ON THE MALE OF *MONSTRILLA MARIAEUGENIAE* SUÁREZ-MORALES & ISLAS-LANDEROS (COPEPODA, MONSTRILLOIDA) FROM THE MEXICAN CARIBBEAN SEA

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There have been about 90 species of monstrilloid copepods described to date (Grygier, 1994), which are comprised in three recognized genera: *Cymbasoma* Thompson, 1888, *Monstrilla* Dana, 1849, and *Monstrillopsis* G. O. Sars, 1921. Several species are known from a single specimen only or from a few specimens of either sex. Out of more than 30 known species of the genus *Monstrilla* Dana, about 23 are known from only one sex, mostly females (Isaac, 1975; McAlice, 1985; Suárez-Morales, 1996). Since there is a strong sexual dimorphism in most species, it is difficult to directly match a female with the corresponding male unless they are found on the same host (McAlice, 1985). However, the structure and armament of some body parts such as the furcal rami, the antennules, and the cuticular ornamentation, can be used to relate females and males of a given species; to find them in the same sample can also be helpful (Suárez-Morales & Escamilla, in press). There are several examples in the literature with attempts to match both sexes of different nominal species (Grygier, 1995). This, for example, is the case in *M. canadensis* McMurrich, 1917 and *M. serricornis* G. O. Sars, 1921, which have been advanced as candidates for the male of *M. helgolandica* Claus, 1863 (cf. McAlice, 1985).

From surface plankton samples collected at the Puerto Morelos reef area, in the northern portion of the east coast of the Yucatan Peninsula, Mexico, Suárez-Morales & Islas-Landeros (1993) described *Monstrilla mariaeugeniae*. They based the description on the examination of 9 female specimens collected by the UNAM (Universidad Nacional Autónoma de México) marine station at Puerto Morelos (Suárez-Morales & Islas-Landeros, 1993); males were not found in those samples and remained unknown. Additional zooplankton material collected in 1990-91 from a reef area on the southern part of the same coast by CIQRO (Centro de Investigaciones de Quintana Roo), yielded more than 40 male specimens of monstrilloid copepods, which were collected along with several females identified as *M. mariaeugeniae*. The males were taxonomically analyzed and turned out to be identical to a "subspecies" previously described as *M. wandelii tropica* by Suárez-Morales (1996), from material collected by CIQRO in 1993 at the
type locality of *M. mariaeugeniae* (Puerto Morelos reef lagoon). Re-examination of those specimens and of the new male specimens showed that they could be related to the females of *Monstrilla mariaeugeniae*.

Females of *M. mariaeugeniae* are very similar to those of *M. wandelii* Stephensen, 1913, a cold-temperate species (Park, 1967). The former can be readily distinguished by several taxonomically relevant features, such as the antennular structure and segmentation, body size and proportions, and the morphology of genital-related structures (Isaac, 1975; Suárez-Morales & Islas-Landeros, 1993).

In the case of the male *M. wandelii tropica*, Suárez-Morales (1996) stated its close similarity with *M. wandelii*. Differences were recognized in the antennular proportions, armament, and segmentation, and in the structure of the genital lappets. At that time, and with only two specimens available, these differences were not considered sufficient to define a new species. However, re-examination of the new material with regard to these features, which are relevant for male monstrilloid taxonomy (McAlice, 1985), allowed the present author to reconsider the taxonomic status of these male specimens. In addition to the similarity with *M. wandelii*, a relation which was laid separately for females of *M. mariaeugeniae* and for males of *M. wandelii tropica*, there are several other facts that support the idea that these specimens constitute a male-female set. One is the observation that they were both found in relatively large numbers in the same sample (stn. 3Q, 31-xii-1990, Mahahual reef). Next, also the structure and shape of the furcal rami is quite similar in both sexes. Furthermore, the antennular segmentation may be sexually dimorphous in this group, but is all the same very similar in both sexes, with only the first segment articulated, and the others fused. The oral papilla is located at about 45% in posterior direction along the cephalosome. The size of females and males of *M. mariaeugeniae* is more than twice the corresponding sizes of *M. wandelii*, although it was noted that the average size of the new material (3.2 mm) is slightly less than that measured in the two original specimens (3.6 mm).

In view of the above, my inevitable conclusion is that *M. wandelii tropica* in fact is the male of *Monstrilla mariaeugeniae*, and its description (Suárez-Morales, 1996) should thus be considered that of the male *M. mariaeugeniae*.

**Monstrilla mariaeugeniae** Suárez-Morales & Islas-Landeros, 1993

Material examined. — 10 adult males from Mahahual, Quintana Roo, Mexico (31-xii-1990) (body length: 2.1–3.7 mm, mean = 3.2 mm), ethanol-preserved, deposited in The Natural History Museum, London (BMNH-1997-784-791). Adult male from Puerto Morelos, Quintana Roo, Mexico, vial deposited at the National Museum of Natural History, Smithsonian Institution, Washington, D.C., under number USNM 259668. Additional material: 8 adult males from Mahahual,