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Occurrence of the Amazon Molly, *Mollienesia formosa*, at San Marcos, Texas

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The amazon molly, *Mollienesia formosa* (Girard), has long been known to occur in extreme southern Texas. Its type locality is at Palo (misspelled Paolo) Alto (Girard, 1859), presumably the Palo Alto Battlefield east of Brownsville. Hubbs and Hubbs (1932 and 1946), Meyer (1938), and Hubbs (1955) have pointed out that it ranges from south Texas to the vicinity of Vera Cruz, Mexico. No authors have suggested any appreciable northerly increase in its known range, i.e., in the United States, *M. formosa* is known only from Hidalgo, Willacy, and Cameron counties, Texas. As this species is the only known essentially gynogenetic vertebrate in nature and only one natural phenotypic male is known (Hubbs, Drewry, and Warburton, in press) any range extension is of interest.

Three collections obtained from the San Marcos River just east of the Southland Ice Plant in San Marcos during October, 1958, have contained specimens of *M. formosa*. The authors together with Mrs. Drewry and Robert Beyers variously participated in the collection operations. An addition sample was made during the spring of 1958 by Mr. William F. Hettler. He obtained two living *M. formosa* from the San Marcos region, but the precise locality is uncertain. In the laboratory these females had several broods that were all females of uniform size, which called our attention to the fish and we noted that they were *M. formosa*. Subsequently we collected the fish on which this report is based.

Earlier collections from the vicinity have been reexamined and none include *M. formosa*. Thereby, it is possible that *M. formosa* has recently been introduced at San Marcos and that the introduction was successful. Brown (1953) considered that the only other northern molly, *M. latipinna* LeSueur, was also introduced at San Marcos, supporting our conclusion that *M. formosa* was introduced.

There is little doubt of the identity of these fish as *M. formosa*. In addition to the unique uniform size of the all female broods, the morphology is similar to that of *M. formosa* from the type locality. There are 11 dorsal rays, the modal number for *M. formosa*. There are 10 scale rows between the dorsal origin and occiput, a number typical of female *M. formosa*. The dorsal base is contained 2.5 times in the predorsal length. In all of these criteria the fish differ from *M. latipinna* and *M. sphenops* (Cuvier and Valenciennes), the only species of *Mollienesia* ranging as far north as northern Mexico. Likewise the *M. formosa* from San Marcos have lateral spots like those of *M. formosa* from Palo Alto as well as other typical *M. formosa* colors. The San Marcos fish have a slightly heavier build than South Texas *M. formosa*, but this is probably due to environmental factors, such as better food and/or colder temperatures during ontoeny. Hubbs and Springer (1957) thought that either or both of these factors were responsible for heavier builds in experimental stocks of species of *Gambusia*.

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