

A NEW SPECIES OF *ENHYDROSOMA*
(COPEPODA, HARPACTICOIDA)
FROM TAMPA BAY, FLORIDA

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ABSTRACT

The new species *Enhydrosoma herrerae* from Tampa Bay, Florida, is distinguished from other members of the genus by the unique combination of a caudal rami length/width ratio > 5.0 , P4 and P5 setation in the female and modification of the male P3. A revised key to the females and males of *Enhydrosoma* which includes *E. herrerae* n. sp. and another recently described species, *E. variabile* Wells, Hicks and Coull is provided.

We describe below a new species of *Enhydrosoma* from shallow subtidal habitats in Tampa Bay, Florida. *Enhydrosoma herrerae* n. sp. is the first copepod in the genus to be described from this location although Thistle (1980) described *E. franklini* from a similar site in the northern Gulf of Mexico.

Thistle (1980) provided both an update of the genus *Enhydrosoma* and revised keys to both females and males of the genus. With the recent addition of *E. herrerae* n. sp. and another species, *E. variabile* Wells, Hicks and Coull we have revised Thistle's keys to include the above species.

METHODS AND MATERIALS

Specimens for examination were collected in fine sand (median grain size = 0.125 mm) in a shallow-sublittoral zone at the northern end of Tampa Bay (28°50'N; 82°40'W) and also at the southern tip of Tampa Bay in fine sand sediments in *Thalassia* seagrass beds, approximately 0.8 m deep.

We use the following abbreviations in our description of *Enhydrosoma herrerae* n. sp.: A1, antennule; A2, antenna; Md, mandible; Mx, maxilla; Mxl, maxillula; Mxp, maxilliped; Exp, exopod; Enp, endopod; P1-P5, pereopods 1 through 5; Benp, baseoendopodite; CR, caudal ramus. All figures were drawn with a camera lucida. Measurements of body length were made excluding rostrum and CR.

Family CLETODIDAE T. Scott
Enhydrosoma herrerae new species
Figures 1-3

Synonymy.—None.

Material Examined.—8 ♀♀ (2 ovigerous); 2 ♂♂. Holotype 1 ♀ USNM No. 191224. Paratypes 6 ♀♀; 6 ♂♂ USNM No. 191225.

Description.—Based on ovigerous female, length 0.46 mm (Fig. 1A, B). Range of female lengths = 0.46–0.54 mm. Body width not greatly reduced posteriorly. Rostrum (Fig. 1C) confluent with cephalothorax. CR not segmented; 5.5 times long as wide with 2 lateral setae and 1 ventral seta. One strong terminal seta with 2 accessory setae also present (Fig. 1D). A1 (Fig. 1E). 5-segmented; aesthetasc on segment 3. A2 (Fig. 1F). With allobasis, Exp 1-segmented with 2 setae. Enp with 6 setae terminally and 2 lateral setae. Md (Fig. 2A). Praecoxxa with denticulate *pars incisiva* with 3 setae. Coxa basis with 2 stout setae. Mxl (Fig. 2B). Arthritis of praecoxxa with 4 stout setae, basis with 2 apical and 1 surface setae. Mx (Fig. 2C). Syncoxa with 2 endites each with 2 stout setae. Basis with 1 strong seta. Enp represented by 2 strong setae. Mxp (Fig. 2D). Basis with no inner setae on distal corner. First segment Enp with row of inner spinules and small lateral seta. Second

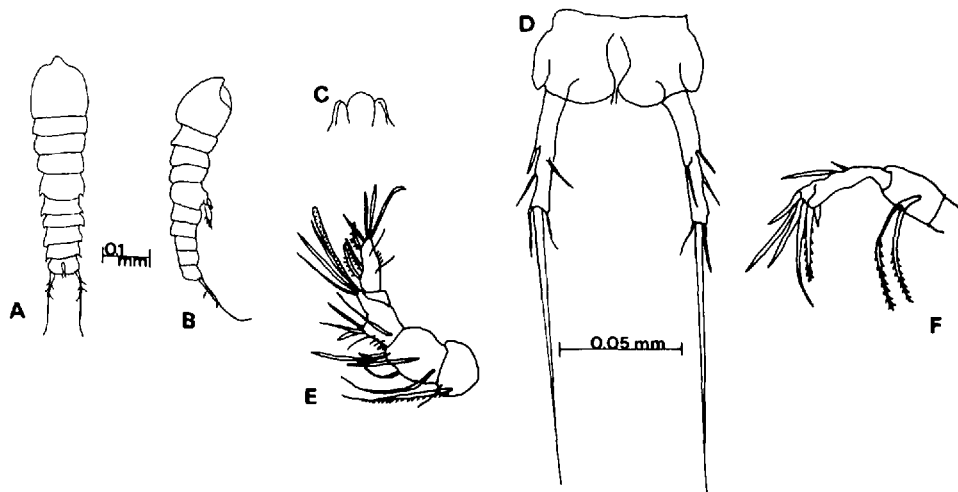


Figure 1. *Enhydrosoma herrerae* n. sp.: A, female, dorsal view; B, female, lateral view; C, rostrum; D, CR, ventral view; E, A1; F, A2. A and B drawn to same scale; C–F drawn to same scale.

Enp segment a claw. P1–P4 (Figs. 2E–G, 3A). All with 3-segmented Exp and 2-segmented Enp. Setal formulae is as follows: Exopod: P1 and P2 both 0.0.022; P3 and P4 both 0.0.122; Endopod: P1 and P2 both 0.020; P3 and P4 both 0.021. P5 (Fig. 3B). Benp inner projection with 3 setae. Exp with 1 terminal and 3 lateral setae.

Male.—Based on 0.48 mm individual. Range of body lengths = 0.44–0.54 mm. CR of male not different from female. The male differs from the female in A1, P3 and P5. A1 (Fig. 3C). Haplocer with aesthetasc on segment 4. P3 (Fig. 3D). Exp as in female. Enp 3-segmented. Second segment with apophysis, third segment with 2 terminal setae. P5 (Fig. 3E). Benp and Exp distinct. Benp with 2 inner setae. Exp with 2 terminal setae.

Etymology.—The specific name, *herrerae*, refers to the early explorer Herrera who designated Tampa Bay on maps in 1601.

DISCUSSION

Enhydrosoma herrerae n. sp. is unique in the genus because of its combination of CR length/width ratio and P4 and P5 setation in the females. This species keys to *E. littorale* Wells in Thistle's (1980) key to females and males of *Enhydrosoma*. However there are marked differences between *E. littorale* as described in Wells (1967) and *E. herrerae* n. sp. The female CR of *E. herrerae* n. sp. has a length/width ratio of 5.5 and does not have a bulbous proximal portion of the CR. In contrast, females of *E. littorale* have a CR length/width ratio of 3.3 and a distinct bulbous portion of the CR. The male CR of *E. littorale* is very similar to that of *E. herrerae* n. sp., however. Modification of the male P3 Enp of *E. herraria* n. sp. is markedly different from *E. littorale* and is, in fact, very similar to that reported for *E. baruchi* Coull (Coull 1975).

Because of the addition of *E. herrerae* n. sp. and *E. variable* (Wells et al., 1982) to the genus *Enhydrosoma*, we have revised Thistle's (1980) key to the females and males of *Enhydrosoma*.

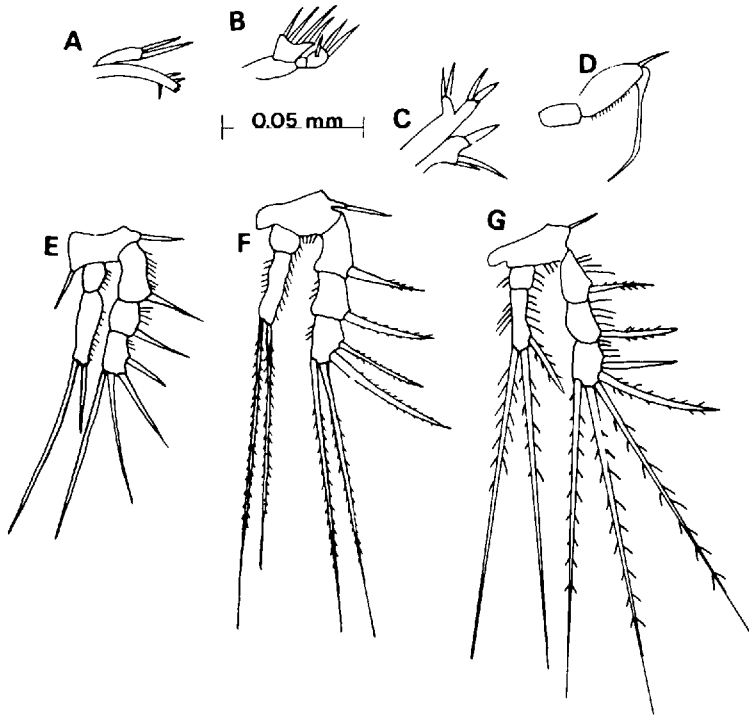


Figure 2. *Enhydrosoma herreraei* n. sp.: A, Md; B, MxI; C, Mx; D, Mxp; E, P1; F, P2; G, P3.

KEY TO THE FEMALES OF *ENHYDROSOMA*
(Modified from Thistle, 1980)

1a. Caudal rami at most as long as last somite	2
1b. Caudal rami longer than last somite	7
2a. Exp A2 well developed, with 2 setae	3
2b. Exp A2 rudimentary, with 1 seta	<i>E. buchholtzi</i> Boeck
3a. Exp and Benp P5 not confluent	4
3b. Exp and Benp P5 confluent	<i>E. gariene</i> Gurney
4a. Enp P4 2-segmented	5
4b. Enp P4 1-segmented	<i>E. unarticulatum</i> Bortuzky
5a. Exp P5 with 1 terminal and 2 outer setae	<i>E. hopkinsi</i> Lang
5b. Exp P5 with 1 terminal and 3 outer setae	<i>E. propinquum</i> (Brady)
5c. Exp P5 with 3 terminal and 1 outer seta	6
6a. Enp P1 distal segment with 3 setae	<i>E. micrurum</i> Monard
6b. Enp P1 distal segment with 2 setae	<i>E. curticauda</i> Boeck
7a. Exp A2 rudimentary with 1 seta	8
7b. Exp A2 well developed with 2 setae	10
8a. Exp and Benp P5 confluent	9
8b. Exp and Benp P5 not confluent	<i>E. curvirostre</i> (Scott)
9a. Enp P3-P4 distal segment with 3 setae	<i>E. barnishi</i> Wells
9b. Enp P3-P4 distal segment with 2 setae	<i>E. bifurcarostratum</i> Shen and Tai
10a. Enp P1 distal segment with 2 setae	11
10b. Enp P1 distal segment with 3 setae	16
11a. Exp P1 distal segment with 4 setae	12
11b. Exp P1 distal segment with 5 setae	<i>E. sordidum</i> Monard
12a. Enp P4 distal segment with 2 setae	13
12b. Enp P4 distal segment with 3 setae	14
13a. Enp P4 1-segmented	<i>E. radhakrishnai</i> Ranga Reddy

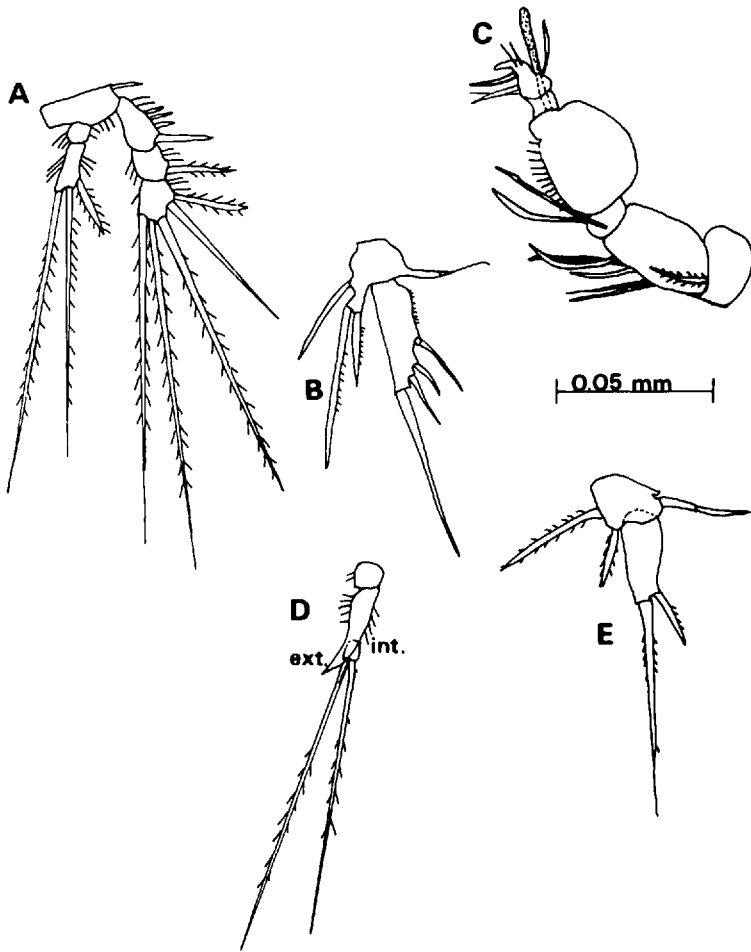


Figure 3. *Enhydrosoma herrerae* n. sp.: A, P4; B, P5; C, A1 ♂; D, P3 Enp ♂; E, P5 ♂.

13b. Enp P4 2-segmented	<i>E. franklini</i> Thistle
14a. Exp and Benp P5 not confluent	15
14b. Exp and Benp P5 confluent	<i>E. caeni</i> Raibaut
15. Number of major setae on P5 Benp and Exp, respectively:	
15a. 2:2	<i>E. nicobaricum</i> Sewell
15b. 2:3	<i>E. lacunae</i> Jakubisiak
15c. 3:2	<i>E. woodini</i> Thistle
15d. 3:3	<i>E. longifurcatum</i> Sars
15e. 3:4	19
16. Number of setae on P4 Exp and Enp distal segments, respectively:	
16a. 4:3	<i>E. latipes</i> (A. Scott)
16b. 5:2	17
16c. 5:3	20
17a. Exp and Benp P5 confluent	<i>E. migoti</i> Monard
17b. Exp and Benp P5 not confluent	18
18. Number of major setae on P5 Benp and Exp, respectively:	
18a. 2:5	<i>E. birsteini</i> Bortuzky
18b. 3:6	<i>E. baruchi</i> Coull
19a. Caudal rami with bulbous proximal portion	<i>E. littorale</i> Wells

- 19b. Caudal rami without bulbous proximal portion, thin and tubular throughout *E. herrerae* new species
 20a. P5 Benp with 3 setae *E. sarsi* (T. Scott)
 20b. P5 Benp with 2 setae *E. variabile* Wells, Hicks and Coull

KEYS TO THE MALES OF *ENHYDROSOMA*
 (Modified from Thistle, 1980)

- 1a. Exp A2 rudimentary, with a single seta 2
 1b. Exp A2 well developed, with 2 setae 4
 2a. Exp and Benp P5 confluent 3
 2b. Exp and Benp P5 not confluent *E. curvirostre*
 3a. Exp portion P5 with 2 setae *E. barnishi*
 3b. Exp portion P5 with 3 setae *E. buchholtzi*
 4a. Enp P3 2-segmented 5
 4b. Enp P3 3-segmented 14
 5a. Caudal rami shorter than last somites combined 6
 5b. Caudal rami at least as long as last 2 somites combined 10
 6a. Exp and Benp P5 confluent 7
 6b. Exp and Benp P5 not confluent 9
 7a. Caudal rami semi-oval with small knob at outer proximal corner *E. gariene*
 7b. Caudal rami tapering gradually, with no knobs 8
 8a. Enp P1 1-segmented *E. radhakrishnai*
 8b. Enp P1 2-segmented *E. caeni*
 9a. Exp and Benp P5 with 3 setae each *E. curticauda*
 9b. Exp and Benp P5 with 2 setae each *E. propinquum*
 10a. Exp and Benp P5 not confluent 11
 10b. Exp and Benp P5 confluent 13
 11. Number of major setae on P5 Benp and Exp, respectively:
 11a. 2:2 12
 11b. 0:4 *E. migoti*
 11c. 3:3 *E. franklini*
 12a. Enp P1 distal segment with 2 setae *E. lacunae* and *E. woodini*
 12b. Enp P1 distal segment with 3 setae 17
 13a. Benp P5 with 1 seta *E. birsteini*
 13b. Benp P5 with 2 setae *E. longifurcatum*
 14a. Exp and Benp P5 not confluent 15
 14b. Exp and Benp P5 confluent *E. baruchi*
 15. Number of major setae on P5 Benp and Exp, respectively:
 15a. 2:2 16
 15b. 2:3 *E. bifurcarostratum*
 15c. 2:4 *E. stylicaudatum*
 15d. 3:4 *E. sarsi*
 16a. Caudal rami shorter than last somite; basis Mxp with plumose seta at inner distal corner
 *E. hopkinsi*
 16b. Caudal rami longer than last somite; basis Mxp without seta at inner distal corner 18
 17a. Caudal rami length/width ratio 5.0; P4 Exp distal segment with 4 setae *E. latipes*
 17b. Caudal rami length/width ratio 6.0; P4 Exp distal segment with 5 setae *E. variabile*
 18a. Second segment P3 Enp modified with apophysis *E. herrerae* new species
 18b. Second segment P3 Enp not modified with apophysis *E. littorale*

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