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AMPHIPODS OF THE FAMILY AMPELISCIDAE (GAMMARIDEA). II. NOTES ON THE OCCURRENCE OF *AMPELISCA HOLMESI* IN THE NORTHERN GULF OF MEXICO

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ABSTRACT *Ampelisca holmesi* is reported herein from the grass beds behind the barrier islands of the northern Gulf of Mexico. Previous records are reviewed and the male of the species is described for the first time. The material agrees well with the original description and the recent redescription. Mouthparts for *A. holmesi* are described, illustrated, and compared with those of *A. verrilli* from the northeastern coast of the United States.

Ampelisca holmesi Pearse, 1908, was described from Ferguson's Pass, Oyster Bay, Florida (Pearse 1908). This area corresponds with a region now known on most maps as Espero Bay on the southwestern coast of Florida, just south of Charlotte Harbor. An additional record for this species from the Gulf of Mexico is Pearse (1912), who examined material collected by the ALBATROSS off the Mississippi Delta from 50 to 54 meters. Several records for this taxon exist from the eastern coast of the United States. Shoemaker (1933, p. 3) cited the material in the collections of the U. S. National Museum and reported the distribution of the species to be "from Rhode Island; Connecticut; Beaufort, North Carolina; Key West, Florida; and Sarasota Bay, Florida."

Material examined during this study included four individuals collected from the northeastern Gulf of Mexico: two adult females, 12–13 mm, J. M. Gathof, collector, 25 October 1976 – 30°14′N, 88°18′W; 1 adult male, 12 mm, G. D. Goeke, collector, 14 March 1983 – 30°15′N, 88°44′W; 1 adult female, 10 mm, GCRL 167–794, 27 October 1967, southern side of Little Deer Island, Mississippi, D. H. Farrell, collector. Two of the females were collected from *Diplantha wrightii* grass beds, 1 mile east of the northwestern tip of Dauphin Island, Alabama, in 1 meter, using a 12-cm-diameter, plunger-type marsh corer. The single male was collected from *D. wrightii* grass beds at the northwestern tip of Horn Island, Mississippi, in 1 meter, using a scallop dredge. Both sites were characterized by a medium-sand substrate with detrital grass fragments at the sediment-water interface. Many large, tube-dwelling polychaetes, *Diopatra cuprea*, were present at the Dauphin Island collection site.

Ampelisca holmesi is very closely related to *A. verrilli* Mills, 1967, and the nature of this sibling species pair has caused some confusion in the records for the distribution of the former species. Mills (1967) has indicated that some of the records are almost certainly based on specimens of *A. verrilli*, but was unable to confirm his suspicions as the material examined by Shoemaker (1933) could not be located in the holdings of the National Museum. Mills also indicated that other records from the eastern coast should be assigned to *A. verrilli* (see Mills 1967 for synonomy of *A. verrilli*). Additional records for the distribution of *A. holmesi* are the north central Gulf of Mexico (Farrell 1970) and the southwestern coast of Cuba (Ortiz 1978).

Mills (1967) listed the differences between *A. holmesi* and the closely related *A. verrilli* and stated that increased collecting would probably show the species "to be two members of a species flock related in similar features of head and pereopod 5" (p. 639). This appears to be the situation, as collections from the eastern Gulf of Mexico have revealed the presence of three undescribed but closely related species which possess the same generalized head and leg shapes (Goeke and Heard, in preparation).

The mouthparts of ampeliscids often are of specific diagnostic value (Goeke, unpublished data). A careful comparison of the mouthparts of *A. holmesi* and *A. verrilli* from the type locality has shown only minor differences. In sibling species pairs, mouthparts generally agree very well in structure and such is the case herein. Minor differences in the setation on the mandibular palp, facial setae of the palp of maxilla 1 and the number of gill rakers may all be attributed to age or clinal variations within the species. While it is unfortunate that no substantive diagnostic features could be found in the mouthparts, it demonstrates well the close relationship between the two species.

Maxilliped (Figure 1H) – palp normal for the genus, without diagnostic features for the species; inner margin of outer plate armed with 10 chisel-shaped spines and 4 setal spines, each spine with accessory seta; inner plate with row of submarginal medial and terminal setae, terminal margin with 2 setal spines and 2 chisel-shaped teeth (Figure 1 I). Maxilla 1 (Figure 1G) palp with 2 segments, 3 outer marginal plumose setae, 5 terminal spines and approximately 14 simple facial setae; outer plate with 11 terminal spines, the

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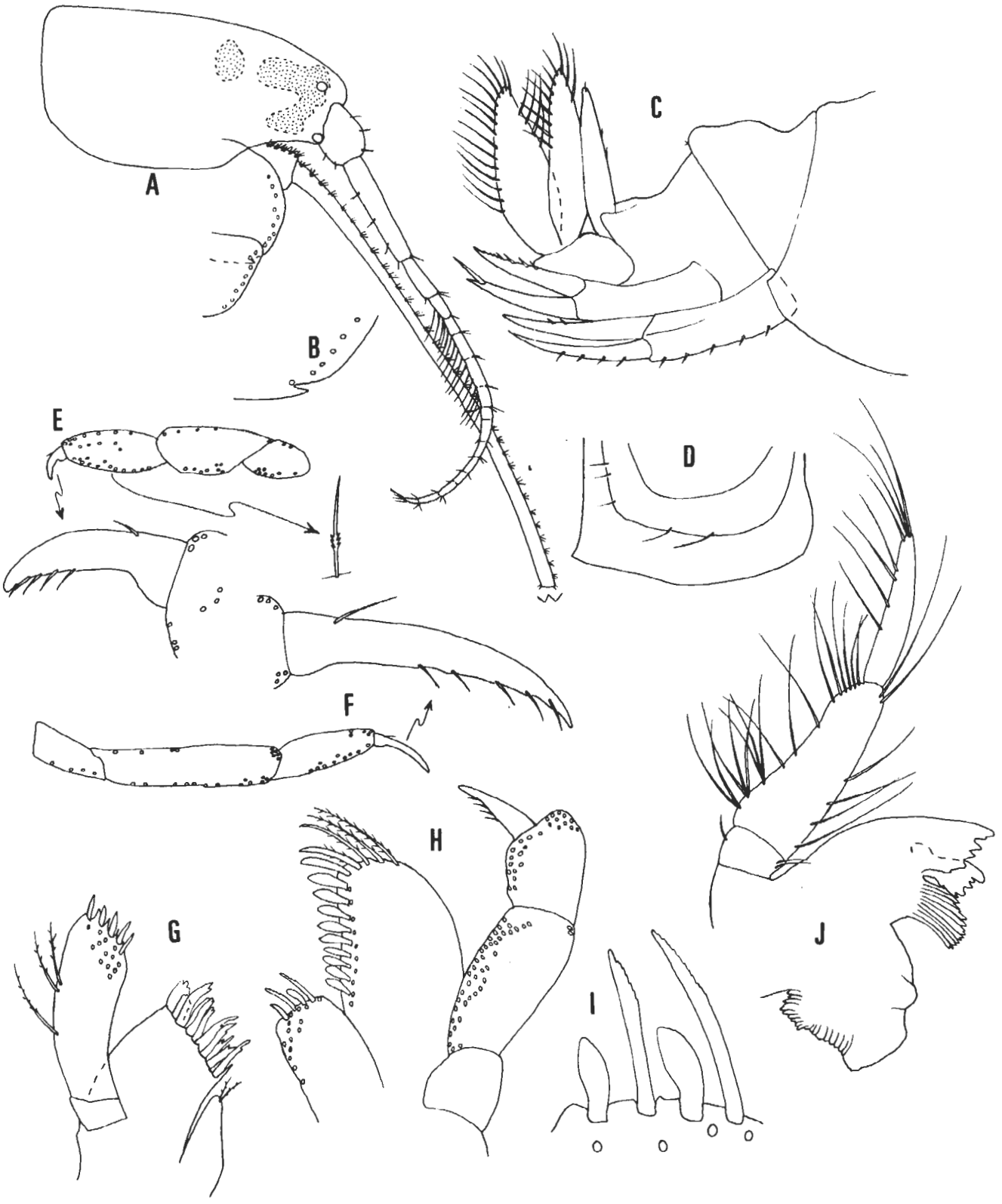

Figure 1. *Ampelisca holmesi*; A) head region, male; B) lower margin coxal plate 1, male; C) urosomite region, male; D) coxal plates 1–3, male; E) terminal segments of pereopod 1, male; F) terminal articles of pereopod 2, male; G) maxilla 1, female; H) maxilliped, female; I) detail of inner plate of maxilliped, female; J) mandible, female.

2 lateralmost spatulate; inner plate with 2 apical plumose setae. Maxilla 2, upper lip and lower lip all normal for the genus, without features of diagnostic value for the species. Mandible (Figure 1J) – palp with terminal article 4/5 length of penultimate article, latter article basally inflated; molar process with 5 teeth; lacinia mobilis with 6 teeth, 10 gill rakers.

The mature males of the genus *Ampelisca* quite often exhibit a high degree of sexual dimorphism and are usually only rarely encountered. This dimorphism has caused some confusion within the genus and several species have been described only later to be synonymized as the males of previously recognized taxa. The females usually form the base for the dichotomous keys used in identification. The male of *A. holmesi* has been unknown until this report, and so the description of the male is presented herein.

Male – slightly smaller than the female but similar in most features except as follows: 1) pleosome more massive; 2) antennae 1 and 2 (Figure 1A) with increased setation; 3) urosomite 2 (Figure 1C) more massive; 4) coxal plate 2 (Figure 1C) not quadrate posterolaterally; 5) increased pigmentation on head (Figure 1A); 6) uropod 2 (Figure 1C) with minute serrations; 7) uropod 3 more setose; 8) antenna 2 somewhat longer; and 9) gills of male "pleated," of female smooth.

As noted from the ecological notes presented in this paper, *A. holmesi* was collected from grass beds or areas adjacent to grass beds. For this reason and for the earlier stated reason of several undescribed species in the northern and eastern Gulf of Mexico, we suggest that the records of Pearse (1912) be used with caution until a reexamination of that material is feasible.

Mills (1967, personal communication) has raised the question concerning the validity of the separation between *A. holmesi* and *A. verrilli*. Mills (1967) notes that to consider the two as conspecific "is unjustified" (p. 639) since an examination of extensive material has not revealed the presence of intermediate forms. A comparison of our material with the original work and the redescription by Barnard (1960) has shown our specimens to agree very well with published observations of *A. holmesi*. A critical comparison with specimens of *A. verrilli* from the type-locality has convinced us of the validity of the separation.

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