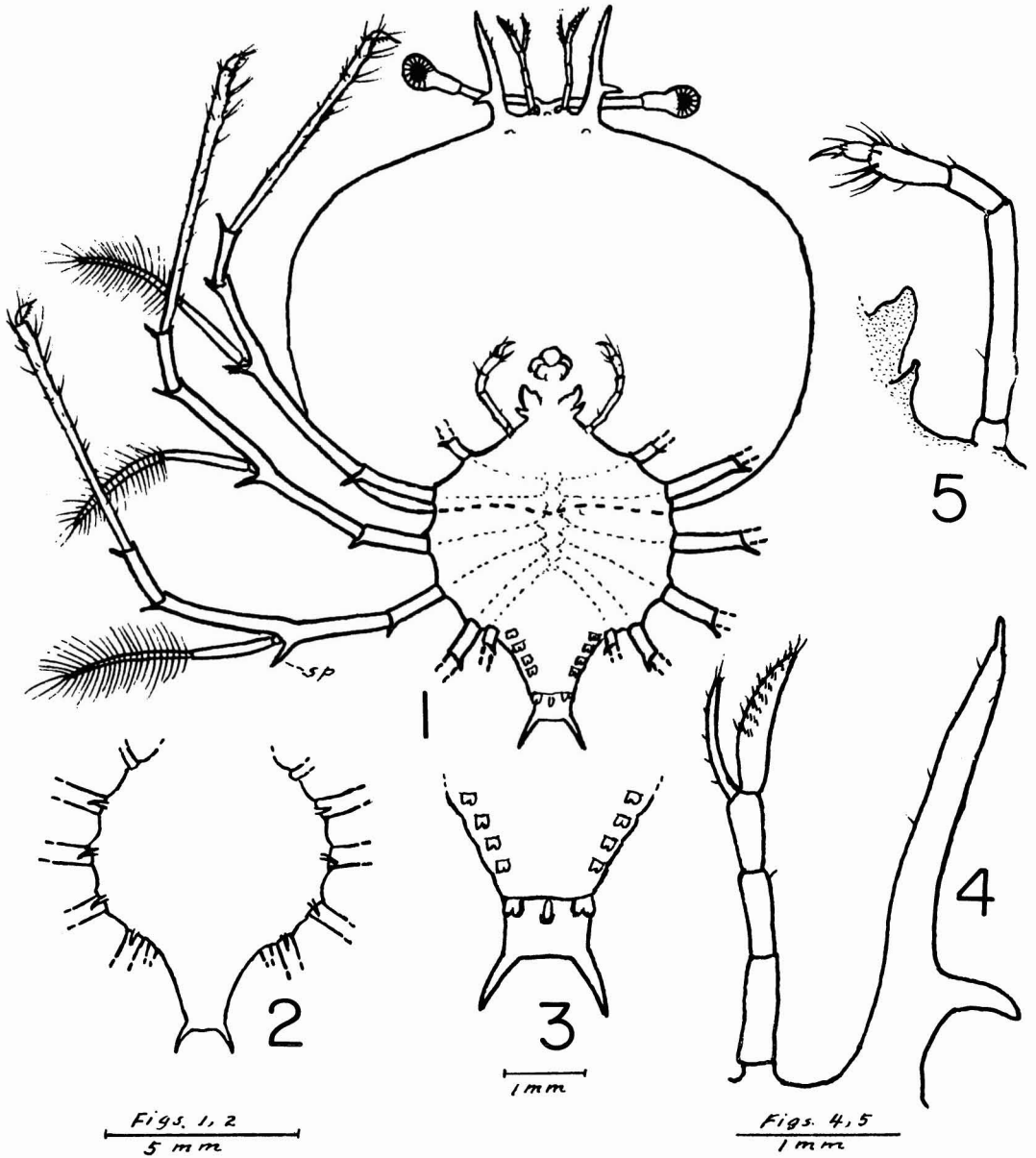


FIGURE 1. *Scyllarus* sp., 16-mm specimen. 1, habit sketch, ventral; 2, thorax, dorsal; 3, abdomen; 4, first and second antennae; 5, second maxilla, first and second maxillipeds.

REMARKS

In comparison with the Hawaiian *Scyllarus* larvae described in the 1971 report, the present larva is most closely allied to the two given as *Scyllarus* sp? in that report. The

larger of those two was 24 mm long and appears to be at a stage comparable to the 16-mm specimen described here. It differs also in having a more circular cephalic shield and the number of pairs of swimming setae on the exopods of legs 1-4 are 35, 35, 33,

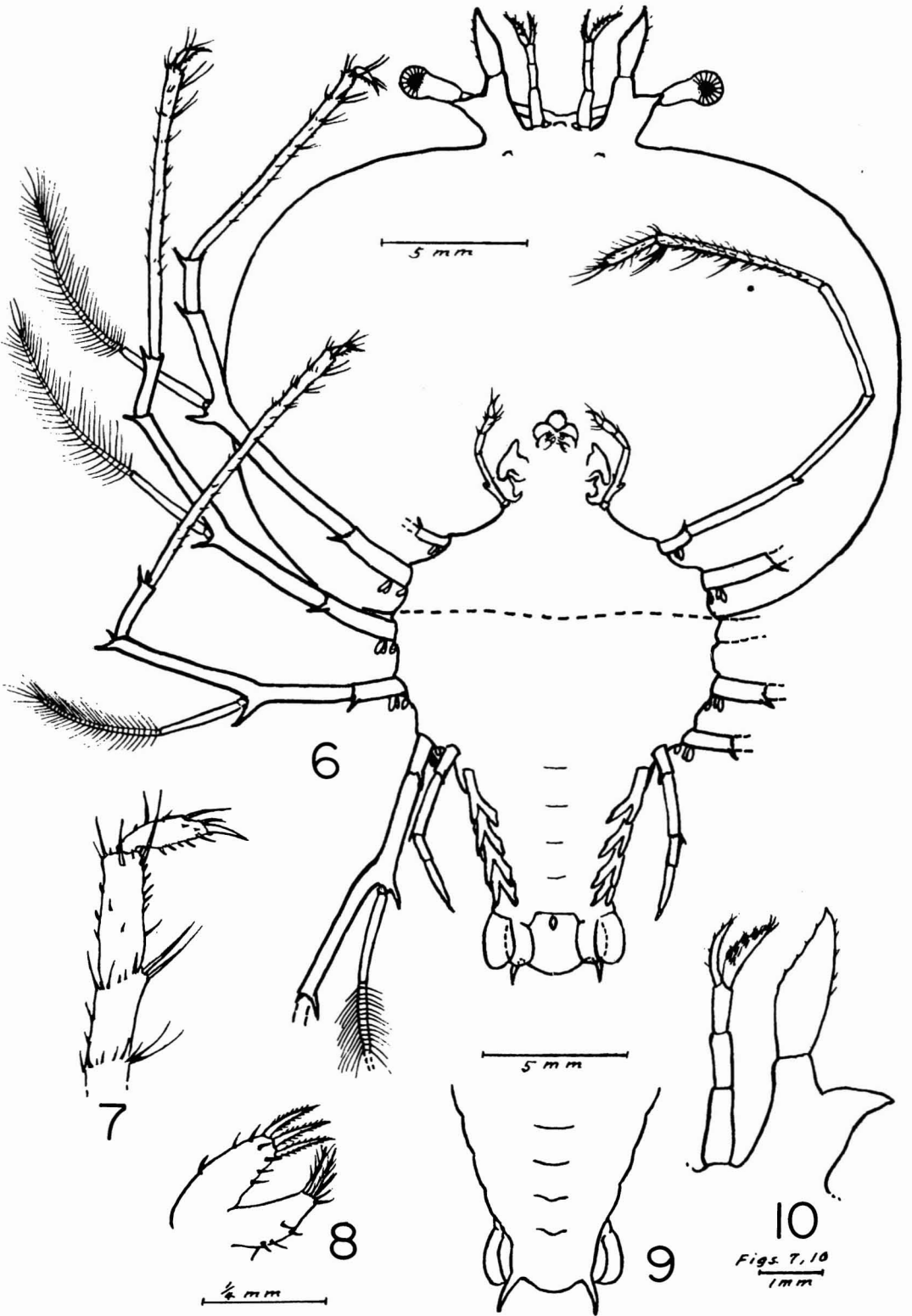


FIGURE 2. *Scyllarus* sp., final stage 30.1 mm. 6, habit sketch, ventral; 7, distal end of first pereiopod; 8, first maxilla; 9, abdomen, dorsal; 10, first and second antennae.

and 29, respectively; i.e., a little greater at that stage than found in the final stage of the larva described here.

Specimens are deposited in Scripps Institution of Oceanography invertebrate collection.

LITERATURE CITED

- JOHNSON, M. W. 1971. The phyllosoma larvae of slipper lobsters from the Hawaiian Islands and adjacent areas (Decapoda, Scyllaridae). *Crustaceana* 20(1):77-103.