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Short Communication

Redescription of the fiddler crab *Uca spinicarpa* Rathbun, 1900 (Decapoda: Ocypodidae)

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ABSTRACT. The fiddler crab *Uca spinicarpa* was presented by M.J. Rathbun; however, no original description or figures were provived. The species was presented in a key and the registration number of the type material mentioned. Thus, a redescription and figures of this species based on a specimen from the type locality are provided herein. Additional morphological characters based on specimens deposited in the National Museum of Natural History (Smithsonian Institution), Washington, DC, and in the American Museum of Natural History, New York City, as well as remarks regarding its geographic distribution are also provided.

Keywords: Brachyura, *Uca*, taxonomy, description, morphological characters, geographic distribution, Brazil.

Redescripción de cangrejo violinista *Uca spinicarpa* Rathbun, 1900 (Decapoda: Ocypodidae)

RESUMEN. El cangrejo violinista *Uca spinicarpa* fue presentado por M.J. Rathbun en 1900; sin embargo, la descripción original y las figuras son inexistentes. La especie apareció en una clave junto con número de registro del material tipo. Este trabajo pretende redescribir la especie y proveer figuras de acuerdo con un espécimen colectado en la localidad tipo. Se presentan caracteres morfológicos adicionales extraídos de especímenes depositados en el National Museum of Natural History (Smithsonian Institution), Washington, DC, y en el American Museum of Natural History, Nueva York, como también datos sobre su distribución geográfica.

Palabras clave: Brachyura, *Uca*, taxonomía, descripción, caracteres morfológicos, distribución geográfica, Brasil.

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The fiddler crab *Uca spinicarpa* was described by Rathbun (1900) in her synopsis of North American invertebrates; however, she did not provide the description or figures of this species. The species was presented in a key and the registration number of the type material is provided. Later, Rathbun (1918) in her monograph on "Grapsoid" crabs of America, presented a diagnosis of this species. Crane (1975) considered *U. spinicarpa* a subspecies of *U. speciosa* (Ives, 1891) therefore, no description of *U. spinicarpa* was provided. Barnwell & Thurman (1984), studying the systematic and biogeography of fiddler crab from gulf of Mexico, provided only supplementary characters from those of Rathbun (1918) and Felder (1973); however, the later author mentioned *U. spinicarpa* only in a key of identification. The type series of *U. spinicarpa*, which is deposited in the National Museum of Natural History (USNM), was found to be completely decomposed. Only one major chela remains in good conditions with the original two males and one female syntypes. Additional material deposited in the USNM consists of 14 lots, one of these from the type-locality, Galveston, Texas. As this additional material is in good condition and since an original description was not provided, a redescription is herein provided based on a male specimen, as well

as comments based on additional material deposited in the National Museum of Natural History (USNM) and in the American Museum of Natural History (AMNH).

***Uca spinicarpa* Rathbun, 1900** (Figs. 1-2)

Uca spinicarpa Rathbun, 1900: 586; 1918: 411 (in part); Felder, 1973: 83; Salmon *et al*., 1979: 184; Barnwell & Thurman, 1984: 48; Abele & Kim, 1986: 708; Thurman, 1987: 101, 102; Raz-Guzman & Sánchez, 1992: 36; Rosenberg, 2001: 849.

Uca speciosa-Buitendijk, 1950: 279; Fingerman, 1956: 275, 278.

Uca (Celula) [crenulata] speciosa spinicarpa-Crane, 1975: 238.

Uca (Leptuca) spinicarpa-Beinlich & von Hagen, 2006: 26; Ng *et al*., 2008: 241; Bezerra, 2009: 93.

Type locality: United States, Texas, Galveston.

Redescription based on one male USNM 82110, United States, Texas, Galveston.

Measurements: carapace width: 16.5 mm; carapace length: 11.2 mm; propodus: 25.2 mm; pollex: 14.9 mm; dactyl: 18.1 mm.

Material examined: 21 males (m) and 8 females (f). United States: Florida, Escambia County (USNM 180203, 1m); Alabama, Mobile County, Mobile Bay (USNM 180204, 1m, 1f); Dauphin Island (AMNH 14265, 2m, 2f); Mississippi, Biloxy (USNM 73419, 3m) (USNM 101103, 3m, 1f) (USNM 90305, 1m, 1f); Mississippi, Ocean Springs (USNM 180205, 1m, 1f); Texas, Matagorda Peninsula, Colorado River (USNM 180206, 1m); Cameron County, Boca Chica, Río Grande (USNM 180208, 1m, 1f); Nueces County, Corpus Christi Bay (USNM 180207, 1m, 1f); Mexico: Tabasco, Puerto Ceiba, Mouth of Río Seco (USNM 180209, 1m, 1f); Río Grijalva (USNM 180210, 1m); Tampico (USNM 139174, 2m); Veracruz, Mouth of Río Atoyac (USNM 171534, 1m, 1f).

Male redescription

Carapace: Front wide, contained about 3 to 3.5 times in carapace width. Orbits straight; dorsal margin of carapace finely granulate, with sparse pile on H-form depression. Antero-lateral angles acute, antero-lateral margins long, straight, slightly convergent, angling sharp into dorso-lateral margins which are moderately short and convergent. Eyebrow moderately broad, breadth about the half of diameter of adjacent part of depressed eyestalk, lower margin beaded. Suborbital crenellations well developed throughout, formed by

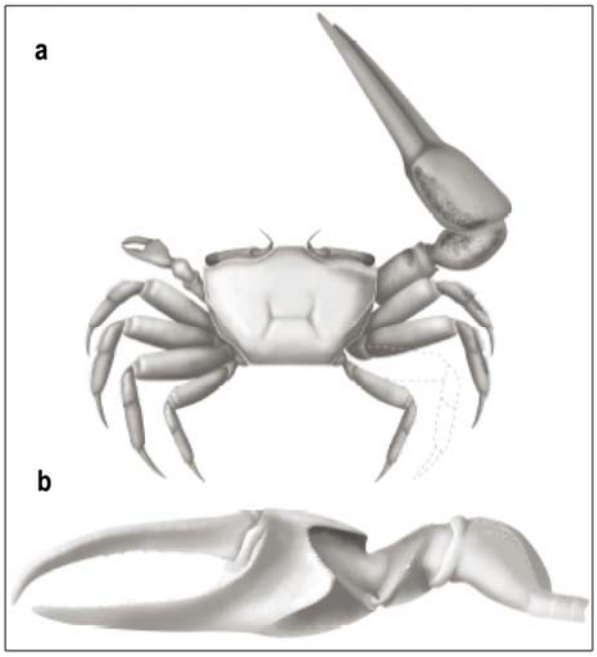

Figure 1. *Uca spinicarpa* Rathbun, 1900. a) Dorsal view of carapace, b) major cheliped. Male (USNM 82110), Galveston, Texas, USA. Carapace width = 16.5 mm.

Figura 1. *Uca spinicarpa* Rathbun, 1900. a) Vista dorsal del caparazón, b) quelípedo mayor. Macho (USNM 82110), Galveston, Texas, USA. Ancho del caparazón = 16,5 mm.

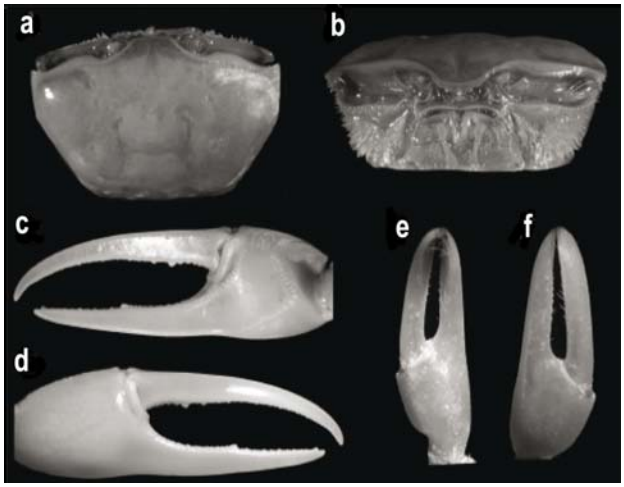

Figure 2. *Uca spinicarpa* Rathbun, 1900, male from Galveston, Texas, USA (USNM 82110). a) Carapace, dorsal view, b) carapace, frontal view, c) d) major cheliped, e) f) minor cheliped. Carapace width = 16.5 mm.

Figura 2. *Uca spinicarpa* Rathbun, 1900, macho proveniente de Galveston, Texas, USA (USNM 82110). a) Caparazón, vista dorsal, b) caparazón, vista frontal, c) d) Quelípedo mayor, e) f) quelípedo menor. Ancho del caparazón = 16,5 mm.

small, close-set tubercles on inner margin, increasing in size and becoming more separated near outer orbital margin. Row of setae running immediately above and below suborbital crenellations. Upper pair of postero-lateral stria long. All abdominal segments distinct, not fused. Pleonal clasping or lock apparatus present.

Major cheliped: Antero-dorsal margin of carpus straight, arched near distal end, with small serrations, with pile distally, near the point of articulation with carpus. Upper margin of carpus covered by pile, antero-dorsal margin with blunt tubercles; inner margin with well developed tubercle near distal end. Upper margin of outer manus moderately flatted, with pile; entire surface smooth, except by small tubercles on upper margin and finely granulations proximally, near articulation with carpus. Oblique tuberculate ridge on palm higher at apex, continuing upward along carpal cavity, distal end formed by very small tubercles. Carpal cavity deeply, with pile covering the upper carena. Oblique pre-dactyl tuberculate ridge formed by moderately, well separated tubercles, continuing downward along outer margin of pollex. Pollex and dactyl longer than manus, the former straight, with one tooth in halfway to its tip, the last oblique, strongly curved down on tip. Gape pile absent.

Minor cheliped: Merus slender, dorsal margin convex, with a tuft of 3-4 long setae on antero-lateral margin distally. No tubercles on carpus. Gape narrow than pollex; fingers with small serrations on two distal third, not in contact; tip of pollex and dactyl with few hairs.

Ambulatories: Merus moderately slender, both dorsal and ventral margins almost straight. First two ambulatories with pile distally on dorsal margin of carpus and proximally on dorsal margin of manus on major side (the third leg is absent in this specimen); only traces of pile distally on dorsal margin of carpus of second ambulatory on minor side. No modification on anterior surface of first ambulatory.

Gonopod: Inner process with base relatively narrow, its tip not nearly reaching pore; thumb moderately short, arising closer to base of flange, with its tip almost reaching the flange.

Remarks: *Uca spinicarpa* is unique among the American species of the genus that the pile is present on ambulatories on the major side, as well as on the major cheliped, being almost absent to absent on minor side. The analysis of additional material deposited in the USNM and in the AMNH revealed that pile is present on the first three ambulatories on major side, being completely absent on fourth and on all legs of minor side. In three males examined (USNM 73419, 139174, and 180205) traces of pile on ambulatories on minor side were found. In females, pile on dorsal margin of carapace as well as on ambulatories is completely absent; the suborbital crenellations on the inner margin is more separated than in males and merus of ambulatories are broader than in males, with dorsal and ventral margins with small serrations; tubercle on gonopore is absent. *U. spinicarpa* can be easily distinguished from *U. speciosa* in that the latter has plentiful pile on ambulatories and on dorsal margin of carapace in both sexes and in females the presence of a small tubercle on the gonopore (Crane, 1975, p. 238).

The decision of Crane (1975) to reduce *U. spinicarpa* and *U. speciosa* to subspecies is unwarranted for the several morphological differences by which the two forms could be distinguished (Crane 1975, p. 238, 239), by the high values for genetic distance between the two species found by Salmon *et al*. (1979) and also by morphological and ecological characteristics that separated these two well-diverged species (Heard, 1977; Barnwell & Thurman, 1984; Felder & Staton, 1994). Moreover, according to Von Hagen (1976, 1980) there are reasons to doubt the Crane´s subspecies concept in general, and most of her subspecies were treated as species by subsequent authors.

Uca spinicarpa ranges from western coast of Florida, United States, to Laguna de Términos, Campeche, Mexico (Barnwell & Thurman, 1984; Raz-Guzman & Sánchez, 1992). Rathbun (1918) reported *U. spinicarpa* from Kingston Harbor, Jamaica (USNM 22313, 1m) and to Mamanguape, Paraíba, Brazil (USNM 25700, 1m) but Crane (1975) examined both material and concluded to be the allopatric species *U. cumulanta* Crane, 1943. Two males and one female deposited in USNM identified by M.J. Rathbun as *U. spinicarpa* from Paquetá, Rio de Janeiro, Brazil (USNM 71171, 2m, 1f) were found by us and are, also, *U. cumulanta*. Thus, the range of *U. spinicarpa* in Western Atlantic is apparently confined to the gulf of Mexico coast.

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