NOTES ON TWO ANOMURAN CRUSTACEANS NEW TO CALIFORNIA WATERS[1]

By JANET HAIG

Allan Hancock Foundation,
University of Southern California

Among the decapod crustaceans in the collections of the Allan Hancock Foundation are two species of Anomura, collected off the California coast, which have never been reported from that state. The specimens were taken by the Foundation's research vessels VELERO III and VELERO IV in the period between 1941 and 1955. It seems advisable at this time to record these additions to the California crustacean fauna.

GALATHEIDAE

Munidopsis depressa Faxon

Munidopsis depressa Faxon, 1893, p. 189; 1895, p. 96, pl. 22, figs. 2, 2a-b.

The holotype was collected by the ALBATROSS off Tres Marias Islands, Mexico, at 680 fathoms. This appears to be the only specimen on record.

Six specimens were taken by the VELERO IV off southern California from four stations between Santa Catalina Island and the mainland, at 400-450 fathoms. The carapace of the largest male measured 20.3 mm in length, exceeding the 19 mm given by Faxon for the holotype. A specimen from one of the Hancock stations has already been listed by Hartman (1955, p. 95).

Following is Schmitt's (1921, p. 168) key to the California species of *Munidopsis*, modified to include *M. depressa*.

I. Abdomen unarmed. Eye-stalks spined above. Rostrum acuminate, laterally unarmed. Chelipeds hairy.
verrilli Benedict

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II. Abdomen armed with spines or tubercles.

A. Eye-stalks spined above. Dorsal armature of abdomen not confined to median line. Chelipeds hairy. Rostrum lateraly spined. *hystrix* Faxon

B. Eye-stalks not spined. Dorsal armature of abdomen confined to median line.

1. Rostrum not armed with lateral spines.
a. Anterior margin of carapace with a small, serrated lobe on either side of base of rostrum behind ocular peduncle; lateral margins arcuate. Chelipeds hairy. *aspera* (Henderson)

b. Anterior margin of carapace straight, at right angles to lateral margins; lateral margins straight. Chelipeds not hairy. *quadrata* Faxon

2. Rostrum laterally spined. Carapace with a row of 4 large median spines; segments 2, 3, and 4 of abdomen each with a large median spine. *depressa* Faxon

PORCELLANIDAE

Polyonyx quadriungulatus Glassell

Polyonyx quadriungulatus Glassell, 1935, p. 93, pl. 9.

The type specimens of this species were collected at Estero de la Punta Banda, Baja California, Mexico, about 65 miles south of the California border. Steinbeck and Ricketts (1941, p. 458) reported it from El Mogote in the Gulf of California. Besides its California material, the Hancock Foundation collections contain specimens from several localities on both sides of the Baja California peninsula.

The VELERO III and VELERO IV took nine specimens from six southern California stations, at Santa Rosa, Santa Cruz, and Santa Catalina Islands. The species was found on two occasions in *Chaetopterus* tubes, this being the most common habitat for the genus as a whole; three times it was recovered apparently free-living (with sand and mud bottom recorded in one case); and on the sixth occasion it was taken from kelp holdfasts. The depth range was 2-25 fathoms. The genus, as well as the species, is new to California waters.

The only other species of *Polyonyx* reported from the west American coast is *P. nitidus* Lockington (1878, p. 405), from Baja California, exact locality unknown. It is unfortunate that Lockington's type (the only known specimen) is no longer extant, presumably having been destroyed in the San Francisco earthquake and fire of 1906, for a comparison of the two species would be highly desirable. Glassell distinguished *P. quadriungulatus* from *P. nitidus* on the basis of three characters: (1), hands unequal, instead of equal as in *P. nitidus*; (2), carpus of chela two-thirds as wide as long, instead of "about twice as long as wide"; (3), dactyli of ambulatory legs with four unguicles, instead of with three to five as in *P. nitidus*. All the other characters given in Lockington's brief description apply equally well to either form.

The California specimens varied greatly in the second character, having carpi from 53 per cent to 67 per cent as wide as long; therefore this distinction does not appear to be valid.

Probably not much weight should be given to the variation in the number of unguicles on the dactyli of the walking legs reported by Lockington for *P. nitidus*. The unguicles are not always easy to see even with the modern binocular microscope, and the counts made by Lockington may perhaps be attributed partly to weaker magnification. In one of the California specimens examined, only three unguicles were present on one dactyl but it could be seen under high magnification that the fourth had been broken off. In several cases, also, two distal unguicles were partially grown together and appeared almost as one.

Thus it seems to the writer that two of the characters on which Glassell based his new species are of only questionable validity. The first character mentioned, however, that of the structure of the hands, immediately sets the two forms apart. Lockington stated twice that the hands were equal in his species, but in *P. quadriungulatus* they are quite obviously different. It appears that the two species must be kept distinct on this basis alone, at least until such time as future collecting in the Baja California and Gulf of California area reveals more examples of *P. nitidus*.

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