

LOUISIANA AND PANAMA CANAL LOCATIONS AND
ECOLOGY OF *MUNNA* (*PANGAMUNNA* NOV.
SUBGEN.) *REYNOLDSI* FRANKENBERG &
MENZIES (ISOPODA: ASELLOTA)

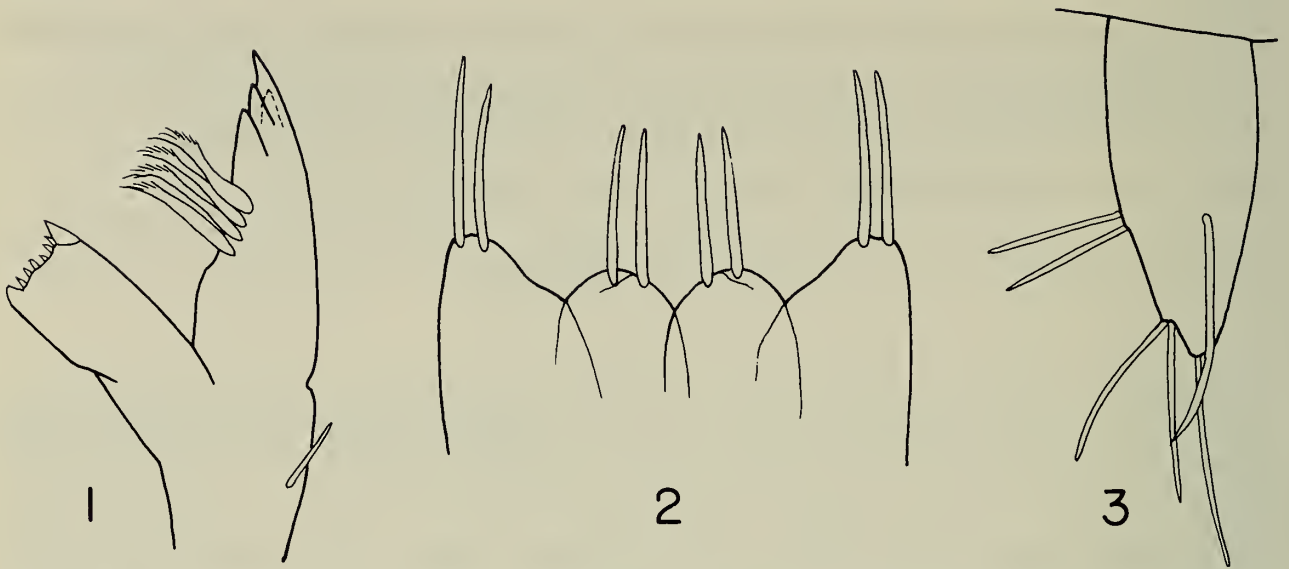
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Abstract.—Specimens of what were formerly called *Munna* (*Uromunna*) *reynoldsi* Frankenberg & Menzies (1966) (family Munnidae), were collected in the brackish water of Lake Pontchartrain, New Orleans, Louisiana, and in the fresh water of the locks of the Panama Canal. The species is placed in a new subgenus, *Pangamunna*, based on the fact that no mandibular palps are present. The specimens from the canal are the first munnids from apparently established populations in fresh water. Number in each sex, lengths and embryo number in the marsupia of some females are included in the discussion.

Specimens of tiny isopod crustaceans from Louisiana and Panama were examined by the author and identified as *Munna* (*Uromunna*) *reynoldsi* Frankenberg & Menzies (1966) (family Munnidae). The species was described originally from oak leaves in salt marshes on Sapelo Island, Georgia. The type-specimens were collected in tidal regions where brackish and perhaps fresh water are found from time to time. The specimens discussed here are from Lake Pontchartrain, Louisiana and the Panama Canal. The canal locations are from the locks on the Atlantic (Gatun) and the Pacific (Miraflores and Pedro Miguel) slopes of the canal.

The species as described by Frankenberg & Menzies lacks mandibular palps. The specimens from the two locations also lack palps (Fig. 1). All species placed in the subgenus *Uromunna* Menzies (1962:36) and *M. (U.) magnifica* Schultz (1964) have triarticulate mandibular palps. The author thinks that lack of palps is a character which is of at least as much value for defining a subgenus of *Munna* Krøyer as is the shape and spination of the rami of the uropod.

A new subgenus, *Pangamunna* (*Panama-Georgia-Munna* combined—gender feminine) with *M. (U.) reynoldsi* as type-species, is thus proposed here. It has the characters of *Munna* Krøyer, but lacks mandibular palps. So far no other species are known since the presence or absence of mandibular palps has not been recorded for some species of *Munna*. When more species are discovered the definition of the subgenus might be expanded to



Figs. 1-3. *Munna (Pangamunna) reynoldsi*: 1, Right mandible; 2, Apex of fused male pleopods 1; 3, Uropod.

include characters other than the lack of palps. The genus *Munnogonium* George & Strömberg of the Munnidae also lacks mandibular palps (Bowman & Schultz, 1974), but it is clearly not related to *Pangamunna*. *M. reynoldsi* is also the only genus of *Munna* to be taken from fresh water in the New World.

The specimens from the locks of the Panama Canal examined here (both males and females) correspond in morphology remarkable well with the description of *M. (P.) reynoldsi*. Eight spines are present on the apex of the fused male pleopods 1 (Fig. 2). Antennae 1 and 2 are similar, and pereopods I and VII (male) are also similar. The uropod is illustrated here (Fig. 3). The smaller ramus was not seen even though the posterior part of several specimens were dissected and examined. Other minor differences include number of coupling hooks on the endite of the maxilliped and the pattern of spination on various parts of the body. The specimens from the canal have from 2 to 4 coupling hooks; *M. (P.) reynoldsi* from Georgia has 3. The pattern of spines on the maxillipedal palp, on the posterior margin of pereopod I and on the apex of male pleopod 2 differ slightly.

The 47 specimens from the locks range in length from 0.7 to 1.3 mm. Males (17) are slightly shorter than females (30). Nine females were gravid. The number of embryos in undisturbed marsupia ranged from 6 to 10. Males and gravid females were present at each lock. In June 1973 (4 females) and during July and August 1975 specimens (133 males and females) were taken at Lake Pontchartrain, New Orleans, Louisiana. The greatest number of specimens was taken at the mouth of the inner harbor navigation canal. Mandibular palps were absent. Setation on the apex of male pleopods 1 and other pleopods, flagellar article number on antennae and general characters

of the peraeopods and uropods were examined and also confirmed that the specimens were *M. (P.) reynoldsi*. Gravid females were present. Salinity of the water at the principle collection location varied from 2 to 12‰ during the time of collection.

The existence in the fresh water of an isopod whose relatives are from marine and brackish waters has interesting zoogeographical implications. The spread of marine animals through the Panama Canal has for the most part been limited by the freshwater barrier created by Gatun Lake. However, *M. (P.) reynoldsi* is able to live and apparently breed in fresh water so the lake is not a barrier to its distribution. Unfortunately, the species has not been collected in the brackish or salt water at either end of the canal so whether or not it has extended its range through the canal to the Pacific Ocean is not known. All species of *Munna* recorded so far on the Pacific coast (in Chile—Menzies, 1962; in California—Schultz, 1964) have triarticulate mandibular palps.

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