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CUMACEA (CRUSTACEA: MALACOSTRACA: PERACARIDA) OF THE GULF OF MEXICO. I. A NEW SPECIES OF *SYMPODOMMA* STEBBING, 1912 (BODOTRIIDAE: VAUNTHOMSONIINAE)

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Abstract. A new species of bodotriid cumacean belonging to the genus *Sympodomma* is described from depths of 212-213 m on the continental slope of the northern Gulf of Mexico. The new species, *S. sarahae*, distinguishes from the other members of the genus by a combination of characters, including carapace with three teeth on the dorsal crest and ventral teeth on the fourth and fifth pereonites.

Résumé. On décrit une espèce nouvelle de cumacé bodotriide appartennat au genre *Sympodomma*, collectée sur le talus continental du nord du Golfe du Mexique, aux profondeurs de 212-213 m. La nouvelle espèce, *S. sarahae*, se distingue des autres membres du genre par une combinaison des caractères, y compris la carapace avec trois dents sur la crête dorsale et les dents ventrales sur les quatrièmes et cinquièmes pereonites.

Key words: Cumacea, Gulf of Mexico, Bodotriidae, new species, *Sympodomma*.

INTRODUCTION

Based on the examination of Cumacea collected during baseline studies sponsored by the Bureau of Land Management (BLM) between 1974 - 1978 and the Minerals Management Service (MMS) during the years 1999 and 2000, we discovered specimens of an undescribed species belonging to the bodotriid genus *Sympodomma* Stebbing, 1912. The new species was collected from depths of 90-213 m. Its description is the subject of this report.

The specimens used in this investigation have been deposited in the crustacean collections of the National Museum of Natural History (USNM), Washington, DC, U.S.A.; Gulf Coast Research Laboratory Museum (GCRL), Ocean Springs, MS, U.S.A.; and "Grigore Antipa" National Museum of Natural History (MGAB), Bucharest, Romania. Abbreviations used here include "BLM" for Bureau of Land Management, "MMS" for Mineral Management Service, Mississippi-Alabama-Florida (MAFLA), "m" for meter (s), and "mm" for millimeters.

RESULTS

Family Bodotriidae Scott, 1901
Subfamily Vaunthompsoniinae G. O. Sars, 1878
Genus *Sympodomma* Stebbing, 1912
Sympodomma sarahae n. sp.
(Figs 1, 2)

Material. *Holotype*: ♀, MMS station RW 1-2, USNM 1082953, 27°29.9333'N, 96°00.2164'W; 213 m, coll. Texas A & M Univ., 23.05.2000; *paratypes*: 3 ♀♀, USNM 1082954 same data as for holotype; 1 ♀, MMS station RW 1-1,

27°30.0242'N, 96°00.1437'W, 212 m, 23.05.2000, CCRL 2314; 1 ♀, MMS station RW 1-3, 27°30.0733'N, 95°59.9273'W, 212 m, 23.05.2000, MGAB CUM 1624; 1 ♀ (dissected), station RW 1-5, 27°30.0085'N, 96°00.1708'W, 213 m, 23.05.2000, MGAB CUM 1625.

Type locality: Gulf of Mexico, MMS station RW 1-2, 27°29.9333' N 96°00.2164' W, 213 m, collected on 23.05.2000.

*Etymology***.** The species is dedicated to Sarah Elizabeth Heard, the young and lovely daughter of the second author and his wife Pamela.

Description of subadult female

Body (Fig. 1 A), elongate, with finely reticulated integument. Length: 5.7-11.6 mm.

Carapace (Fig. 1 A, B), less than one-fourth length of entire body and about twice as long as deep, with three dorsal teeth in anterior half, one each being on ocular lobe, dorso-median carina, a concave ridge from dorsal carina towards basis of ocular lobe on each side. Ocular lobe digitiform, with several small lenses, extending slightly beyond tip of pseudorostral lobes; antennal notch distinct, forming small depression with pointed anterolateral corner, short ventral serration.

Pereon (Fig. 1 A), pereonite 1 not visible, free pereonites slightly shorter than carapace, sternites of thoracic segments 4 and 5 with ventral median tooth pointed forwards, two pairs of setae on posterior extremity of last pereonite and of pleonites 1-4. Pleon longer than carapace and pereon combined, fifth segment longest, last pleonite with dorsal swelling armed with median spine, extending posteriorly between the uropodal peduncles, margin serrate with two small apical teeth.

Antenna 1 (Fig. 1 C), peduncle, article 3 longest, geniculate, with three simple setae on outer margin; articles 2 and 3 subequal, article 3 with distal margin having three sensory setae, distal lobe of article three with one sensory and one simple seta; main flagellum small with three articles, article 1 more robust and twice length articles 2 and 3 combined, articles 2 and 3 each with relatively short aesthetasc; accessory flagellum biarticulated, half length of basal article of main flagellum, distal article terminating in two sensory and two simple setae.

Antenna 2 (Fig. 1 D) biarticulated, basal article with two strong feathered setae, apical article bearing two short sensory setae.

Labium (Fig. 1 E), with five apical, flattened setae (three distinctly longer than remaining two).

Mandible (Fig. 1 F), left mandible having pars incisiva with four teeth, lacinia mobilis with three teeth, and 14 plumose setae on inner margin between lacinia mobilis and truncated pars molaris.

Maxilla 1 (Fig. 1 G), with 11 stout distal setae on outer lobe and plumose seta on outer margin, inner lobe with three setae, two being plumose, palpus with two unequal glabrous filaments.

Maxilla 2 (Fig. 1 H), with microserrate curved setae on distal articles, six setae on anterior half of inner margin of protopodite.

Maxilliped 1 (Fig. 1 I), basis with four strong plumose setae on inner margin, two small setulate setae, endite with two retinacula (coupling hooks) on distal inner margin; distal tip of endite, blunt with two small simple and one stout, chisel-shaped spiniform terminal setae, carpus having five, curved, distally inflated, bidentate spiniform setae interspersed with simple setae on inner margin; dactylus much smaller and narrower and less than half length of propodus, with three simple terminal setae.

Maxilliped 2 (Fig. 2 A), basis subequal in length to other articles combined, with long plumose seta on distal inner corner, merus with two plumose setae on distal inner corner; carpus longer than merus or propodus, with three plumose setae on inner margin and long plumose seta on distal outer corner; propodus shorter than merus, with two stout plumose setae on inner margin and three simple setae, one long and strongly developed on outer distal corner and two smaller on distal margin at articulation with dactylus; dactylus with three small subterminal setae and one robust, long terminal seta.

Maxilliped 3 (Fig. 2 B), basis long, twice as long as other articles combined, inner distal half margin serrate with plumose distally and simple setae proximally, distal lobe or outer process reaching articulation between merus and carpus, with three plumose setae distally and four plumose setae on serrated inner margin of process; merus slightly longer than ischium, with two spines and a short plumose seta on outer margin; carpus subequal in length to merus, with four plumose setae on inner margin, one plumose setae on outer distal margin; propodus as long as ischium, with sensory setae on inner distal margin, dactylus shorter than propodus, with two stout, subequal, terminal curved setae.

Pereopod 1 (Fig. 2 C), basis about one third length of entire appendage, with plumose setae on inner serrated margin, ischium with tooth and plumose seta on inner margin, merus 1.5 times longer than ischium, carpus 1.4 times longer than merus, propodus longer than either merus or ischium, 1.5 times longer than carpus, 1.2 times longer than dactylus, dactylus with long stout curved terminal seta.

Pereopod 2 (Fig. 2 D), basis slightly longer than one third of entire appendage, simple setae on inner margin, plumose seta on inner distal corner, ischium with plumose seta on inner margin, merus 7.6 times longer than ischium, with three stout setae on inner margin, carpus shorter than merus (0.8), dactylus 3.5 times longer than propodus, little longer than merus and carpus combined, with simple stout subterminal and terminal setae.

Pereopod 3 (Fig. 2 E), basis shorter than half of length of entire appendage, with plumose setae on both sides, carpus slightly longer (about 1.1) than merus, with two plumose setae on outer margin and three long stout terminal setae, dactylus with stout terminal seta.

Maxilliped 3 and *pereopods 1-3* with exopods.

Pereopod 4 (Fig. 2 F), with shorter basis than in pereopod 3, carpus little shorter than merus.

Pereopod 5 (Fig. 2 G), basis shorter, two times longer carpus than merus.

Uropod (Fig. 2 H), peduncle long, 1.3 times longer than last pleonite, with about 24 stout setae of variable sizes on inner margin, length about 1.5 times longer than length of exopod; exopod 1.1 times longer than endopod, biarticulate, outer margin with 14 simple setae, outer margin with 12 plumose setae, tip with two strongly developed, long, microserrate terminal setae; endopod biarticulate, distal article longer than proximal one (about 1.3), proximal article with ten stout setae on inner margin and five longer ones on outer margin, distal article with nine stout setae on inner margin, five longer ones on outer margin and two longer, unequal, terminal microserrate setae.

Remarks

Superficially the new species appears to be most similar to *S. hatagumoanum* described from Japanese waters by Gamô (1969), but *S. sarahae* n. sp. can be distinguished by the maxilliped 3 with basis having the inner margin bearing plumose setae along distal margin and small simple setae along proximal margin,

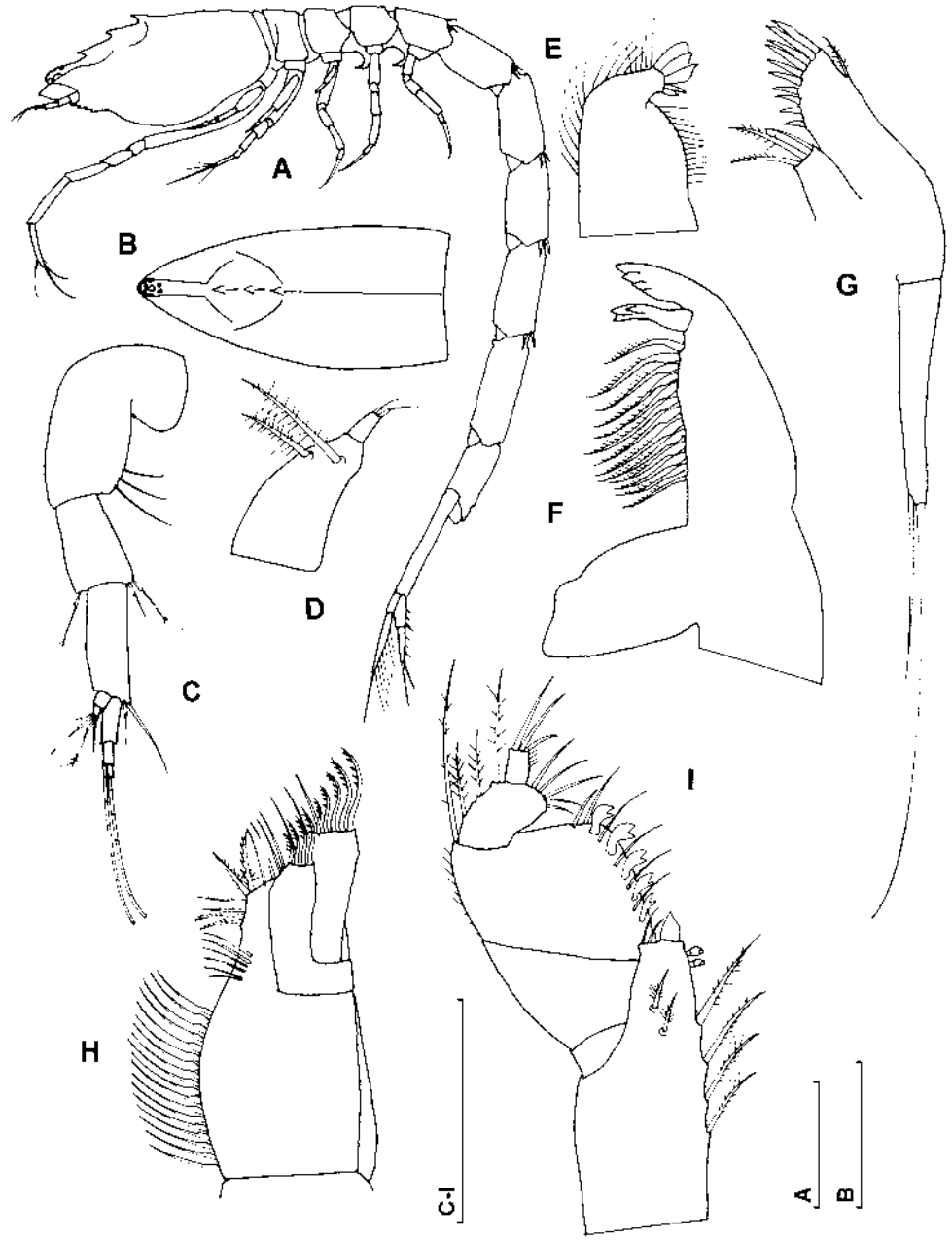

Fig. 1 – *Sympodomma sarahae* n. sp. Subadult female: A, body, lateral view; B, carapace, dorsal view; C, antenna 1; D, antenna 2; E, labium; F, mandible; G, maxilla 1; H, maxilla 2; I, maxilliped 1. Scale bars (in mm): A, 1; B, 0.5; C-I, 0.3.

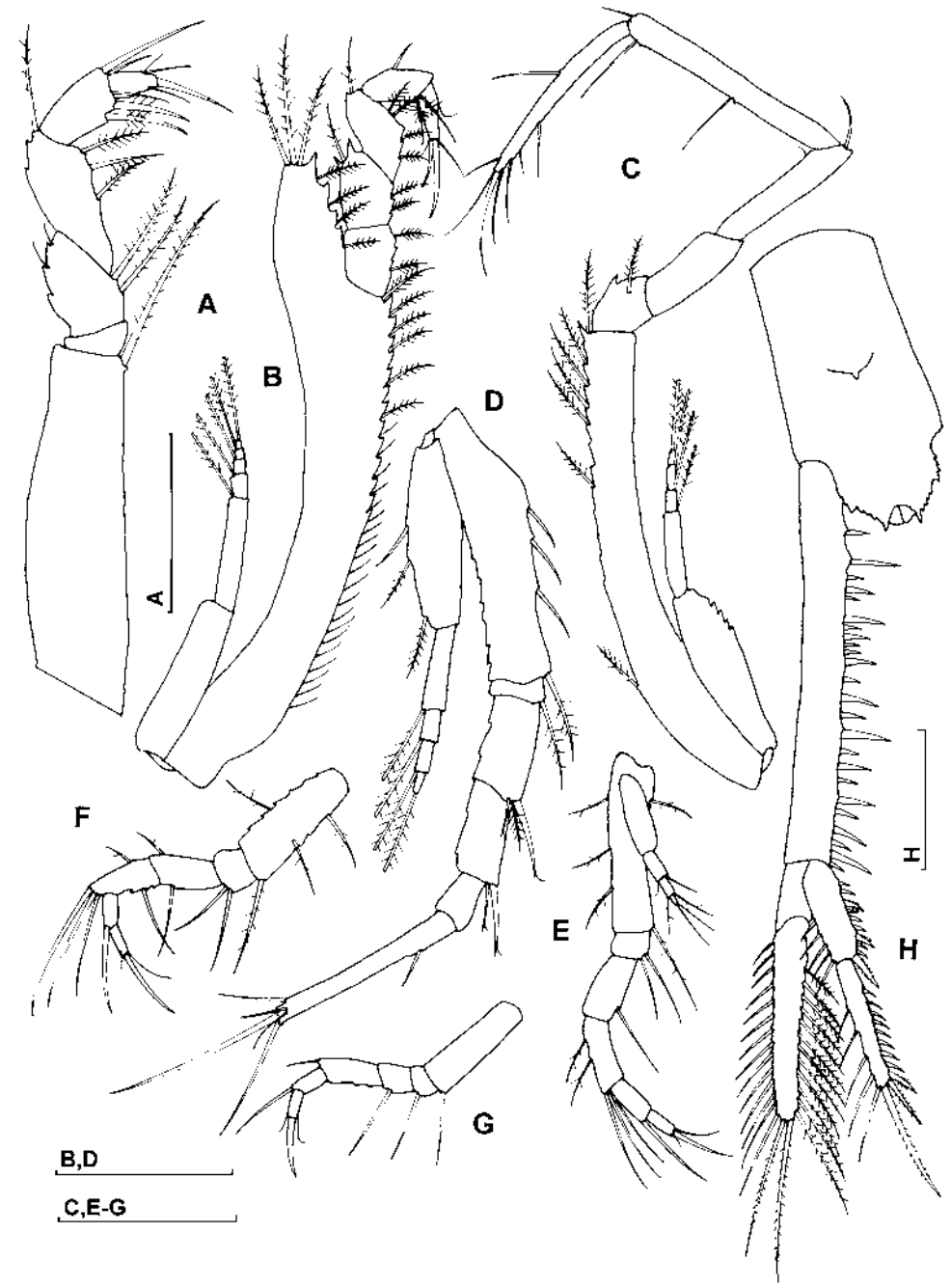

Fig. 2 – *Sympodomma sarahae* n. sp. Subadult female: A, maxilliped 2; B, maxilliped 3; C, pereopod 1; D, pereopod 2; E, pereopod 3; F, pereopod 4; G, pereopod 5; H, 6th pleonite with left uropod. Scale bars (in mm): A, 0.3; B,D, 0.3; C,E-G, 0.4; H, 0.5.

and outer distal lobe with inner margin armed with four strongly developed teeth or spines. In *S. hatagumoanum* plumose setae occur along the entire inner margin of the basis, and the inner margin of the outer distal lobe appears to be weakly dentate. The two species are further differentiated by differences dorsal, lateral, and terminal teeth of the pleotelson.

The female of *Sympodomma sarahae* n. sp. can readily be separated from its Caribbean congener, *S. anomalum,* by (1) having a carapace with three dorsal teeth (versus four in *S. anomalum*), (2) the ocular lobe lacking teeth (instead of with two small teeth), (3) having the female with a sternal spine on forth and fifth pereonites (versus none on the female of *S. anomalum*).

Sympodomma sarahae n. sp. represents the ninth species of the genus *Sympodomma* and the second species known from the Western Atlantic, the other being *S. anomalum* Sars (1871) described from waters of the island of St. Martin in the Caribbean Sea. The other eight species are known from Australia: *S. australiense* Foxon (1932), *S. incertum* Hale (1949), *S. whitleyi* Hale (1949), Japan: *S. diomedeae* (Calman, 1912) and *S. hatagumoanum* Gamô (1969); Gulf of Aden: *S. vitreum* Lomakina (1967); and Indonesia: *S. weberi* (Calman, 1905). A dichotomous key for the separation of the known species of genus is presented below.

Table 1

Some distinguishing characters for the known species of *Sympodomma.*

Character	*anomalum*	*australiense*	*diomedeae*	*hatagumoanum*	*incertum*	*sarahae*	*vitreum*	*weberi*	*whitleyi*
Dorsal teeth on carapace	4	1	3	3	4	3	0	0	0
Lenses on ocular lobe	0	0	+	0	0	+	0	0	+
Ocular lobe	2 small teeth	pigmented eye	tubercles	0	0	+	+	+	+
Ventral teeth on pereon no.	0	0	# 4 of ♀ #1, 4 of ♂	# 1,4 of ♂	0	prn 4, 5 (♀)	0	0	0
Lateral carinae on pereon and pleon	0	+	+	0	+	0	0	+	0
Uropodal peduncle/ last pleonite	1.1	1	˜ 1	1.2	1.3	1.3	1.5	> 1.5	1.3
Uropodal peduncle/ endopod	1.3	1	˜ 1	1.9	1.2	1.7	1.8	1.7	1.4
Exopod/ endopod	1.3	slightly shorter	slightly shorter	1.1	1.1	1.1	1.0	1.2	0.9

Key to the known species of the genus *Sympodomma* Stebbing, 1912

1.Dorsal crest of carapace armed with 1-4 teeth ……..…… 2
- Dorsal crest of carapace unarmed …… 5
2.Dorsal crest of carapace armed with 4 teeth ……..…… 4
- Dorsal crest of carapace armed with 1-3 teeth ……..…… 3
3.Dorsal crest of carapace armed with 1 tooth ……..……..… *S. australiense*
- Dorsal crest of carapace armed with 3 teeth ……. 7

4.Ocular lobe with a pair of small spines, no lateral carinae on pereon and pleon ……..…….. *S. anomalum*
- Ocular lobe without pair of small spines, lateral carinae on pereon and pleon ……..……. *S. incertum*
5.Lateral carinae present on pereon and pleon ……....…… *S. weberi*
- Lateral carinae absent on pereon and pleon ……. 6
6.Uropodal endopod 1.8 times length of peduncle …….. *S. vitreum*
- Uropodal endopod 1.4 times length of peduncle ……... *S. whitleyi*
7.Lateral carinae present on pereon and pleon ….…… *S. diomedeae*
- Lateral carinae absent on pereon and pleon …… 8
8.Maxilliped 3, basis having outer distal lobe having inner margin with four strong teeth. Uropod with peduncle about 1.9 times longer than endopod ……..... *S. hatagumoanum*
- Maxilliped 3, basis having outer distal lobe with inner margin weakly dentate. Uropod with peduncle about 1.7 times longer than endopod ……..…… ***S. sarahae*** n. sp.

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CUMACEA (CRUSTACEA: MALACOSTRACA: PERACARIDA) DIN GOLFUL MEXIC. I. O NOUĂ SPECIE DE *SYMPODOMMA* STEBBING, 1912 (BODOTRIIDAE: VAUNTHOMSONIINAE)

REZUMAT

Specia nouă aparţine genului *Sympodomma* Stebbing, 1912 care are un reprezentant la coastele americane, *S. anomalum* (Sars, 1871), din Antile. *S. sarahae* n. sp. se deosebeşte de acesta, în principal, prin caracterele carapacei, pereonului şi uropodelor.

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