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W. Wayne Price
University of Tampa

Richard W. Heard
Gulf Coast Research Laboratory, richard.heard@usm.edu

Jason T. Harris
University of Illinois at Urbana-Champaign

Croy M.R. McCoy
Natural Resources Laboratory, Cayman Islands

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CRUSTACEA OF THE CAYMAN ISLANDS, BRITISH WEST INDIES. I. RECORDS OF MYSIDS FROM SHALLOW WATER NON-REEF HABITATS

W. Wayne Price[1], Richard W. Heard[2], Jason T. Harris[3], and Croy M.R. McCoy[4]

[1]Department of Biology, University of Tampa, Tampa, Florida 33606, USA, Phone: 813-253-3333, E-mail: wprice@alpha.utampa.edu

[2]The University of Southern Mississippi, College of Marine Sciences, P.O. 7000, Ocean Springs, Mississippi, 39566-7000, USA, Phone: 228-872-4217, E-mail: richard.heard@usm.edu

[3]Department of Biology, University of Illinois at Urbana-Champaign, Urbana, Illinois 61801, USA, Phone: 217-333-1098, E-mail: JasTHarris@aol.com

[4]Department of the Environment, Natural Resources Laboratory, P.O. 486GT, Georgetown, Grand Cayman, Cayman Islands, British West Indies, Phone: 345-949-2557, E-mail: Croy.McCoy@gov.ky

ABSTRACT A single species of mysid *Siriella chierchiae* has been previously reported from the Cayman Islands. However, between May 1995 and August 1999, 20 species of mysids were collected from shallow water non-reef habitats surrounding Grand Cayman and Little Cayman Islands. Of the species collected, one species *Anchialina typica* has a cosmopolitan distribution in tropical and subtropical seas. Thirteen species (*Amathimysis cherados, A. gibba, Bowmaniella johnsoni, Dioptromysis paucispinosa, Heteromysis bermudensis, H. mayana, Mysidium columbiae, M. gracile, M. integrum, Mysidopsis bispinulata, M. brattstromi, Parvimysis bahamensis, Siriella chierchiae*) are found widely distributed throughout the subtropical and tropical waters of the Northwest Atlantic. Four species (*Heteromysis coralina, Mysidopsis mathewsoni, Siriella chessi, S. macrophthalma*) previously known only from their type localities are reported, and two undescribed species of *Heteromysis*, one from Little Cayman Island, and one from Grand Cayman Island, are recognized.

INTRODUCTION

The Cayman Islands, located south of Cuba and west of Jamaica, consist of 3 islands: Grand Cayman, Cayman Brac, and Little Cayman. Grand Cayman, the largest of the islands with an area of about 200 km^2, is 300 km from both Cuba and Jamaica. Cayman Brac (38 km^2) and Little Cayman (28 km^2) are only 7 km apart and lie about 130 km northwest of Grand Cayman (Davies and Brunt 1994).

With the exception of the descriptions of a fresh water isopod (Bowman and Franz 1982), descriptions and reports of species of copepods from Grand Cayman (Wells 1980; Yeatman 1984; Suarez-Morales et al. 1999), and a few reports of common semi-terrestrial and shallow water marine taxa (Sefton 1976; Hounsome 1980, 1994; Potts 1980a, b; Britton et al. 1982; Logan 1994; Roberts 1994), the crustacean fauna of the Cayman Islands is poorly known. To date, the only published record of a mysid from these islands is that of *Siriella chierchiae* Coifmann, 1937, reported by Brattegard (1970b) from Grand Cayman. The purpose of this report is to document the marine mysid fauna from the various shallow water non-reef habitats of Grand Cayman Island and Little Cayman Island. Cayman Brac is not included because we did not have an opportunity to study the mysid fauna of that island.

MATERIALS AND METHODS

Collections of mysids were made in the shallow ($\leq$3 m), back reef habitats of Grand Cayman Island and Little Cayman Island (Figure 1) between May 1995 and August 1999. Collecting methods included the use of fine mesh kicknets (mesh size 0.5 and 1.0 mm), an epibenthic sled (0.33 mm), a plankton net (mouth diameter 33 cm, 0.33 mm mesh size), a yabby pump, and a light trap. Algal-sponge-rock substrata were gently washed in a weak formalin-seawater solution and specimens were captured on a 0.5mm sieve. Samples were preserved in 10% formalin-seawater. Measurements of total length of mysids were determined as the distance from the anterior dorsal margin of the carapace to the posterior margin of the telson, excluding spine-setae. Brood size was determined from counts of young removed from full marsupia of ovigerous females. Larval development was categorized into 3 phases according to Wittmann (1981): 1) embryonic—embryo spherical and surrounded by an egg membrane; 2) nauplioid—larva elongate, but enclosed in naupliar cuticle; 3) postnauplioid—all appendages and eyestalks free following molt of cuticle. Illustrations are original unless otherwise noted. Representative specimens of each species are deposited in the National Museum of Natural

History, Smithsonian Institution, Washington, DC, and the Gulf Coast Research Laboratory Museum.

RESULTS

Eighteen described and two undescribed species of mysids were identified from more than 2600 specimens collected from shallow water marine non-reef habitats surrounding the islands of Grand Cayman and Little Cayman (Figure 1). These species represent three subfamilies (Siriellinae, Gastrosaccinae, Mysinae) belonging to the family Mysidae. Synonymies, occurrence, distribution, ecological, and systematic notes are presented for each species. Lateral and dorsal views of a typical mysid are illustrated in Figure 2.

Key to the Mysids of the Cayman Islands

1. Each eye with large, single-lensed accessory eye at dorsolateral border between cornea and eye-stalk (Figure 3A); telson cleft, with pair of long, plumose spine-setae at base of cleft (Figure 4A) .... *Dioptromysis paucispinosa*

Eyes normal, without accessory eye; telson entire, emarginate or cleft, if cleft, then without pair of long, plumose spine-setae at base (Figures 4B, E, I) 2

2. Exopod of uropod divided by distal suture (Figure 3B); telson entire, narrowly lanceolate, apex with pair of long, stout spine-setae laterally, 3 small spine-setae and pair of plumose spine-setae medially (Figures 4B–D) (*Siriella*) 3

Exopod of uropod undivided (Figures 3F–J); telson entire, emarginate or cleft, if entire, apex without plumose spine-setae 5

3. Carpus of endopod of 8th thoracic limb shorter than propodus (Figure 3C); basal plate of exopod of thoracic limbs 3–6 with small tooth on outer distal corner (Figure 3E) 4

Carpus of endopod of 8th thoracic limb equal to propodus in length (Figure 3 D); basal plates of exopod of limbs 3–6 without tooth (Figure 3D)..... ..... *Siriella macrophthalma*

4. Posterior 2/3 of telson armed with row of unequal lateral spine-setae, larger ones separated by groups of 2–6 smaller ones (Figure 4C)..... *Siriella chierchiae*

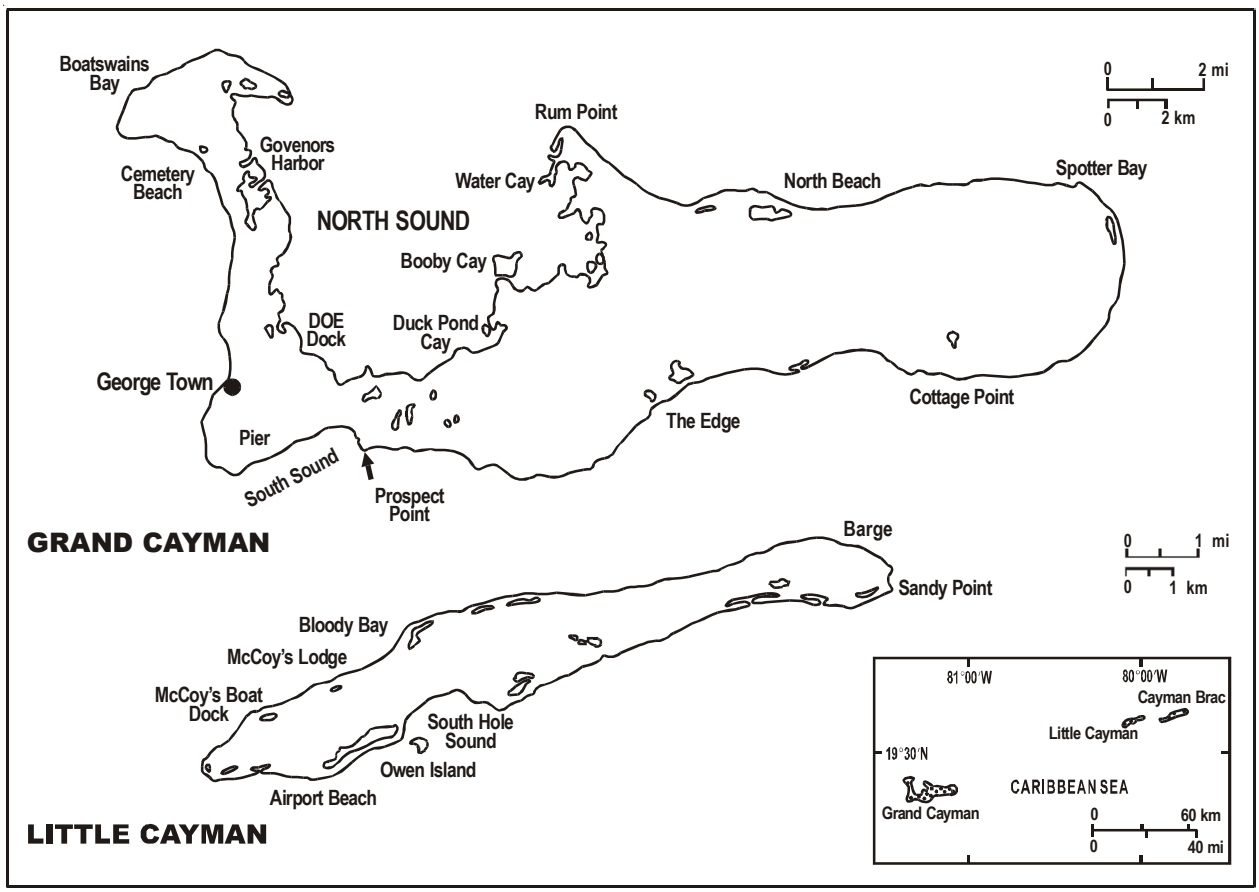

Figure 1. Map showing locations of collecting sites in water surrounding Grand Cayman Island and Little Cayman Island, British West Indies.

Posterior 2/3 of telson armed with row of subequal lateral spine-setae (Figure 4D) ..... *Siriella chessi*

5. Lateral margin of exopod of uropod armed with strong spine-setae (Figure 3F) (telson cleft) 6

Lateral margin of exopod of uropod armed with slender spine-setae (telson entire, emarginate, or cleft) 7

6. Each apical lobe of telson armed with one large spine-seta, lateral margins with >15 spine-setae (Figure 4E) ..... *Anchialina typica*

Each apical lobe of telson armed with 2 large spine-setae, lateral margins with <10 spine-setae (Figure 4F) ..... *Bowmaniella johnsoni*

7. Width of telson base less than twice width of telson apex (less than posterior half of lateral margins of telson armed with spine-setae) (Figures 4G–I) (*Mysidium)* 8

Width of telson base 3–5 times width of telson apex (lateral margins of telson without spine-setae or partially or completely armed with spine-setae) (Figures 4J–T) 10

8. Apex of telson cleft (Figure 4G); antennal scale 7–11 times as long as wide ..... *Mysidium columbiae*

Apex of telson transversely rounded or emarginate (Figures 4H, I); antennal scale 4–6 times as long as wide 9

9. Apex of telson transversely rounded, lateral margins straight or slightly convex (Figure 4H) ..... *Mysidium integrum*

Apex of telson emarginate, lateral margins slightly concave (Figure 4I) ..... *.Mysidium gracile*

10. Telson with no lateral spine-setae (Figures 4J–L) 11

Telson with lateral spine-setae (Figures 4M, T) .. 13

11. Posterior end of telson emarginate, each apical lobe with one short spine-seta (Figure 4J) ..... *Mysidopsis bispinulata*

Posterior end of telson entire, apex with median pair of long spine-setae and shorter adjacent lateral pair (Figures 4K, L) (*Amathimysis*) 12

12. Antennal scale with distolateral tooth extending beyond apex of scale, scale without distal suture (Figure 4K) ..... *Amathimysis gibba*

Antennal scale with distolateral tooth not reaching apex of scale, scale with distal suture (Figure 4L) ..... *Amathimysis cherados*

13. Apex of telson emarginate or cleft (Figures 4M–R) 14

Apex of telson entire, not emarginate or cleft (Figures 4S–T) 19

14. Apex of telson broadly emarginate, armed with 1–5 spinules near midline, each apical lobe with 1 short spine-seta (Figure 4M) ..... *.Parvimysis bahamensis*

Apex of telson deeply cleft, cleft armed with 6 or more spinules, each apical lobe with a pair of spine-setae (Figures 4N–R) (*Heteromysis*) 15

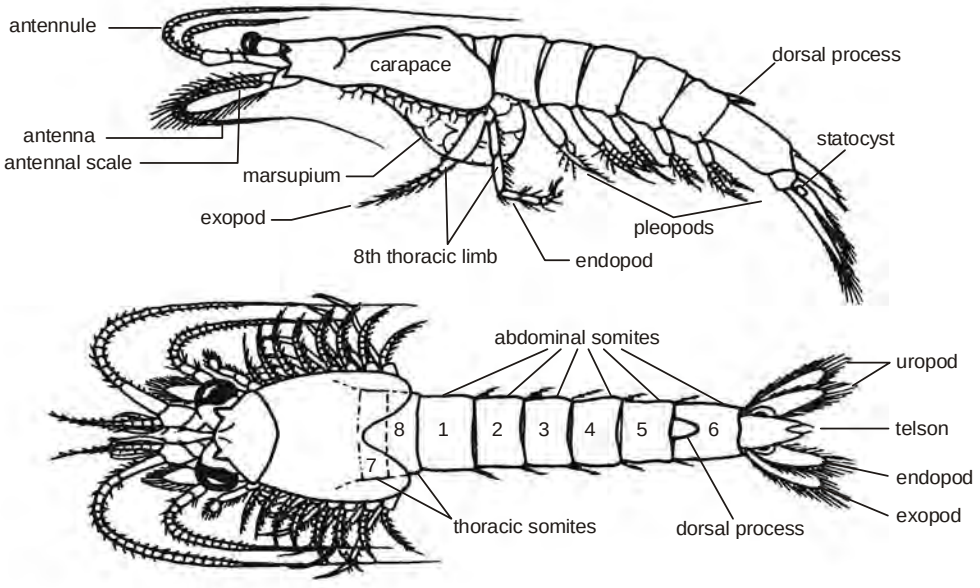

Figure 2. Lateral and dorsal views of a typical mysid (modified from Stuck et al. 1979a).

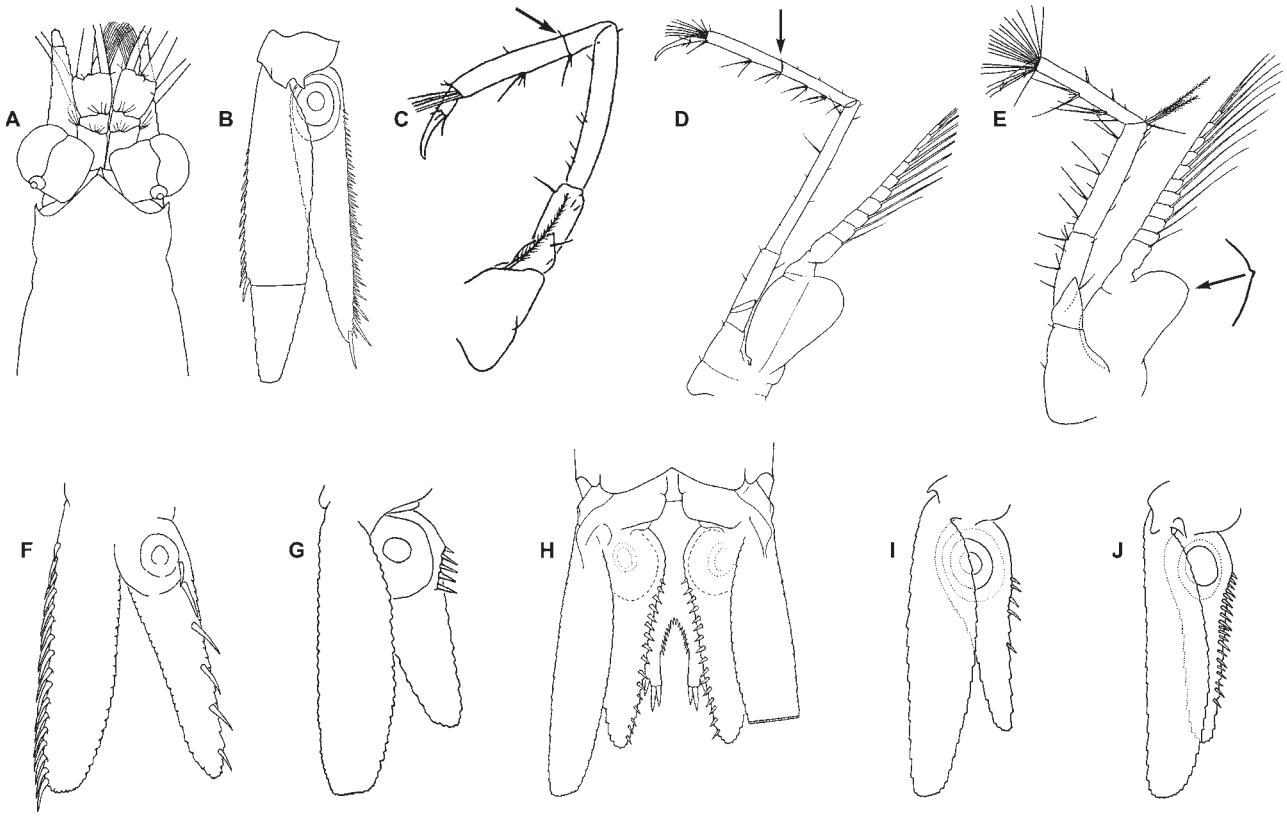

Figure 3. A. *Dioptromysis paucispinosa,* dorsal view of anterior end (from Brattegard 1969: Figure 21A). B. *Siriella chierchiae,* uropod (from Tattersall 1951: Figure 16b). C. *Siriella chessi,* thoracic endopod 8 (from Murano 1986: Figure 3H). D. *Siriella macrophthalma,* thoracic endopod 8 (from Murano 1986: Figure 1F). E. *Siriella chessi,* thoracic endopod 3 (from Murano 1986: Figure 3G). F. *Bowmaniella brasiliensis,* uropod (from Stuck et al. 1979a: Figure 4C). G. *Heteromysis coralina,* uropod (from Modlin 1987b: Figure 2J). H. *Heteromysis bermudensis,* telson and uropods (from Brattegard 1973: Figure 20E). I. *Mysidopsis mathewsoni,* uropod (from Brattegard 1969: Figure 7F). J. *Mysidopsis brattstroemi,* uropod, (from Brattegard 1969: Figure 11E).

15. Margins of telsonal cleft with spinules along entire length (Figures 4N, O) 16

Margins of telsonal cleft without spinules along entire length, spinules usually located only in anterior half (Figures 4P–R) 17

16. Entire length of lateral margins of telson armed with spine-setae (Figure 4N) .... *Heteromysis* sp. A

Only posterior 1/2–3/4 of lateral margins of telson armed with spine-setae (Figure 4O) .... *Hetromysis mayana*

17. Endopod of uropod with 2–5 spine-setae medially (Figure 3G) ..... *Heteromysis coralina*

Endopod of uropod with 10–17 spine-setae medially (Figure 3H) 18

18. Telsonal cleft with 6–10 spinules (Figure 4Q) .... *Heteromysis* sp. B

Telsonal cleft with 11–17 spinules (Figure 4R) .... *Heteromysis bermudensis*

19. Apex of telson with innermost pair of spine-setae almost twice as long as adjacent spine-setae (Figure 4S); endopod of uropod with 4–5 spine-setae medially (Figure 3I). ..... *Mysidopsis mathewsoni*

Apex of telson with innermost pair of spine-setae only slightly longer than adjacent spine-setae (Figure 4T); endopod of uropod with 10–20 spine-setae medially (Figure 3J) ..... *Mysidopsis brattstroemi*

Mysidopsis brattstroemei

Order Mysida
Family Mysidae
Subfamily Siriellinae
***Siriella chessi* Murano, 1986**

Siriella chessi.—Murano 1986:137, Figures 3–4.

Material. GRAND CAYMAN ISLAND: (males-0, ovigerous females-0, immature females-8, juveniles-14), South Sound (Pier), sand/seagrass, 1–2 m, kicknet,

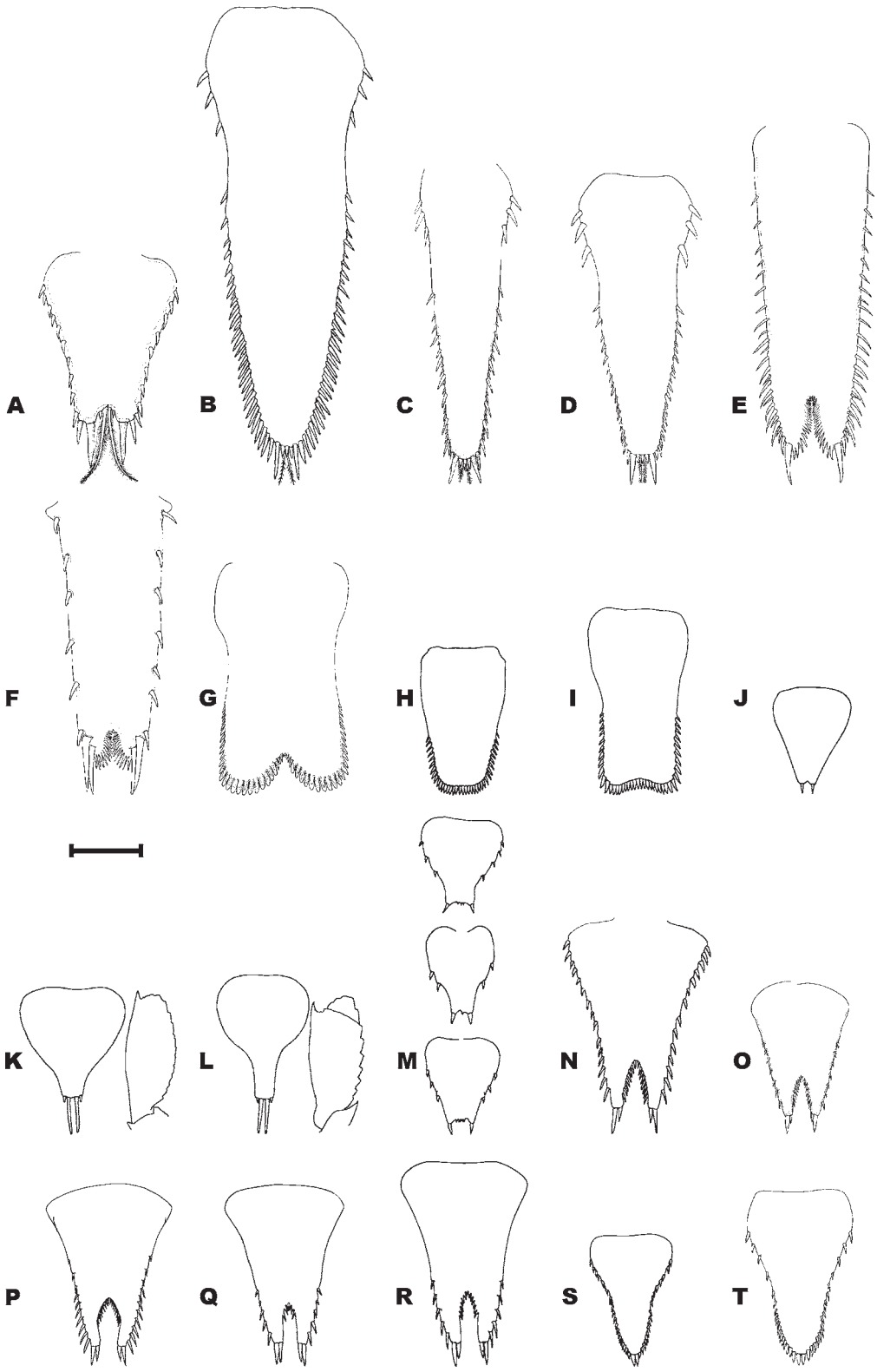

Figure 4. A. *Dioptromysis paucispinosa*, telson. B. *Siriella macrophthalma*, telson. C. *Siriella chierchiae*, telson. D. *Siriella chessi*, telson. E. *Anchialina typica*, telson. F. *Bowmaniella johnsoni*, telson, G. *Mysidium columbiae*, telson. H. *Mysidium integrum*, telson. I. *Mysidium gracile*, telson. J. *Mysidopsis bispinulata*, telson. K. *Amathimysis gibba*, telson and antennal scale. L. *Amathimysis cherados*, telson and antennal scale. M. *Parvimysis bahamensis*, telson. N. *Heteromysis* sp. A, telson. O. *Heteromysis mayana*, telson, P. *Heteromysis coralina*, telson. Q. *Heteromysis* sp. B, telson. R. *Heteromysis bermudensis*, telson. S. *Mysidopsis mathewsoni*, telson. T. *Mysidopsis brattstromi*, telson. Scale = 0.2 mm.

rock washings, light trap, 15 Jun 1997.—(3-0-1-0), South Sound Prospect Point, 1.0–1.5 m, rock washings, 17 May 1998.—(4-0-0-0), same station, rock washings, 12 Aug 1999.—(9-7-5-0), Edge, sand/seagrass, 1–2 m, rock washings, 30 Aug 1996.—(2-5-2-6), same station, kicknet, plankton net, epibenthic sled, night tows, 14 May 1998.—(1-0-0-5), same station, rock washings, 21 May 1998.—(10-17-0-2), Cottage Point, 1–2 m, rock/algal washings, 23 May 1998.—(1-0-0-4), same station, rock/algal washings, 13 Aug 1999.—(1-0-0-0), Spotter Bay, 1.0–1.5 m, rock/algal washings, 16 May 1998.—(5-2-8-1), North Beach, sand/grass, 1.0–1.5 m, rock washings, 1 Sep 1996.—(4-3-1-3), same station, kicknet, epibenthic sled, yabby pump, 12 May 1998.—(0-1-0-0), North Sound, off Duck Pond Cay, grass, 1.5 m, plankton net, night, 13 May 1998. LITTLE CAYMAN ISLAND: (2-2-1-0), South Hole Sound, Head o' the Bay, sand, 1 m, light trap, 19 May 1995.—(4-5-3-1), South Hole Sound, middle, 1–2 m, plankton net, night, 23 May 1995.—(5-1-6-2), Barge, sand/seagrass, 1.0–1.5 m, kicknet, 6 Jun 1997.

Type Locality. St. Croix, Virgin Islands.

Distribution. Virgin Islands (Murano 1986); Cayman Islands (present study).

Ecological remarks. This species was generally taken from rock/algal washings during the day and in the water column at night. It probably undergoes vertical migration as do several other oceanic and neritic species of *Siriella* (Ii 1964).

Ovigerous females ranged from 5.1–6.3 mm in length; brood pouches contained 4–8 larvae. Diameter of embryonic phase 0.36–0.40 mm; longest postnauplioid phase 1.2 mm.

Systematic remarks. The collection of *Siriella chessi* in the waters surrounding Grand Cayman and Little Cayman Islands constitutes only the second time it has been reported and the first record for females. Our specimens exhibited greater morphological variation than reported in the original description of Murano (1986). The uropodal endopod spine-setae of mature specimens ranged from 13–39 (usually 18–25) rather than 37, and the outer margin of the proximal article of the uropodal exopod was armed with 5–8 spine-setae, rather than 8. Murano found a small tooth on the outer distal corner of the basal plate of the exopods on thoracic limbs 3–6, but not limbs 7 or 8. Occasionally, our specimens exhibited this tooth on thoracic limbs 3–8. *Siriella chessi* is morphologically similar to *S. chierchiae*, a species that is found throughout the Caribbean Sea and coastal waters of the western Atlantic to Brazil (Escobar-Briones and Soto 1988). However, setation of the telson, male pleopods 3 and 4, and penal lobes of our specimens agreed well with the description and illustrations of Murano as compared to those for *S. chierchiae* (Coifmann 1937; W. M. Tattersall 1937, 1951; Brattegard 1970a, b). In addition, the uropodal endopod spine-setae of *S. chierchiae* number 45 or more and the outer margin of the proximal article of the uropodal exopod has 10–13 spine-setae.

Siriella chierchiae Coifmann, 1937

Siriella chierchiae.—Coifmann 1937:3, Figure 1.—W.M. Tattersall 1951:66, Figures 15–16.—Brattegard 1970a:2, Figure 1.—Brattegard 1970b:116, Figure 2.—Brattegard 1973:9.—Brattegard 1974a:51.—Brattegard 1974b:91.—Brattegard 1975:109.—Băcescu and Ortiz 1984:16, Figure 1a.—Modlin 1984:279.—Modlin 1987a:109.—Escobar-Briones and Soto 1988:640.—Markham et al. 1990:411.

Siriella occidentalis—W. M. Tattersall 1937:6, Figures 3–4.

Material. GRAND CAYMAN ISLAND: (males-0, ovigerous females-0, immature females-4, juveniles-0), South Sound (Pier), sand/seagrass, 1–2 m, plankton net, night, 30 Aug 1996.—(0-1-0-0), Cottage Point, 1–2 m, rock washings, 23 May 1998.—(0-1-0-0), North Sound, off Governor's Harbor (19º23.20'N, 81º20.78'W), sand/seagrass, 2–3 m, epibenthic sled, night, 11 Jun 1997.—(13-6-12-1), North Sound, off Duck Pond Cay, grass, 1.5 m, plankton net, night, 13 May 1998.—(0-0-6-1), North Sound, off Booby Cay, seagrass, 3 m, plankton, night, 13 May 1998.—(1-1-2-0), North Sound, east (19º20.00'N, 81º21.66'W), seagrass, 2 m, plankton net, night, 13 Aug 1999. LITTLE CAYMAN ISLAND: (0-1-1-1), Bloody Bay, McCoy's dock, sand, 5 m, light trap, night, 27 May 1995.—(0-0-1-0), Bloody Bay, McCoy's Lodge, intertidal rocks, rock washings, 27 May 1995.

Type Locality. Pernambuco-Rio de Janeiro, Brazil.

Distribution. Caribbean Sea, coastal waters of western Atlantic to Brazil (Coifmann, 1937; W.M. Tattersall 1951; Brattegard 1970a, b, 1973, 1974a, b, 1975; Băcescu and Ortiz 1984; Modlin 1987a; Markham et al. 1990); Key West, Florida (W.M. Tattersall 1951); Cayman Islands (present study); Gulf of Mexico (Modlin 1984; Escobar-Briones and Soto 1988).

Ecological remarks. Like *S. chessi*, this species appears to be associated with benthic substrata during the day and migrates into the water column at night in the shallow waters of the Cayman Islands. Brattegard (1970a, b, 1973, 1974a, b) noted similar activities from coastal waters of the Caribbean, although Modlin (1984) recorded this species 160 km offshore in the Gulf of Mexico.

Ovigerous females ranged from 7.7–8.6 mm in length and carried 5–13 larvae per brood. Embryonic phase diameter 0.38–0.40 mm; longest postnauplioid phase 1.8 mm.

Systematic remarks. See remarks for *S. chessi*.

Siriella macrophthalma Murano, 1986

Siriella macrophthalama.—Murano 1986:133, Figures 1, 2.

Material. GRAND CAYMAN ISLAND: (males-3, ovigerous females-1, immature females-7, juveniles-0), The Edge, 1.0–1.5 m, kick net, plankton net, epibenthic sled, night, 14 May 1998.

Type Locality. St. Croix, Virgin Islands.

Distribution. Virgin Islands (Murano 1986); Grand Cayman Island (present study).

Ecological remarks. Specimens were collected at night in the water column over sand bottoms and seagrass beds at only one back reef station on Grand Cayman Island.

The only ovigerous female collected was 9.6 mm long and harbored embryonic phase larvae that were 0.42 mm in diameter.

Systematic remarks. This species is very similar morphologically to *S. mexicana* Brattegard, 1970. Murano (1986) used subtle differences in morphology of the male, including the setation of pleopods 3 and 4, penal lobes, and lobe of antennular peduncle to distinguish *S. macrophthalma* from *S. mexicana*. When compared to the descriptions of these two species, the single adult male collected had overlapping as well as minor differences in these features. Until additional specimens of *S. mexicana* and *S. macrophthalma* and the material from the Caymans can be compared, the specific status of *S. macrophthalma* remains uncertain.

Subfamily Gastrosaccinae

Anchialina typica (Kroyer, 1861)

Anchialus typicus.—Kroyer 1861:53, Plate 2, Figure 7a–l.—G.O. Sars 1885:193, Plate 34, Figures 4–24.

Anchialina typica.—Hansen 1910: 52, Plate 7, Figure 2a–k.— Nouvel, 1943:70, Plate 4, Figures 109–110.—O.S. Tattersall 1955:89, Figure15.— Ii 1964:188, Figures 48–49.—Brattegard 1970a:24, Figure 6.—Nouvel 1971:325, Figure1.—Stuck et al. 1979a:227, Figures 2a, 3a, 4a, 5a.—Băcescu and Ortiz 1984:16, Figure 1b.

Material. GRAND CAYMAN ISLAND: (males-0, ovigerous females-1, immature females-1, juveniles-0), North Sound, off Governor's Harbor (19º23.20'N, 81º20.78'W), sand/seagrass, 2–3 m, epibenthic sled, night, 11 Jun 1997.—(11-2-6-7), North Sound, off Duck Pond Cay, grass, 1.5 m, plankton net, night, 13 May 1998.—(41-9-248-0), North Sound, off Booby Cay, grass, 3 m, plankton net, epibenthic sled, night, 13 May 1998.—(14-3-0-3), North Sound, east (19º20.00'N, 81º21.66'W), grass, 2–3 m, epibenthic sled, night, 13 Aug 1999.—(1-0-1-0), Cemetery Beach, sand, 3 m, kicknet, 20 May 1998. LITTLE CAYMAN ISLAND: (0-1-0-0), Bloody Bay, McCoy's dock, sand, 5 m, light trap, 22 May 1995.

Type Locality. Tropical Atlantic, 14ºN.

Distribution. Widely distributed in the tropical and sub-tropical regions of the Atlantic, Indian and Pacific oceans (W. M.Tattersall 1951; Ii 1964; Brattegard 1970a, 1973, 1975; Băcescu and Ortiz 1984); waters off Nova Scotia (Nouvel 1943); South Carolina (Wigley and Burns 1971); Gulf of Mexico (Hopkins 1966; Stuck et al. 1979 a, b; Modlin 1984; Price et al. 1986).

Ecological remarks. The presence of this widely known species in Caymanian waters was expected. Most specimens were collected with epibenthic sleds and plankton nets at night in depths of 2–3 m in North Sound, Grand Cayman Island. Tattersall (1951), Brattegard (1970a), and Modlin (1984) found this species primarily in the plankton, but the latter author noted small numbers associated with a variety of benthic substrata.

Ovigerous females ranged from 3.7–4.7 mm in length and carried 3–4 larvae per brood. Embryonic phase diameter 0.30–0.32 mm; longest postnauplioid phase 0.9 mm.

Systematic remarks. None.

Bowmaniella johnsoni (W.M. Tattersall, 1937)

Gastrosaccus johnsoni.—W.M. Tattersall 1937:9, Figures 5–7.—Tattersall 1951:93, Figures 26–28.

Bowmaniella johnsoni.—Băcescu 1968b:356.—Brattegard 1975:109.

Material. GRAND CAYMAN ISLAND: (males-8, ovigerous females-3, immature females-0, juveniles-0), Rum Point, sand, 1.0–1.5 m, kicknet, 1 Sep 1996.—(2-8-3-0), same station, kicknet, epibenthic sled, 12 May 1998.—(5-1-1-0), Water Cay, sand, 1.5 m, kicknet, 18 May 1998.—(31-19-5-0), North Sound (19º23.20'N, 81º20.78'W), seagrass/sand, 2–3 m, plankton net, night, 13 Aug 1999.—(1-0-1-9), Cemetery Beach, sand, 3 m, kicknet, 20 May 1998. LITTLE CAYMAN ISLAND: (75-52-26-31), South Hole Sound, middle, 1–2 m, plankton net, night, 19 May 1995.—(0-1-0-6), South Hole Sound, west end, sand, 1–2 m epibenthic sled, night, 19

May 1995.—(0-2-0-0), South Hole Sound, west end, sand, 1.5 m, kicknet, 19 May 1995.

Type Locality. Puerto Rico.

Distribution. Puerto Rico, Virgin Islands (W.M.Tattersall 1937); US east coast (W.M. Tattersall 1951); Lesser Antilles (Brattegard 1975); Cayman Islands (present study).

Ecological remarks. This species was collected over sand bottoms with kicknets and epibenthic sleds during the day and was found in the plankton at night. It was reported as "very abundant" at night in coastal waters of the Virgin Islands and Puerto Rico (Tattersall 1937).

Ovigerous females ranged from 6.1–8.9 mm long and carried 5–15 larvae per brood. Diameter of embryonic phase 0.36–0.40 mm; longest postnauplioid phase 1.4 mm.

Systematic remarks. This species appears to be a senior synonym of *Bowmaniella bacescui* Brattegard, 1970. Both species represent the ultimate male stage; the penultimate stage is undescribed. The results of these and other taxonomic problems associated with the genus *Bowmaniella* are the subject of a future publication.

Subfamily Mysinae
Tribe Erythropini
Amathimysis cherados Brattegard, 1974

Amathimysis cherados.—Brattegard 1974a:56, Figure 1 A–D.

Material. GRAND CAYMAN ISLAND: (Males-3, ovigerous females-2, immature females-6, juveniles-0), The Edge, rock washings, 1–2 m, 30 Aug 1996.—(0-1-0-0), same station, rock washings, 11 May 1998.—(1-1-0-0), same station, rock washings, 21 May 1998.—(2-0-2-1), Cottage Point, rock washings, 1–2 m, 23 May 1998.—(1-3-0-0), North Beach, rock washings, 1–2 m, 1 Sep 1996.—(0-2-0-1), North Beach, seagrass/sand, kicknet, yabby pump, 1.0–1.5 m, 12 May 1998.—(3-1-1-0), Water Cay, sand, 1.5 m, kicknet, 18 May 1998.—(7-1-0-0), North Sound, (19º23.20'N, 81º20.78'W), seagrass/sand, 2–3 m, plankton net, night, 13 Aug 1999. LITTLE CAYMAN ISLAND: (0-1-0-0), Owen Island, west end, 1.0–1.5 m, rock/algal washings, 19 May 1995.—(0-0-1-0), Sandy Point, 1.0–1.5 m, rock/algal washings, 23 May 1995.

Type Locality. Burucuca Bay, Colombia.

Distribution. Caribbean coasts of Colombia (Brattegard 1974a) and Panama (Brattegard 1974b); Aruba (Brattegard 1975); Grand Cayman (present study).

Ecological remarks. This species was collected from a variety of habitats including rock/algal debris, sand/seagrass, and sand. Other investigators have obtained specimens from muddy sand/seagrass beds, green algal/seagrass bottoms, algal turf on hard coral, and sand/mud with organic debris and algae (Brattegard 1974a, b, 1975; Modlin 1987). *Amathimysis cherados* appears to remain closely associated with benthic substrata both day and night.

Ovigerous females ranged from 1.9–2.6 mm in length. Diameter of embryonic phase larva 0.28 mm; longest postnauplioid phase 0.6 mm.

Systematic remarks. This species is similar to *Amathimysis gibba*, but can be distinguished by the distolateral spine on the antennal scale being subterminal and not extending beyond the tip of the scale, which has a distal segment. Also, the posterior part of the telson narrows abruptly and is much more constricted than in *A. gibba*.

This first record of *A. cherados* from the northern Caribbean agrees with the brief original description, with the exception of the size of the "humps" on the midline of the carapace. Brattegard (1974a) describes the carapace as having a well-defined protuberance anterior to the cervical sulcus and a smaller one behind it. For our material, both protuberances are smaller than the ones found in Brattegard's illustration (Figure 1A) of a male. In addition, Cayman males exhibit larger "humps" than females. Examination of male and female paratypes of *A. cherados* showed this same sexual dimorphism.

Amathimysis gibba Brattegard, 1969

Amathimysis gibba.—Brattegard 1969:28, Figures 4–5.—Brattegard 1974a:52, Figure 1E-F.

Material. GRAND CAYMAN ISLAND: (males-4, ovigerous females-7, immature females-0, juveniles-0), Water Cay, sand, 1.5 m, kicknet, 18 May 1998.—(26-20-3-1), North Sound (19º23.20'N, 81º20.78'W), seagrass/sand, 2–3 m, plankton net, night, 13 Aug 1999.

Type Locality. Sands Key, Florida Keys, Florida.

Distribution. Bahamas, southern Florida (Brattegard 1969); Gulf of Mexico (Modlin 1984); Grand Cayman Island (present study); Belize (Modlin 1987a); Caribbean coasts of Colombia (Brattegard 1974a) and Panama (Brattegard 1974b); Puerto Rico (Brattegard 1970b).

Ecological remarks. This widely distributed Caribbean species was collected from sand or sand/seagrass habitats on Grand Cayman Island. Other investigators found specimens in similar habitats (Brattegard 1969, 1970b, 1973, 1974a, b; Modlin 1987), although Modlin (1984) collected one individual from a scaly soft coral in Belize.

Ovigerous females ranged from 2.1–3.2 mm long; embryonic phase larvae were 0.28–0.32 mm in diameter.

Systematic remarks. This species is distinguished from *A. cherados* by having the distolateral spine located terminally on the antennal scale (extending beyond scale), which has no distal segment. The posterior part of the telson does not narrow as abruptly and is less constricted than in *A. cherados*.

Our material agreed with Brattegard's (1969) original description, with minor exceptions. The uropodal endopods of all Cayman specimens were longer than, rather than equal to, the exopods. For Brattegard's specimens, the antennal scale was 3.5 times as long as wide. We found sexual dimorphism for this proportion: mature males and females averaged 3.6 (range 3.3–4.2) and 3.1 (2.8–3.5), respectively.

Tribe Leptomysini

Dioptromysis paucispinosa Brattegard, 1969

Dioptromysis paucispinosa.—Brattegard 1969:69, Figures 21–22.

Material. GRAND CAYMAN ISLAND: (males-1, ovigerous females-0, immature females-0, juveniles-0), South Sound (Pier), 1–2 m, plankton net, night, 30 Aug 1996.—(0-0-1-0), The Edge, sand, 1.0–1.5 m, kicknet, night, 14 May 1998.—(0-1-1-0), Spotter Bay, sand, 1 m, kicknet, 16 May 1998.—(1-0-0-0), North Beach, seagrass/sand, 1.0–1.5 m, kicknet, epibenthic sled, 12 May 1998.—(1-0-0-0), North Sound (19º23.20'N, 81º20.78'W), seagrass/sand, 2–3 m, epibenthic sled, night, 11 Jun 1997.—(1-0-2-0), same station, plankton net, night, 13 Aug 1999.

Type Locality. Andros, Bahamas.

Distribution. Bahamas (Brattegard 1969); Belize (Modlin 1987a); Grand Cayman Island (present study).

Ecological remarks. Specimens of this rare species were collected with plankton nets, kicknets, and epibenthic sleds from a number of sand/seagrass habitats of Grand Cayman Island. Brattegard (1969) collected *Dioptromysis paucispinosa* from sand and sand/algal bottoms and Modlin (1987) found them associated with coral rubble, hard corals, and algal turf covering dead corals.

The only ovigerous female collected was 4.4 mm long.

Systematic remarks. This species is easily distinguished from other Cayman Island mysids by its large accessory eye located at the postero-dorsal border between the cornea and the eyestalk. In addition, a pair of long, plumose spine-setae is present in its telsonal cleft.

Slight morphological differences exist between the Cayman material and the original description of Brattegard (1969). He reported 6 plumose spine-setae on the distal article of the antennal scale, whereas our specimens have 5 plumose spine-setae. The ratio of the telson length to the length of the sixth abdominal segment in Brattegard's description was 0.9. It ranged from 0.83–0.85 in our specimens.

Mysidopsis bispinulata Brattegard, 1974

Mysidopsis sp. A.—Brattegard 1973:41, Figure 16.

Mysidopsis bispinulata.—Brattegard 1974a:58, Figure 3.

Materials. GRAND CAYMAN ISLAND: (males-1, ovigerous females-2, immature females-0, juveniles-0), South Sound (Pier), sand/seagrass, 1.0–2.0 m, kicknet, 15 Jun 1997.—(3-6-0-0), The Edge, sand/seagrass, 1.0–2.0 m, kicknet, 12 May 1998.—(15-26-22-6), Rum Point, sand/seagrass, 1.0–1.5 m, plankton net, night, 1 Sep 1996.—(9-3-11-5), same station, kicknet, epibenthic sled, night, 12 May 1998.—(14-17-5-8), Cemetery Beach, sand, 3 m, kicknet, 20 May 1998.

Type Locality. Bahia Concha, Colombia.

Distribution. Caribbean coasts of Colombia (Brattegard 1973, 1974a) and Panama (Brattegard 1974b); Grand Cayman (present study).

Ecological remarks. Specimens of this small species were obtained with a variety of nets from sand/seagrass or sandy substrata in the waters surrounding Grand Cayman Island. Brattegard (1973, 1974a, b) collected this species from gravel or sand bottoms with loose algae in depths of 3 m or less.

Ovigerous females ranged from 2.5–2.9 mm in length and carried 2–3 larvae. Diameter of embryonic phase 0.28–0.32 mm; longest postnauplioid phase 0.88 mm.

Systematic remarks. Based on our examination of specimens collected in other tropical western Atlantic locations, this species may be more widely distributed than records indicate. The shallow furcate telson, unarmed except for a pair of short apical spine-setae, immediately distinguishes this species from other mysids from the Cayman Islands.

Mysidopsis brattstroemi Brattegard, 1969

Mysidopsis brattstroemi.—Brattegard, 1969:40, Figures 10–11; Brattegard 1974b:94, Figure 2.

Material. LITTLE CAYMAN ISLAND: (1-1-0-0), Owen Island, west end, back reef sand flat, 1.5 m,

kicknet, 25 May 1995.—(11-20-1-0), Sandy Point, east end, sand, 1–2 m, kicknet, 23 May 1995.

Type Locality. Exumas, Bahamas.

Distribution. Bahama Islands and southern Florida (Brattegard 1969); Caribbean coast of Panama (Brattegard 1974b); Little Cayman Island (present study).

Ecological remarks. This species was taken at two stations with sand substrata on Little Cayman Island. Brattegard (1969, 1974b) collected specimens on sand and sand with seagrass, algae, or organic debris in depths of 2–15 m.

Ovigerous females ranged from 3.4–3.9 mm in length and brood pouches contained 3–6 larvae. Diameter embryonic phase 0.30–0.32 mm; longest postnauplioid phase 1.0 mm.

Systematic remarks. This species is superficially similar to *Mysidopsis eclipes* Brattegard, 1969, *M. mathewsoni* Brattegard, 1969, and *M. mortenseni* W.M. Tattersall, 1951, but is distinguished from these three species by the setation of the telson and inner uropod (9–20 spine-setae on inner uropod of *M. brattstroemi*; 8–9 for *M. eclipes*; 3–7 for *M. mathewsoni*; 16–31 for *M. mortenseni*).

The morphology of our specimens of *Mysidopsis brattstroemi* agrees with Brattegard's original description (1969) and subsequent illustrations (1974b), with minor differences. Brattegard reported pleopods 2–5 of mature males from the Bahamas with 6-articulate endopods and exopods (1969), whereas pleopod 4 of specimens from the Caribbean coast of Panama exhibited 7-articulate rami (1974b). Pleopods 2–5 of our mature males have 6-articulate rami. Brattegard (1969) found "a row of about 10–20" spine-setae along the inner margin of the uropodal endopod. One immature male from our collection has 9 spine-setae, all other specimens have 10–18.

Mysidopsis mathewsoni Brattegard, 1969

Mysidopsis mathewsoni.—Brattegard 1969:32, Figures 6–7.

Material. GRAND CAYMAN ISLAND: (males-1, ovigerous females-1, immature females-2, juveniles-0), The Edge, sand/seagrass, 1.0–1.5 m, kicknet, 12 May 1998.—(1-0-0-0), Spotter Bay, sand, 1.0–1.5 m, kicknet, 16 May 1998.—(1-1-0-0), North Sound (19º23.20'N, 81º20.78'W), sand/seagrass, 2–3 m, plankton net, night, 13 Aug 1999.—(2-1-0-1), Cemetery Beach, sand, 3 m, kicknet, 20 May 1998.

Type Locality. Eleuthera, Bahamas.

Distribution. Bahamas (Brattegard 1969); Grand Cayman Island (present study).

Ecological remarks. This is the second report of *Mysidopsis mathewsoni*, a rare species taken over sand bottoms and sand near patchy seagrass beds. Brattegard collected specimens in similar habitats in depths of 1–7 m.

Ovigerous females were 3.9–4.0 mm in length.

Systematic remarks. The morphology of our specimens agrees with the original description of Brattegard (1969), with two exceptions. He reported that the antennal scale was 3.5 times as long as broad, whereas this ratio is 4.1–4.3 for the Cayman material. The uropodal endopod of our specimens is armed with 2–5, usually 2–4, spine-setae near the statocyst rather than 3–7, usually 4–5, spine-setae for Brattegard's material from the Bahamas.

Tribe Mysini

Mysidium columbiae (Zimmer, 1915)

Diamysis columbiae.—Zimmer 1915:172, Figures 23–29.

Mysidia columbiae.—Zimmer 1918:26.

Mysidium columbiae.—W.M. Tattersall 1951:223.—Brattegard 1969:86, Figure 27.—Băcescu and Ortiz 1984:22, Figure 2l.

Material. GRAND CAYMAN ISLAND: (males-2, ovigerous females-0, immature females-1, juveniles-0), South Sound, (Prospect Point), rubble/seagrass, 1–2 m, epibenthic sled, 17 May 1998.—(0-2-1-2), Edge, seagrass/sand, 1–2 m, kicknet, epibenthic sled, 12, 14 May 1998.—(0-0-1-0), North Beach, seagrass/sand, 1.0–1.5 m, kicknet, epibenthic sled, 12 May 1998.—(42-22-57-141), Rum Point, sand/seagrass, 1.0–1.5 m, kicknet, plankton net, night, 1 Sep 1996.—(22-38-3-0), same station, kicknet, epibenthic sled, night, 12 May 1998.—(0-0-1-0), North Sound, off Booby Cay, seagrass, 3 m, plankton net, night, 13 May 1998.—(1-2-25-0), Cemetery Beach, sand, 3.0 m, kicknet, 20 May 1998. LITTLE CAYMAN ISLAND: (1-5-0-0), South Hole Sound, middle, sand/seagrass, 1.5–2.0 m, epibenthic sled, night, 23 May 1995.—(0-0-1-0), South Hole Sound, west end, sand, 1–2 m, epibenthic sled, night, 19 May 1995.—(10-14-4-0), South Hole Sound, west end, sand, 1.5 m, kicknet, 19 May 1995.—(3-4-0-0), Sandy Point, east end, sand, 1–2 m, kicknet, 23 May 1995.—(0-5-2-0), Sandy Point, west end, 1.5 m, kicknet sweep near gorgonians, 23 May 1995.—(3-5-1-0), Airport Beach, seagrass, 1.0–1.5 m, kicknet, 20 May 1995.

Type Locality. Cartagena, Colombia.

Distribution. Coastal areas throughout the Caribbean Sea and southern Gulf of Mexico (Zimmer 1915;

W.M. Tattersall 1951; Steven 1961; Goodbody 1965; Emery 1968; Brattegard 1969, 1970b, 1973, 1974a, b, 1975; Băcescu and Ortiz 1984; Murano 1986; Modlin 1987a; Markham et al. 1990).

Ecological remarks. Most specimens occurred in epibenthic sled and plankton net collections from seagrass/sand or sand habitats. On occasion, large numbers were taken, indicating that aggregations were probably sampled. Other investigators found this species aggregating in a variety of near-shore habitats: coral reefs (Emery 1968; Brattegard 1973; Modlin 1987a, 1990), sand and sand/seagrass (Brattegard 1969, 1973, 1974b), coral rubble and algal turf (Modlin 1987a), mangroves (Steven 1961; Goodbody 1965; Brattegard 1975; Modlin 1987a, 1990, 1993), pelagic waters seaward of coral reefs (Modlin 1990), and in association with the sea urchin *Diadema antillarum* (Brattegard 1973, 1974a). The general biology of *Mysidium columbiae* and especially its aggregative behavior, (see Modlin 1990, 1993) has been the subject of several studies in the Caribbean.

Ovigerous females ranged from 4.7–7.6 mm in length and carried 4–10 larvae per brood. Embryonic phase diameter 0.34–0.48 mm; longest postnauplioid phase 1.7 mm.

Systematic remarks. This common species is easily distinguished from *Mysidium gracile* and *M. integrum* by its cleft telson, long narrow antennal scale, and 3-articulate exopod of male pleopod 4. Brattegard (1969) noted differences in the antennal scale, antennal peduncle, and male pleopod 4 when *M. columbiae* from the Bahamas and south Florida was compared with Zimmer's (1915) original description of specimens from the Caribbean coast of Colombia. The ratio of length to greatest width for the antennal scale of our mature specimens is variable (6.6–9.0) and intermediate between the ratios recorded by Zimmer (7.0) and Brattegard (9.0–11.0). The antennal peduncle of our specimens is fairly robust and resembles Zimmer's illustration (Figure 25) more closely than Figure 27D of Brattegard. Brattegard reported that the ratio of the length of article 1 of the exopod of male pleopod 4 when compared to articles 2 and 3 combined was greater than 2.0, not slightly less as recorded by Zimmer. The ratios for our specimens are generally less than 2.0 but range from 1.6–2.1.

Mysidium gracile (Dana, 1852)

Macromysis gracilis.—Dana 1852:653.—Dana 1855: Plate 43, Figures 5a–m.

Mysidium gracile.—Czerniavsky 1887:87.

Mysidia gracilis.—Zimmer 1918:24, Figures 33–44.

Mysidium gracile.—W.M. Tattersall 1951:223.—Brattegard 1969:80, Figure 25.

Material. GRAND CAYMAN ISLAND: (males-12, ovigerous females-6, immature females-1, juveniles-0), North Sound (19º23.20'N, 81º20.78'W), seagrass/sand, 2–3 m, plankton net, night, 13 Aug 1999.—(2-1-6-3), Cemetery Beach, sand, 3 m, kicknet, 20 May 1998. LITTLE CAYMAN ISLAND: (2-0-0-0), South Hole Sound, west end, sand, 1–2 m, epibenthic sled, night, 19 May 1995.—(4-8-1-0), Owen Island, west end, back reef flat, sand, 1.5 m, kicknet, 25 May 1995.—(8-31-1-0), Sandy Point, east end, sand, 1–2 m, kicknet.

Type Locality. Rio de Janeiro, Brazil.

Distribution. Bermuda (Jander 1962); Florida Keys (Randall et al. 1964; Emery 1968; Brattegard 1969, 1970b); coastal areas throughout the Caribbean Sea (W.M. Tattersall 1951; Randall et al. 1964; Berrill 1968; Emery 1968; Brattegard 1974b, 1975); coast of Brazil (Dana 1852; Zimmer 1918; Costa 1964).

Ecological remarks. Specimens were collected from sand or patchy seagrass beds and sand. This species commonly forms aggregations in waters surrounding coral reefs throughout the Caribbean. Within the reef community, swarms may be associated with damselfish territories as well as *Diadema antillarum* (see Brattegard 1969; Twining et al. 2000). Relatively small numbers of *Mysidium gracile* were taken in the present study because the reef community proper was not sampled; only a few collections were made near patch reefs in the back reef habitat.

Ovigerous females were 4.7–6.3 mm in length and carried 4–6 larvae per brood. Diameter of embryonic phase 0.34–0.38 mm; longest postnauplioid phase 1.2 mm.

Systematic remarks. The specimens in our material agree with the description of Zimmer (1918) except for the length-width ratio of the antennal scale. The ratio for our specimens ranges from 5.0–6.0 as compared to about 4 for Zimmer. Brattegard's collection of *M. gracile* from South Florida (1969) differed from Zimmer's description and our specimens with respect to the articulation of the exopod of male pleopod 4 and the telson setation. Brattegard reported that articles 2, 3, and 4 of pleopod 4 of males were subequal, while specimens from Little Cayman have unequal articles($2 > 3 > 4$) and agree with the proportions of Zimmer's drawing (Figure 43). The total number of spine-setae on the telson was similar for Zimmer's drawing (48), Brattegard's (46) and our material (34–56). However, Brattegard reported pointed spine-setae on the lateral margins and blunt spine-setae apically, while only pointed spine-setae are noted for Cayman

specimens and depicted by Zimmer. Additional collections of this species from throughout the Caribbean are needed before these morphological discrepancies can be resolved.

Mysidium integrum W.M. Tattersall, 1951

Mysidium integrum.—W.M. Tattersall 1951:223, Figure 96.—Brattegard 1969:83, Figure 26.

Material. GRAND CAYMAN ISLAND: (males-2, ovigerous females-5, immature females-1, juveniles-1), South Sound (Prospect Point), rubble/seagrass, 1–2 m, epibenthic sled, 17 May 1998.—(4-4-2-5), The Edge, sand/seagrass, 1.0–1.5 m, kicknet, 12 May 1998.—(103-62-11-1), same station, *Acropora palmata*, 1.0–1.5 m, aquarium net, 11 May 1998.—(63-79-17-0), North Beach, sand depression, 2 m, aquarium net, 12 May 1998. LITTLE CAYMAN ISLAND: (1-0-0-0), Airport Beach, seagrass, 1.0–1.5 m, kicknet, 20 May 1995.—(0-1-0-0), Bloody Bay, McCoy's dock, sand, 5 m, light trap, 22 May 1995.

Type Locality. Cruz Bay, St. John, Virgin Islands.

Distribution. Coastal areas throughout the Caribbean Sea (W. M. Tattersall 1951; Brattegard 1969, 1970b, 1973, 1974a, b, 1975; Modlin 1987a); southern Florida (Emery 1968; Brattegard 1969); Gulf of Mexico (W.M. Tattersall 1951; Modlin 1984).

Ecological remarks. The largest numbers of this species were collected from swarms associated with patch reefs in back reef areas. Most previous reports of *Mysidium integrum* were from coral reef habitats (Emery 1968; Brattegard 1973; Modlin 1984, 1987), but it has been found over sand bottoms (Brattegard 1969, 1974a,b) and near mangroves (Brattegard 1975). At times, *M. integrum* may be associated with individual species of sponges, hard coral (Modlin 1984), gorgonians (Brattegard 1975, Modlin 1984), and sea anemones (Brattegard 1970b).

Ovigerous females ranged from 4.4–5.2 mm in length and carried 2–4 larvae per brood. Embryonic phase diameter 0.41–0.46 mm; longest postnauplioid phase 1.2 mm.

Systematic remarks. This species is similar to *Mysidium gracile* but is distinguished from it by the shape of the telson. The specimens in our material differ somewhat from the descriptions of W.M. Tattersall (1951) and Brattegard (1969, 1970b). With respect to male pleopod 4, our specimens are more similar to the description and illustration of Brattegard (1969, Figure 26D) than those of Tattersall (see Brattegard 1969 for discussion). Antennal scales of mature Cayman specimens generally have a length/width ratio of about 5 but range from 4.2–5.7, as compared to 4.6–5.0 for Tattersall and Brattegard. All telson spine-setae were depicted as sharply pointed in previous descriptions; occasionally, Cayman specimens have pointed lateral spine-setae and blunt apical spine-setae. For mature Cayman material, the carpo-propodus of the endopods of thoracic limbs 3–5 is 3-articulate and limbs 6–8 are 2-articulate. This is in agreement with Brattegard's (1969) Bahamian specimens, but not his Antiguan specimens (3–6:3 articles, 7–8:2 articles) (Brattegard 1970b), nor Tattersall's (1951) material from the Gulf of Mexico and the Virgin Islands (3–7:3 articles, 8:2 articles).

Parvimysis bahamensis Brattegard, 1969

Parvimysis bahamensis.—Brattegard 1969:74, Figures 23–24.—Henderson and Bamber 1983:143.

Antromysis (Parvimysis) bahamensis.—Bowman 1977:34.

Mysidopsis cojimarensis Ortiz and Lalana, 1993:51, Figures 1–2.—Price et al. 1994:684.

Material. GRAND CAYMAN ISLAND: (males-9, ovigerous females-7, immature females-5, juveniles-0), North Sound (19º23.20'N, 81º20.78'W), sand/seagrass, 2–3 m, epibenthic sled, night, 11 Jun 1997.—(53-43-24-0), North Sound, (19º23.40'N, 81º21.21'W), seagrass, 2–3 m, epibenthic sled, night, 11 Jun 1997.—(3-6-8-6), North Sound, off Duck Pond Cay, seagrass, 1.5 m, plankton net, epibenthic sled, night, 13 May 1998.—(9-28-3-2), North Sound, seagrass, 3 m, plankton net, epibenthic sled, night, 13 May 1998. LITTLE CAYMAN ISLAND: (15-19-4-4), South Hole Sound, middle, seagrass/sand, 1–2 m, epibenthic sled, night, 23 May 1995.—(0-2-0-0) South Hole Sound, middle, 1–2 m, plankton net, night, 23 May 1995.—(1-9-1-0), South Hole Sound, west end, sand, 1–2 m, epibenthic sled, night, 19 May 1995.—(4-7-1-2), Sound Hole Sound, west end, sand, 1.5 m, kicknet, 19 May 1995.—(1-0-1-1), Sandy Point, east end, sand, 1–2 m, kicknet, 23 May 1995.

Type Locality. Exumas, Bahamas.

Distribution. Coastal waters throughout the Caribbean Sea (Brattegard 1969, 1970b, 1973, 1974a, b, 1975; Modlin 1987a; Ortiz and Lalana 1993); Florida Keys (Brattegard 1973).

Ecological remarks. This species was collected commonly from patchy seagrass beds and sand at depths between 1 and 3 m in North Sound, Grand Cayman Island and South Hole Sound, Little Cayman Island. Brattegard (1969, 1973, 1974a, b, 1975) collected specimens in

sand as well as sand or mud substrata with seagrass beds in depths of 1–15 m. Small numbers of *Parvimysis bahamensis* were obtained by Modlin (1987) from fine sediments beneath prop roots of red mangroves, *Rhizophora mangle*.

Ovigerous females were 2.2–3.0 mm in length and carried 3–4 larvae per brood. Diameter of embryonic phase 0.22–25 mm; longest postnauplioid phase 1.04 mm.

Systematic remarks. Brattegard (1973) noted minor morphological differences among *P. bahamensis* specimens from the Caribbean coast of Colombia, Florida Keys, and Bahamas relating to the carapace, telson and chromatophore placement. The anterior dorsal margin of the carapace of our specimens is broadly rounded, most closely resembling the Colombian specimens of Brattegard. The ornamentation of the posterior telson margin is quite variable. This apparently led Ortiz and Lalana (1993) to consider Cuban specimens a new species of *Mysidopsis* Sars, 1864, *M. cojimarensis* (see Price et al. 1994). The emargination of the posterior end of the telson in our specimens is armed with 1–5 spinules and is closest to Brattegard's material from the Florida Keys. No chromatophores were found distal to the statocyst of the inner uropod for the Cayman specimens. Brattegard noted chromatophores only for Colombian material.

Tribe Heteromysini
Heteromysis (Olivemysis) bermudensis G.O. Sars, 1885

Heteromysis bermudensis.—G.O. Sars 1885:216, Plate 38, Figures 1–7.—Clarke 1955:5, Figure 7.—Brattegard 1973:51, Figure 20.

Material. GRAND CAYMAN ISLAND: (males-1, ovigerous females-0, immature females-0, juveniles-0), South Sound (Prospect Point), 1.5 m, rock washings, 19 May 1998.—(0-1-0-0), The Edge, 1.5–2.0 m, rock washings, 11 May 1998.—(5-1-4-1), Cottage Point, 1.0–2.0 m, rock washings, 23 May 1998.—(2-1-1-0), Spotter Bay, 1.0–1.5 m, rock washings, 16 May 1998.

Type Locality. Bermuda.

Distribution. Bermuda (G.O. Sars 1885, Verrill 1923, Clarke 1955, Bowman 1981, Băcescu and Iliffe 1986); Cuba (Băcescu 1968a); Grand Cayman (present study); Belize (Modlin 1987a); Caribbean coast of Colombia (Brattegard 1973); Saba Bank, Lesser Antilles (Brattegard 1980).

Ecological remarks. Most members of the genus *Heteromysis* are cryptic and commensal, living in association with various sessile or slow moving invertebrates (Vannini et al. 1994). The heteromysids taken in the present study are probably no exception and were collected from habitats having a variety of calcareous algae, sponges, anthozoans, and other sessile forms. However, our collecting methods were too general to determine the specific host with which each mysid species was associated.

Heteromysis bermudensis was found in rock washings from several back reef sites on Grand Cayman Island. Other investigators obtained specimens from coral and shell rubble (Verrill 1923; Clarke 1955), empty queen conch shells *Strombus gigas* (Modlin 1987), sponges (Brattegard 1973; Băcescu and Iliffe 1986), and sponge and algae (Bowman 1981).

Ovigerous females ranged from 3.3–3.8 mm in length, but no larvae were present.

Systematic remarks. This species, which is represented by two nominal subspecies (*H.b. bermudensis* and *Heteromysis b. cesari* Băcescu, 1968), is presently known from Bermuda southward throughout the Caribbean. *Heteromysis b. bermudensis* has been reported from Bermuda while *H.b. cesari*, which was originally described from Cuba, has since been reported from Saba Bank by Brattegard (1980). The other three Caribbean records (Brattegard 1973; Băcescu and Iliffe 1986; Modlin 1987) do not indicate the subspecies. Based on eye morphology and the setal pattern of the male pleopod 4, our material from the Grand Cayman fits *H.b. bermudensis sensu* Bowman (1981); however, until more details are available on the intraspecific variation within this species, we follow Modlin (1987) and do not recognize its subspecific status.

In most respects, our material agrees with earlier descriptions of *H. bermudensis* (see Bowman 1981) but exhibits more variation than previously reported. The inner margin of the uropodal endopod is armed with 10–14 spine-setae; the spinules of the telsonal cleft ranges from 11–17; the distal margin of male pleopod 4 and the carpo-propodus of thoracic endopod 3 have 42–55 and 6–7 flagellated spine-setae, respectively. A faint distal suture was noted on the antennal scale of all Cayman specimens examined and is in agreement with Sars (1885) and Bowman (1981), but not Băcescu (1968) or Brattegard (1973).

Heteromysis (Olivemysis) coralina Modlin, 1987

Heteromysis coralina.—Modlin 1987b:657, Figure 2a–k.

Material. GRAND CAYMAN ISLAND: (males-1, ovigerous females-1, immature females-1, juveniles-0), Spotter Bay, 1.0–1.5 m, rock washings, 16 May 1998.

LITTLE CAYMAN ISLAND: (1-0-1-3), Sandy Point, 1.0–1.5m, rock/algal washings, 23 May 1995.

Type Locality. Looe Key, Florida Keys, Florida.

Distribution. Florida Keys (Modlin 1987b); Cayman Islands (present study).

Ecological remarks. This species was collected from rock and rock/algal washings on Grand Cayman Island and Little Cayman Island. Modlin (1987b) obtained specimens from a fore reef vertical buttress wall with hard and soft coral after the area was poisoned.

The only ovigerous female collected was 4.0 mm long.

Systematic remarks. Specimens from this second record of *Heteromysis coralina* exhibit greater variation for a number of morphological characteristics than reported in Modlin's (1987) original description. The endopod of the uropod is armed with 2–4 spine-setae near the statocyst rather than 5; the proximal half of the telsonal cleft has 13–17 spinules rather than 19–20; 7–10 spine-setae (including apical spine-setae) are located along the lateral margins of the telson rather than 10; and the distal margins of pleopods 3 and 4 of males (3.9, 4.3 mm length) have 6–12 and 8–17 flagellated spine-setae, respectively. Modlin reported 8–11 and 14–15 flagellated spine-setae for male pleopods 3 and 4, respectively. The carpo-propodus of thoracic endopod 3 of our specimens is armed with 8–9 flagellated spine-setae with the distal 2–3 pairs turberculate. Modlin (1987) reported 9 flagellated spine-setae, and his illustration (Figure 2G) showed tubercules on at least the distal two pairs.

Heteromysis (Olivemysis) mayana Brattegard, 1970

Heteromysis mayana.—Brattegard 1970a:140, Figure 12–13.

Material. GRAND CAYMAN ISLAND: (males-0, ovigerous females-3, immature females-1, juveniles-0), South Sound, west end, sand/seagrass, 1–2 m, rock/sponge/algal washings, 22 May 1998,—(0-2-0-0), South Sound (Pier), sand/seagrass, 1.0–1.5 m, rock washings, 30 Aug 1996.—(6-1-4-1), same station, rock washings, 15 Jun 1997.—(5-3-2-0), Spotter Bay, 1.0–1.5 m, rock washings, 16 May 1998.—(12-6-1-4), North Beach, grass/sand, 1.0–1.5 m, rock washings, 1 Sep 1996.—(12-5-5-2), same station, yabby pump, 12 May 1998.—(0-1-0-0), North Sound, off Booby Cay, seagrass, 3 m, epibenthic sled, night, 13 May 1998.

Type Locality. Isla de Cozumel, Quintana Roo, Mexico.

Distribution. Quintana Roo, Mexico (Brattegard 1970b; Markham et al. 1990); Belize (Modlin 1987a); Caribbean coast of Colombia (Brattegard 1973, 1974a); tentatively from the Virgin Islands (Brattegard 1975); Grand Cayman (present study).

Ecological remarks. Most specimens were collected in rock washings and from sand bottoms with patchy seagrass. Brattegard (1970b, 1973, 1974a) reported this species from a variety of habitats: green sea anemones, *Thalassia* beds, coral rubble, and live hard corals. Modlin (1987a) found it in coral rubble, empty queen conch shells, and in association with the sea anemone *Bartholomea annulata*.

Ovigerous females ranged from 2.7–4.2 mm long. Only one with an undisturbed marsupium was collected; it harbored 4 postnauplioid larva that were each 0.9 mm in length.

Systematic remarks. Our material from Grand Cayman constitutes the first record of this species from an insular environment and shows greater morphological variation than reported by Brattegard (1970b). The posterior 60–70%, rather than 50%, of the lateral telson margin is armed with spine-setae; the inner apical telson spine-setae are greater than half the length of the outer rather than less than half; the telsonal cleft is about 1/3 the telson length rather than 1/4. Brattegard reported 5 non-tuberculate flagellated spine-setae on the carpo-propodus of thoracic endopod 3. Our specimens have 5–7 flagellated spine-setae with tubercles on all but the most proximal one. Brattegard found 18–22 and 30–35 flagellated spine-setae for male pleopods 3 and 4, respectively, as opposed to 13–20 and 19–32 spine-setae for the Cayman material.

Heteromysis (Olivemysis) sp. A

Material. GRAND CAYMAN ISLAND: (males-2, ovigerous females-1, immature females-0, juveniles-0), South Sound, west end, sand/seagrass, 1–2 m, rock/sponge/algal washings, 22 May 1998.—(3-2-2-1), South Sound, (Prospect Point), 1.5 m, rock washings, 18,19 May 1998.—(2-0-0-0), same station, rock washings, 12 Aug 1999.—(0-1-0-0), The Edge, 1–2 m, rock washings, 11 May 1998.—(3-2-0-0), Cottage Point, 1–2 m, rock washings, 23 May 1998.—(1-1-0-0), same station, rock washings, 13 Aug 1999.

Ecological remarks. Specimens were collected from rock and rock/sponge/algal washings from 4 stations along the south coast of Grand Cayman Island.

Systematic remarks. This undescribed species of *Heteromysis* is most closely related to *H. agelas*, *H. bredini*, *H. guitarti*, and *H. tuberculospina* but differs from these species in the setation of the antennular

peduncle, thoracic endopod 3, uropodal endopod, telson, and male pleopod 4. Our specimens have a non-tuberculate spine-seta on the third article of the antennule, 6 flagellated spine-setae on the carpo-propodus of thoracic endopod 3, 3–4 uropodal endopod spine-setae, telsonal cleft with 11–16 spine-setae, and inner apical telson spine-setae more than one-half as long as outer spine-setae. In addition, pleopod 4 of mature males has 5 modified spine-setae.

Heteromysis (Olivemysis) sp. B

Material. GRAND CAYMAN ISLAND: (males-0, ovigerous female-1, immature females -0, juveniles-0), North Sound (19º20.00'N, 81º21.66'W), seagrass, 2–3 m, epibenthic sled, night, 11 Jun 1997. LITTLE CAYMAN ISLAND: (0-0-1-0), South Hole Sound, middle, 1–2 m, sponge washings, 22 May 1995.—(7-5-4-0), South Hole Sound, west end, sand/seagrass, 1–2 m, epibenthic sled, night, 19 May 1995.—(12-6-4-1), Owen Island, west end, 1.0–1.5m, rock/algal washings, 23, 25 May 1995.—(11-5-2-0), Sandy Point, 1.0–1.5m, rock/algal washings, 23 May 1995.

Ecological remarks. Most specimens were taken from sponge washings, rock/algal washings, and sand/seagrass habitats on Little Cayman Island. However, one individual was collected from seagrass in North Sound, Grand Cayman Island, indicating that this species is probably established in the shallow waters surrounding both islands.

Systematic remarks. This species appears to be undescribed and most closely related to *H. bermudensis* and *H. floridensis*. The major difference separating these species concerns the setation of the distal margin of pleopod 4 in mature males. Mature male *H. bermudensis* and *H. floridensis* have 26 or more flagellated or non-flagellated spine-setae on pleopod 4, whereas our specimens have 10 or fewer flagellated spine-setae.

DISCUSSION

Of the 20 species of mysids recorded from the Cayman Islands, the two undescribed species of *Heteromysis* are known currently only from this insular cluster. In addition to establishing new distribution records for *Heteromysis coralina* (Florida Keys), *Mysidopsis mathewsoni* (Bahamas), *Siriella chessi*, and *S. macrophthalama* (Virgin Islands), these species are reported for the first time since their original descriptions. The other 14 species have widespread distributions throughout the Caribbean Sea, including the continental coastlines of Central America and northern South America, and their appearance in the shallow water communities of the Cayman Islands is not considered unusual.

Species diversity of Cayman mysid fauna is similar to results from other intensive surveys of mysids in insular or continental coastline locales within the Caribbean. Brattegard (1969, 1970a) found 13 species in the Florida Keys and Biscayne Bay area, 16 species in the Bahamas, and 22 and 34 species along the coastlines of Panama and Colombia, respectively (Brattegard 1973, 1974a, b). Modlin (1987a) collected 11 species from the water surrounding Carrie Bow Cay, Belize. Collecting methods and total sampling effort varied considerably among these studies. For example, Brattegard utilized an epibenthic sled for most samples, and collected in shallow waters of 15 m or less in the Florida Keys, Bahama, and Panama. In contrast, Modlin sampled specific benthic (sponge, corals) and planktonic habitats within coral and mangrove communities, utilizing SCUBA and snorkeling techniques. The Colombian survey (Brattegard 1973, 1974a), which yielded the greatest number of species, had more stations from a greater depth range (1–45 m) and used a wider variety of sampling methods than any other Caribbean survey. Sampling in the present study was restricted to shallow non-reef habitats surrounding Grand Cayman and Little Cayman Islands and the slightly deeper waters of North Sound. The extensive fore reef habitats ringing the islands were not sampled, nor were specific benthic habitats targeted as they were in Modlin's (1987a) Belize study. Inclusion of these reef and non-reef areas in future faunal surveys of mysids of Grand Cayman, Little Cayman, and Cayman Brac should provide a more complete picture of the diversity, endemicity, and zoogeography for the Mysida occurring in the waters of this small, remote group of Antillean islands.

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