MONODELLA TEXANA N. SP., AN EXTENSION OF THE RANGE OF THE CRUSTACEAN ORDER THERMOSBAENACEA TO THE WESTERN HEMISPHERE 1)

BY

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The first known and most famous species in the primitive order Thermosbaenacea (subclass Malacostraca, series Eumalacostraca, superorder Peracarida) was discovered by L. G. Seurat and was described by Monod (1924, 1940). This small crustacean, Thermosbaena mirabilis Monod, is known only from saline (3.4 parts per thousand) hot springs (30-45°C) at the oasis of El Hamma near Gabes, Tunisia.

Four other species within the order have since been discovered in the Mediterranean area: Monodella stygicola Ruffo, 1949, in slightly brackish water in a cave about a kilometer southwest of Castromarina, Italy (on the “heel of the boot”), Monodella argentarii Stella, 1951, in fresh water in the cave “Punta degli Stretti” on Mount Argentario near the sea in Tuscany on the west side of Italy north of Rome, Monodella halophila Karaman, 1953, in salty interstitial water about 1.2 m below the earth’s surface and about 10 m from the sea shore in the city of Dubrovnik, Yugoslavia, and from slightly brackish water in a cave 14 m southeast of there and about 50 to 60 m from the sea shore, and Monodella relicta Por, 1962, in hot salt springs on the shore of the Dead Sea, Israel.

Six specimens of a new species of the order Thermosbaenacea have been collected from fresh, cool water (0.4 to 3 m deep) in Ezell’s Cave, in San Marcos, Hays County, Texas, U.S.A. Many collecting trips were required to capture this number of animals.

Monodella texana n. sp. is a slender, subcylindrical, colorless and eyeless crustacean (pl. III) which is about 1.8 mm long excluding the 1.0 mm antennules and the uropods which project 0.15 mm posterior of the telson. It has a short, rounded carapace which covers the head and the first two thoracic segments.

The antennule (fig. 1 a) has a three-segmented peduncle which bears a five-segmented inner flagellum and a seven-segmented outer flagellum. The large medial setae of the peduncle are natatory.

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The antenna (fig. 1 b) has a five-segmented base with a single five-segmented flagellum.

The mandible (fig. 1 c) bears a weakly developed pars incisiva which is bluntly pointed in the right mandible and more robust and with a square, toothed end in the left mandible. Below the pars incisiva the mandible bears a lacinia mobilis, then a series of seven bristles, the first of which is not in line with the other six. A well developed pars molaris follows. It has a thickened distal surface on which there are four slender setae. The mandibular palp appears to be two-segmental and bears six stout spines, all but the distalmost of which bear two comb-like rows of spinules mounted at right angles to each other.

The first maxilla (fig. 1 d) has a paddle-shaped endite which is armed distally with 10 large, slightly curved setae which bear setules. The exite consists of a flattened inner lobe armed with five large setae with setules and an outer two-segmented cylindrical palp which has four setae, two of which bear setules, at its distal end.

The second maxilla (fig. 1 e) is flattened and five-parted. The innermost lobe bears four setae and the next one has a seta bearing setules. The middle lobe is broad, bearing a very regular row of about 14 similar spines (fig. 1 f) which are

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1) The textfigures are all to the same scale, except fig. 1 f, which is much enlarged.