DOMENICO CAPOLONGO

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The crabs of the inland waters of Cuba: the known species and new data on the genus *Epilobocera* (Crustacea: Decapoda: Brachyura: Pseudothelphusidae)

Abstract - The Cuban species of the genus *Epilobocera* Stimpson are reviewed. *E. gilmani pretzmanni* nova subspecies, *E. cubensis poliorcetes* nova subspecies and *E. c. cubensis maculiventris* nova morpha, are described. New records for the Cuban inland waters are reported.

Key words: *Epilobocera*, Decapoda, Brachyura, Cuban fauna.

INTRODUCTION

The genus *Epilobocera* was described by Stimpson (1860) on the type species *cubensis*, represented by a few juveniles («length of carapax in the male 1.34; breadth, 2.14 inch»), collected «in fresh-water streams of the Island of Cuba, near Santiago».

Smith (1870) described a new genus and a new species of crabs from Cuban inland waters. He reported that the only specimen examined of *Opisthocera Gilmanii* «was collected in a small stream near the center of the Isle of Pines» (now Isla de la Juventud). At present this good species is correctly classified as *Epilobocera gilmani*; however, *Opisthocera* might be a good subgenus. Unfortunately in this work, the same author, introduced an unintentional puzzle influencing all the subsequent studies on the Cuban fauna. He described another species of *Epilobocera*, named by him *armata*, using two female specimens, of unknown geographical origin. In fact, the author writes: «The two specimens from which this description was taken are in the collection of the Boston Society of Natural History, and

without labels to indicate from whence they came, but they are probably from the Bahamas». SMITH does not clarify why he suggests that these two specimens might come from the Bahamas; moreover, it is well known that no fresh-water crabs inhabit the Bahamas. However, since then many authors have pointed to a Cuban origin, thus giving rise to confusion in the subsequent literature. If these specimens were really from Cuba, the drawings and the anatomical elements provided by SMITH would indicate that it is synonym with *cubensis*. However, this material might also come from some other Caribbean islands inhabited by the genus *Epilobocera*: Saint Croix, Puerto Rico and Hispaniola. Therefore, the present taxonomic status of *armata* is that of *species inquirenda incertae sedis*.

The subsequent works on tropical river crabs have resumed the subject of Cuban populations only through rough examinations of very scarce materials of disordered origin. Moreover, further confusion has been produced by the presence in literature of the species *armata*, which has always been considered really existing in Cuba and different from *cubensis* (MARTENS, 1872; RATHBUN, 1893,1898,1905; ORTMANN, 1897; HAY, 1903; BOTT, 1968; CHACE & HOBBS, 1969; PRETZMANN, 1971,1972; RODRÌGUEZ, 1982).

I must hint here at a second source of confusion related to the Cuban fauna, also dating back to the second half of 1800 and resulting from examinations and consequent descriptions of extremely scarce material of very uncertain Central American and Caribbean origin. Three species belonging to the genus *Pseudothelphusa*: *americana* SAUSSURE (1857), *terrestris* RATHBUN (1893) and *affinis* RATHBUN (1898) are still indicated as belonging with certainty to the Cuban terrestrial crustaceans, in homage to H. de Saussure's and M. Rathbun's authority. According to the most recent zoological knowledge, the genus *Pseudothelphusa* is only present in Mexico; our researches, carried out for over four years throughout Cuba, have shown that all the river crabs collected belong to the genus *Epilobocera*.

In the light of the most recent observations (CAPOLONGO & PRETZMANN, 2002) following the first wide collection of material all over Cuba, the two species *cubensis* and *gilmani* appear widely distributed: *Epilobocera cubensis* Stimpson 1860 in the Eastern Central Cuba and *E. gilmani* Smith 1870 in the Isla de la Juventud and Western Central Cuba.

The border area between these two species, each of which can be subdivided into some geographical subspecies, can be provisionally and roughly indicated in the territories of Cienfuegos and Villa Clara provinces (Fig. I).

Two other Cuban species with extremely restricted distributions have been described: *E. gertraudae* PRETZMANN (1965), in natural cavities of Viñales and of neighboring municipalities of the western province of Pinar del Río, and *E. capolongoi* PRETZMANN (2000) in Topes de Collantes, in the Central Massif of Guamuhaya (between the provinces of Cienfuegos, Sancti Spiritus and Villa Clara).

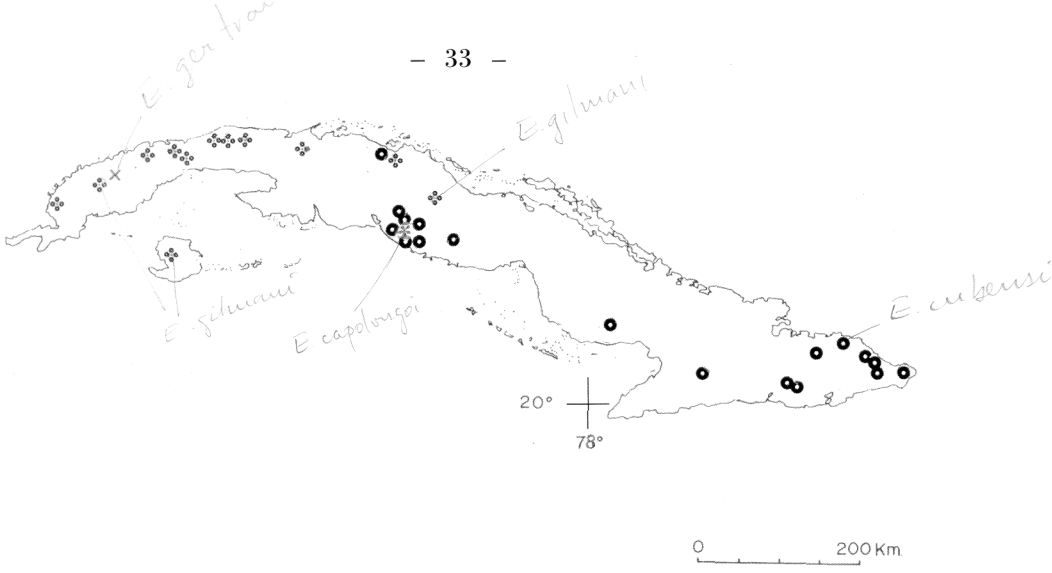

Fig. I - Cuban species distribution of the genus *Epilobocera* (circlet = *E.cubensis*; rosette = *E.gilmani*; cross = *E. gertraudae*; asterisk = *E. capolongoi*).

Due to the biogeographical conditions of Cuba, characterized by very numerous both zoological and botanical endemisms, the above mentioned situation is, in my opinion, susceptible of surprising improvements when the research will be performed in the still unexplored areas.

A genus very similar to *Epilobocera* is *Pseudothelphusa* SAUSSURE 1857. The first genus has the exopodite of the third maxilliped reaching or slightly extending beyond the distal margin of the ischium and first gonopod endowed with a rounded terminal structure with short and stout spines while the second genus, shows the exopodite of the third maxilliped not reaching the distal margin of the ischium and first gonopod devoid of this structure; as already mentioned, some authors have ascribed material presumably collected in Cuba to as many as three species of this genus. On the basis of the data available in literature, the distribution of the *Pseudothelphusa* species appears to be restricted to Mexico. There is no record of specimens of this genus being collected in Cuba (or even in Haiti), with the exception of some old works, mainly dating back to the 19th or early 20th centuries, when, however, wrong or lacking labeling led to the identification of new systematic entities, which have become real puzzles over time.

In this paper, two new subspecies will be described hereinafter.

MATERIALS AND METHODS

The material examined in this work was collected in the following localities: Baracoa, Maisí, La Maya, Guisa, Najasa, Guamuhaya's rivers, Banao, Potrerillo, Quemado de Güines, Isla de la Juventud, Mantua, Cuevas de Viñales, Cajálbana, Soroa, Artemisa, Rio Jaimani-

tas, Parque Lenin, Cotorro, Jaruco, San Miguel de los Baños, Placetas and Mogotes de Jumagua. In the present work the new material was been utilized to redescribe or describe the collected species and the relative measures, when is not indicated, are referred to carapace length and expressed in mm.

NEW RECORDS OF CUBAN *EPILOBOCERA*

So far four Cuban species of *Epilobocera* are recorded. They can be keyed as follows:

1	Limbs elongated and weak	*gertraudae*
-	Limbs short and stout	2
2	Exopodite of the 3rd maxilliped very large	*capolongoi*
-	Exopodite of the 3rd maxilliped narrow	3
3	Upper frontal crest present	*cubensis*
-	Upper frontal crest lacking	*gilmani*

Epilobocera cubensis cubensis Stimpson (1860)

(Fig.II, 1)

Description. The typical form of this species widely distributed in Cuba shows a unique characteristic as compared with the other species of the genus: a typical and showy ornament on the carapace. As the crab's body grows in size, even in subadult animals, the quite dark and uniform brown color on the whole carapace opens symmetrically along the median axis, producing a light orange-yellow band in the epigastric area. Inside this band there are two large, round eye-like spots of the same brown color as the background, situated under a central, brown, rough triangle with the vertex directed downward. The light band becomes progressively narrower downward to form a thin tip in the meso- and metagastric regions. On the whole, it resembles a face or a simple mask with two eyes, and it is for this man-like ornament that these animals, very showy and peculiar when they reach the considerable sizes of adults, are named «jaiba de Santa Maria» in the eastern region of Cuba. The ornament just described is the typical one; however, variants can be found, which may be either reductive (i.e. reduced light band or lack of some of the «eyes»), or more complex (e.g. additional smaller «eyes», asymmetrical enlargements of the light band, especially towards the posterior portion of the carapace). Mean ratio of carapace length to its width 0.620 (± 0.015). Size large, since maximum carapace lengths of 54.5 mm and 55.2 mm have been measured in a male and a female, respectively. Anterolateral margin of carapace with numerous conspicuous spines (8 to 15) on both sides. Postorbital spines present but not showy, epibranchial spines slightly differentiated from adjacent ones, epigastric lobes and median frontal groove just evident, cervical grooves little evident. Up-

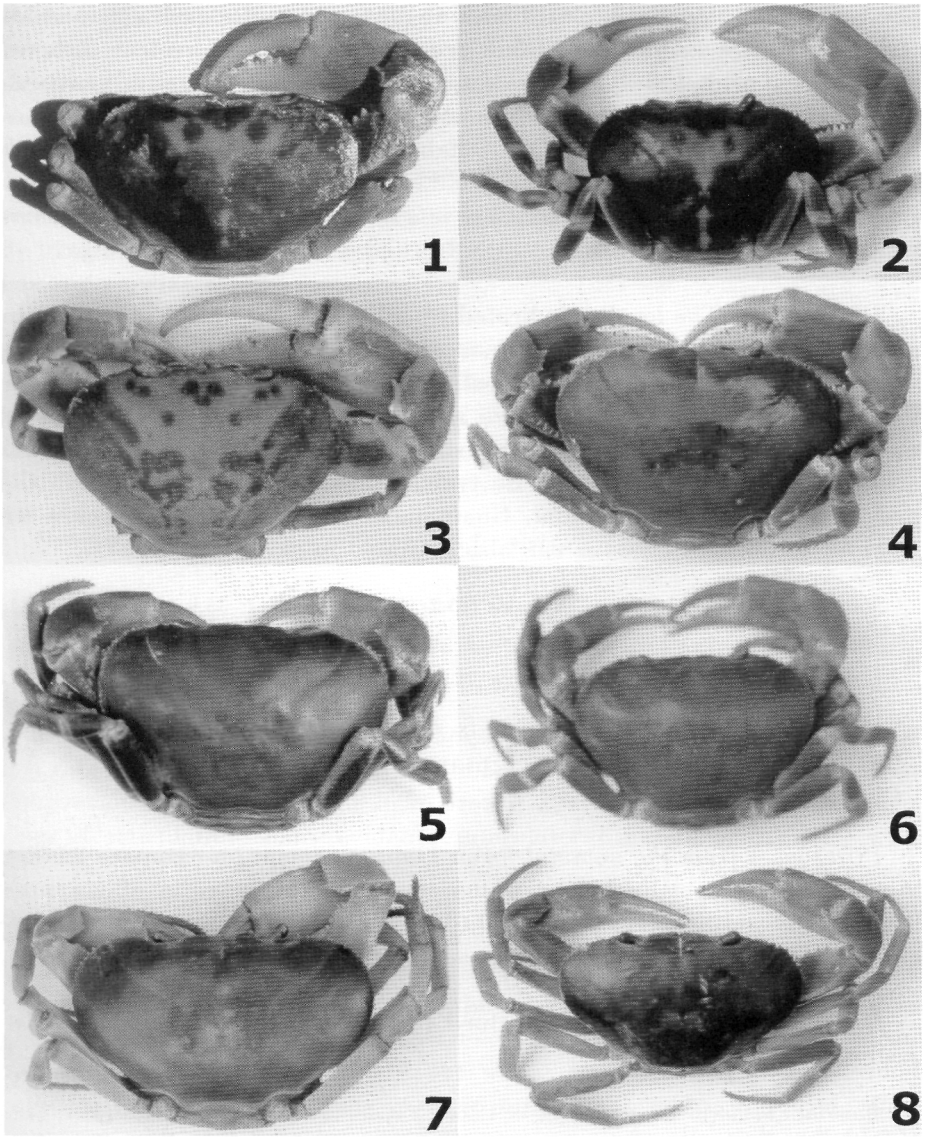

Fig. II - 1. *Epilobocera cubensis cubensis* (loc. La Maya). 2. *Epilobocera cubensis cubensis* n. *baracoensis* (loc. Palma Clara de Baracoa). 3. *Epilobocera cubensis cubensis* n. *baracoensis* (loc. Paso de Cuba de Baracoa). 4. *Epilobocera cubensis guisensis* (loc. Guisa). 5. *Epilobocera cubensis poliorcetes* (holotypus; loc. Rio San Juan). 6. *Epilobocera cubensis najasensis* (loc. Sierra de Najasa). 7. *Epilobocera capolongoi* (loc. Mangos Nuevos de Topes de Collantes). 8. *Epilobocera capolongoi* (loc. El Gallo de Topes de Collantes).

per crest of forehead granulated with about ten granules each side and interrupted in the middle by median groove; granules less evident in lower crest. Lower orbital margins thickly granulated, upper ones with more evident lateral granules. Dactylopodites and propodites of the larger chela usually with 3 or 4 more stout «teeth». Exopodites of the 3rd maxilliped about one-fourth as large as the adjacent ischium. Background color dark brown. Limbs may be lighter than carapace; markedly lighter articulations almost resembling rings.

Distribution. The locality indicated by Stimpson was «near Santiago». In a recent review by Capolongo & Pretzmann (2002), the study of this species in its typical form has been restricted to material collected in localities near Santiago de Cuba, namely La Maya and Yerba de Guinea. However, other material collected in the eastern provinces of the island indicates that the distribution of this species, in its typical subspecies, is restricted to the provinces of Santiago de Cuba, Guantánamo and Holguín. As occurs for *gilmani*, the species *cubensis* can also be found in caves with waters.

Material examined. La Maya, 5 males (45.2; 42.0; 39.1; 36.4; 35.9), 2 females (37.1; 34.4).

Epilobocera cubensis cubensis natio *baracoensis* Capolongo *et* Pretzmann (2002)

(Fig. II, 2-3)

Differences from the nominal form. Light ornament on carapace tending to be larger, especially in the posterior region. Mean ratio of carapace length to its width lower: 0.610 (± 0.012). Spines on the anterolateral margin of carapace more marked; some are bifid.

Distribution. The natio is confined to Baracoa and Maisí, i.e. the far eastern region of Cuba.

Material examined. Baracoa (Paso de Cuba), 2 males (54.5; 41.4), 5 females (49.7; 44.7; 44.0; 42.5; 40.5); Baracoa (Palma Clara), 2 males (47.2; 40.0), 3 females (52.0; 48.1; 45.7); Baracoa (Cueva del humo), 4 males (46.3; 44.4; 27.9; 26.8); Baracoa (Bahía de Taco) 1 female (52.6); Baracoa (other places), 1 male (51.1), 1 female (55.2); Maisí (Rio Ebellé), 4 males (31.7; 30.2; 30.1; 29.6), 4 females (48.6; 47.7; 47.6; 31.5).

Epilobocera cubensis guisensis Capolongo *et* Pretzmann (2002)

(Fig. II, 4)

Differences from the nominal subspecies. Described as natio of *cubensis cubensis* by Capolongo & Pretzmann (2002), the population of Rio Guisa

shows such characteristics as to be considered a good subspecies. The major and most evident difference lies in the complete absence of any ornament on the carapace, which is homogeneously dark brown in color. Cervical grooves well evident. Superior orbital margins often devoid, or partially devoid, of granules. «Teeth» of dactylopodites more stout. Large-sized, maximal carapace length measured being 52.5 mm in a female. Wide pitting remarkably diffused on carapace and visible at the microscope; it is formed by irregular small spots, sometimes clustered, mostly present in the urogastric and cardiac regions.

Distribution. This subspecies is typical of the Guisa territory, where the study material was collected. Its distribution is unknown; however, it can be placed in a biogeographical area of Cuba far and different from that of the nominal subspecies, on the northern western margin of the Sierra Maestra and, hydrogeologically, in the vast fluvial basin of the Rio Cauto.

Material examined. Guisa, 1 male (24.7), 4 females (52.5; 52.1; 51.5; 23.4).

Epilobocera cubensis najasensis Capolongo *et* Pretzmann (2002)

(Fig. II, 6)

Differences from the nominal subspecies. A peculiar characteristic of this subspecies lies in its general color: ornament on carapace absent, as in the previous subspecies, color light brown, almost honey yellow, with light rings of articulations more evident. Anterolateral margin of carapace with more reduced spines that sometimes become granules. Postorbital spines lacking or rudimentary; epibranchial spines often of the same size as adjacent ones. Upper frontal crest with little evident granules, if any. Upper orbital margin only with lateral granules, if any. Pitting on epigastric lobes and in the urogastric, cardiac and adjacent regions more frequent than in *guisensis*. Ratio of carapace length to its width showing a higher mean value: 0.633 (± 0.016). Its body size would seem smaller, with maximal carapace lengths of 45-46 mm; however, a deeper insight is required, since specimens with chelae having size ratios typical of clearly adult individuals have not been collected, at least among males.

Distribution. This subspecies is typical of the Sierra de Najasa, where the study material was collected. The Sierra de Najasa is situated southeast of Camagüey at a short distance from it, in the Eastern Central region of Cuba, characterized by low relief, not exceeding 300 m above sea level, surrounded by vast plains.

Material examined. Sierra de Najasa, 4 males (44.0; 43.8; 33.6; 21.6), 6 females (45.6; 43.2; 36.4; 33.3; 29.5; 22.6).

Epilobocera capolongoi Pretzmann (2000)

(Fig.II, 7-8)

Description. The most evident diagnostic feature of this species with respect to the whole genus *Epilobocera* distributed in the Greater Antilles is the exceptional width of the exopodite of the 3rd maxilliped, which, in adults, reaches or even exceeds 60% of the corresponding width of the ischium and is also greatly rounded on its external margin. The mean ratio of the carapace length to its width is 0.595 (± 0.016), which, together with those of the species *gertraudae*, are the minimum values found among the Cuban species. Large-sized: maximum carapace lengths measured 51.5 mm in a male and 45.6 mm in a female. Anterolateral margin of carapace with numerous well-evident spines (from 10 to 20 each side) sometimes with a bifid tip. Postorbital and epibranchial spines, epigastric lobes, frontal median groove and cervical grooves present. Upper crest of forehead granulated (from 10 to 17 each side) and interrupted in the middle by median groove; lower crest practically devoid of granules. Lower orbital margins completely and finely granulated, upper ones granulated on the outer two-thirds. Dactylopodites and propodites of the larger chela usually showing two or three more stout «teeth». Exopodites of the 3rd maxilliped as large as 60% of the ischium, being smaller in juveniles and even larger in adults. Color of carapace always uniformly dark brown with usually lighter limbs; ventral portions often very light, including limbs.

Distribution. The species is present in the Guamuhaya Massif, typically in the neighborhood of locality «El Gallo» of Topes de Collantes, where it was first collected by me in 1999, and so far I have found it in some other brooks or streams not far from the earliest site of collection. Therefore, the distribution of this rare species in the Massif, the highest peaks of which range from 1140 m above sea level of Pico de San Juan to 931 of Pico de Potrerillo, is still unknown. It is only certain that it inhabits the highest altitudes, at least starting from 600 meters, whereas along the base of the Massif there is the species *cubensis*, particularly the new subspecies *poliorcetes* described in the following. Consequently, along the numerous streams rising in the highest areas of the Massif, the species *capolongoi* is present at high altitudes and *cubensis poliorcetes* is found from intermediate areas as far as their mouths.

Material examined. Topes de Collantes (El Gallo), 4 males (35.7; 25.4; 23.4; 20.4), 5 females (42.5; 40.6; 36.7; 31.1; 23.5); Topes de Collantes (Arroyo del Caburní), 1 male (21.1), 3 females (34.5; 28.9; 19.2); Topes de Collantes (Mangos Nuevos) 1 female (45.8).

Epilobocera gilmani gilmani Smith (1870)

(Fig.III, 1- 2)

Description. The observable characters distinguishing *Epilobocera gilmani*, typical of Isla de la Juventud, from the eastern congeneric species

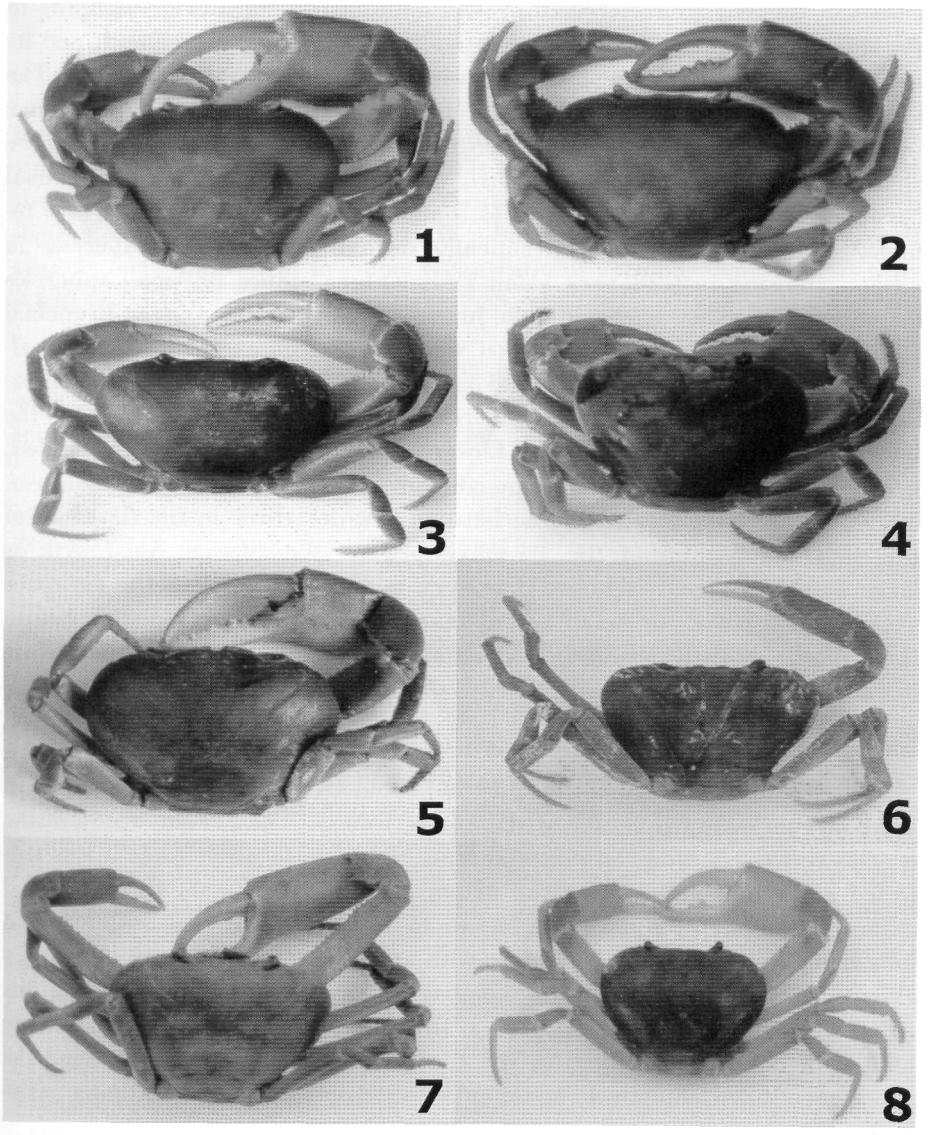

Fig. III - 1. *Epilobocera gilmani gilmani* (loc. La Cañada en Isla de la Juventud). 2. *Epilobocera gilmani gilmani* (loc. La Cañada en Isla de la Juventud). 3. *Epilobocera gilmani synoecia* (loc. Cueva de Santo Tomàs en Viñales). 4. *Epilobocera gilmani placensis* (loc. Placetas). 5. *Epilobocera gilmani pretzmanni* (holotypus; loc. Mogotes de Jumagua). 6. *Epilobocera gertraudae* (loc. Cuevas de Viñales). 7. *Epilobocera gertraudae* (loc. Cuevas de Viñales). 8. *Epilobocera gertraudae* (loc. Cuevas de Viñales).

cubensis, are the uniform dark brown color of the carapace, extending to the dorsal portions of the limbs, particularly to the first pereiopod, and its shape, which is convex and smooth with very slight cervical grooves. The markedly arched digits of the larger chela is another differential character in males. Mean ratio of carapace length to its width 0.676 (± 0.012), hence significantly greater than in *cubensis* (0.610-620). Medium-sized, maximal carapace lengths measured being 44.5 mm in a male and 33.5 mm in a female. Anterolateral margin practically devoid of spines or tubercles in adults, showing instead very small rudimentary spines or small tubercles (as many as twenty each side) in juveniles. Postorbital and epibranchial spines absent. Epigastric lobes just developed, frontal median groove almost or completely absent and cervical grooves little evident as well. Forehead devoid of crest but progressively rounded as it decreases towards the lower margin, which is smooth. Lower ocular margins finely granulated, upper ones smooth. Dactylopodites and propodites of the larger chela usually with two stout «teeth» at the base and two or three in the first half of the digit. Exopodites of the 3rd maxilliped on the average one-fourth as large as the adjacent ischium. The very minute granules on the carapace show several points or small round marks quite irregularly distributed to form the knots of a network covering all the surface. Pitting, quite diffuse in *cubensis*, is also present in *gilmani*, on epigastric lobes and in central regions of carapace.

Distribution. The typical locality indicated by Smith was situated «in a small stream near the center of the Isle of Pines». The present study of the species was carried out on material from the same locality, since it was collected at «La Cañada», near the urban area «La Victoria», in the central region of the Isle of Pines (now Isla de la Juventud), crossed by a chain of hills named «Sierra de la Cañada», with an average elevation of 300 meters above sea level near the very collection site. The nominal form of this species is confined to the Isla de la Juventud, where it has an extremely limited distribution confined to the central region of the island, along the above mentioned «Sierra de la Cañada», intensely marked by human activities.

In their recent review, Capolongo & Pretzmann (2002) have also included some populations from the neighborhoods of Havana, namely Rio Jaimanitas and Cotorro, in the nominal subspecies. I consider that the *gilmani* populations from the Isla de la Juventud should be kept taxonomically separated from those of Cuba, since they are sufficiently differentiated with respect to the other populations, starting from the nearest ones inhabiting the Havana province.

Material examined. Isla de la Juventud (La Cañada), 12 males (44.5; 42.3; 39.4; 37.5; 37.5; 35.9; 34.7; 32.2; 29.8; 29.5; 24.5; 23.1), 4 females (33.4; 28.3; 22.2; 20.3).

Epilobocera gilmani synoecia Capolongo *et* Pretzmann (2002)

(Fig. III, 3)

Differences from the nominal subspecies. Anterolateral margin with numerous minute spines or tubercles (about twenty each side). Epibranchial spines greatly reduced. Dactylopodites and propodites of the larger chela usually with one strong «tooth» at the base and two in the first half of the digit. Color of carapace very dark in adults of some cavities. Limbs usually tending to be quite light in color. Mean ratio of carapace length to its width 0.636 (± 0.013).

Distribution. This subspecies is named for its coexisting with *Epilobocera gertraudae* in the caves of Viñales and its environs; however, it is also found outside them, and its distribution is wider.

Material examined. Cuevas de Viñales, 19 males (36.3; 36.0; 35.5; 35.0; 34.0; 33.1; 32.9; 31.3; 30.7; 28.7; 28.0; 27.2; 25.4; 25.3; 21.0; 19.8; 16.2; 13.6; 13.3), 11 females (32.0; 27.4; 23.4; 22.0; 21.8; 21.6; 19.8; 17.9; 14.9; 13.7; 12.7).

Epilobocera gilmani placensis Capolongo *et* Pretzmann (2002)

(Fig. III, 4)

Differences from the nominal subspecies. Anterolateral margin with minute spines, amounting to about twenty each side. Cervical grooves present. Dactylopodites and propodites of the larger chela with 2 or 3 more stout «teeth» (one of which at the base) and 2 or 3 towards the center, respectively. Mean ratio of carapace length to its width 0.625 (± 0.008), i.e. the lowest value in the whole species. Body size slightly larger.

Distribution. The typical material of *placensis* was collected halfway between Placetas and Santa Clara, on the left side of Rio Manajanabo. This area is situated in Central Cuba, where populations of *cubensis poliorcetes*, *gilmani placensis* and *capolongoi* are found at distances of tens of kilometers from each other, and therefore a close examination will be required to better identify the distributional areas of each form, as well as to establish whether there are sympatric species. Moreover, as will be specified hereinafter, the new subspecies *gilmani pretzmanni* is found in a very small chain of «mogotes», about 60 kilometers north-west of the *placensis* site.

Material examined. Placetas, 6 males (29.0; 25.3; 24.5; 24.5; 22.2; 19.9), 7 females (37.5; 36.9; 35.4; 35.3; 33.2; 30.5; 20.9).

Epilobocera (*Neoepilobocera*) *gertraudae* Pretzmann (1965)

(Fig. III, 6 - 8)

Description. This species shows the typical evolutionary traits of cave dwellers, which distinguish it from the other Cuban species of the genus: limbs greatly elongated and weak, light color of carapace from gray to pinkish, body greatly flattened and perhaps eyes reduced. Mean ratio of carapace length to its width 0.598 (± 0.007), i.e. a value very different from those of *cubensis* and *gilmani*. Small-sized species, with maximal carapace lengths of 31 and 30 mm in males and females, respectively. Anterolateral margins smooth without outlet of cervical grooves. Postorbital and epibranchial spines absent. Epigastric lobes and median groove slightly developed. Cervical grooves present with rows of areolae. No frontal crest and lower frontal margin smooth. Upper orbital margins smooth, lower ones nearly smooth. Exopodites of the 3rd maxillipeds as large as one-fourth of the ischium and slightly longer. Larger chelae strongly arched in males, upper digit with a «tooth» at the base and lower digit with two «teeth» in the first half. Carpopodite of the larger chela with a spine. Color of limbs and ventral portions light. Cardiac region showing a large depressed area.

Distribution. The species has been reported only in the caves of Viñales and its environs in the Pinar del Río province. In some of these environments it coexists with *Epilobocera gilmani synoecia*. The latter derives its subspecific name from this coexistence.

Material examined. Cuevas de Viñales, 2 males (31.0; 28.4), 1 female (25.4).

Epilobocera gilmani pretzmanni nova subspecies

(Fig. III, 5)

Description. Left chela regenerated in the form of a stump. Anterolateral margins smooth, interrupted by cervical grooves. Postorbital and epibranchial spines absent. Epigastric lobes almost absent. Cervical grooves little developed. Forehead regularly rounded and lower margin smooth. Upper orbital margin smooth and lower with very slight traces of granulation. Exopodites of the 3rd maxillipeds extending beyond the lateral margin of the ischium and as large as one-fourth of it. Upper digit of chela with 4 more stout «teeth» in the proximal two-thirds; lower digit with two «teeth» in the proximal half; both digits strongly arched. Carpopodite of the larger chela with a single, almost central, strong spine and two rudimentary spines at the base. Color of carapace and limbs homogeneously brown; abdominal regions lighter.

Differences from the nominal subspecies. Smallest size in the whole species: mean carapace lengths measured in 9 adult females and 3 adult males, 28.1 mm (± 3.1 mm) and 29.5 mm (± 3.3 mm), respectively. Mean ratio of carapace length to its width: 0.666 (± 0.013), lower than in *gilmani* (0.676, ± 0.012) but much higher than in *placensis* (0.625, ± 0.008) and *synoecia* (0.636, ± 0.013). Epigastric lobes and median groove absent.

Distribution. «Los Mogotes de Jumagua» are a very small chain of calcareous hills very typical of Cuba, closely joined together and with moderate altitudes below one hundred meters, situated along the way from Rancho Velóz to Sagua la Grande, in the Villa Clara province. Beyond the urban areas of Quemado de Güines and Caguaguas, at about 9 km from the latter, there is Jumagua, a small village, and here, on the left side of the road leading to Sagua la Grande, «Los Mogotes de Jumagua» rise isolated and well visible. All around the plain is cultivated, and few kilometers northward there is the sea.

This small isolated chain of mogotes is about 5 km long; between the first longer part, consisting of 6 mogotes, and the second shorter one, formed by 2 mogotes, there is a small depression crossed by a country road leading from Jumagua to the cultivated or pasture lands extending towards the sea. This longitudinal structure extends approximately from west to east, and hence the side facing north is damper and that facing south is drier. Crabs are abundant in the marshy areas of the northern side, towards the center of the chain, characterized by springs or surface fresh-waters; however, they can also be found in the surrounding areas, where the animals disperse when abundant or prolonged rain falls.

The distance from «Los Mogotes de Jumagua» to the typical site of *placensis* (between Placetas and Santa Clara) is about 60 km south-east of Jumagua. Therefore, it can be hypothesized that the dwarf subspecies *pretzmanni* might have originated from a population of the *placensis* type by isolation over time.

It is also noteworthy that, coming from Rancho Velóz, at 5 km from Caguagas, in the municipality of Quemado de Güines, I collected a juvenile of *Epilobocera cubensis* (see *poliorcetes*) near a brook. This confirms that it is necessary to get a deeper insight into the distribution of the various species and subspecies of *Epilobocera* in the Villa Clara and Cienfuegos provinces. In fact, it is evident that in the *gilmani* distributional range *sensu lato*, between Quemado de Güines and Caguaguas, there is a penetration of *cubensis*.

Derivatio nominis. I dedicate this new species to Dr. Gerhard Pretzmann, a great student of fresh-water crabs worldwide and an old friend of mine.

Material examined. Holotype, adult male (carapace length: 29.8; carapace width: 44.3; length of right chela: 44.7), Mogotes de Jumagua, 3.IV.2001. Paratypes: 8 adult females (28.8; 31.1; 31.3; 28.5; 24.7; 26.1; 24.7; 24.5), 3 adult males (29.8; 26.1; 32.6), 2 subadult males (18.6; 24.0), and various fragments, among which a chela of an adult male 58.1 mm. long.

Epilobocera cubensis poliorcetes nova subspecies

(Fig. II, 5)

Description. Anterolateral margins interrupted by cervical grooves and endowed with spines, anterior spines very strong: on the whole, 15 spines on the left, including the epibranchial one, which is well pronounced, and a bifid spine; 13 on the right including the epibranchial one, which is well pronounced, and two bifid spines. Postorbital spines greatly smoothed. Epigastric lobes and median groove little developed. Cervical grooves with background areolae especially on the right. Upper frontal crest interrupted centrally by the opening of median groove, with 5 or 6 stumpy granules each side. Lower frontal margin completely granulated. Exopodites of the 3rd maxillipeds not longer than the lateral margin of the ischium. Right chela practically devoid of «teeth»: it might be a case of probable rickets of the limb accentuating the general trend of this subspecies. Carpopodite of right chela endowed with a single central spine. Color of all the dorsal regions uniformly dark brown; ventral regions a little lighter. Presence of lighter rings at articulations. Chelae not showing any light areas.

Differences from the nominal subspecies. Higher mean ratio of carapace length to its width, 0.635 (± 0.011), practically identical to that of *najasensis*. Postorbital spines practically absent. «Teeth» of the larger chela reduced in number and size. Different from the geographically closest subspecies, *najasensis*, in the markedly darker color, the much stronger spines of the anterolateral margin of carapace, the size, which, on the basis of the data so far collected, is larger, and in the greatly reduced pitting on carapace.

Distribution. The typical form of the subspecies *cubensis poliorcetes* is distributed along the basal subcircular zone of the Guamuhaya Massif. Not all of the streams descending from this Massif have been explored; the five streams that have been visited show a uniform distribution of the subspecies around the base. However, the distributional range of this subspecies is much wider than the above zone, as will be specified hereinafter.

Derivatio nominis. I chose this name since the westernmost subspecies of *cubensis*, «encountering» other species of *Epilobocera* in the central part of the island, «besieges» the species *capolongoi* after having surrounded it and

perhaps driven it towards the higher regions of the Massif. On the other hand, «siege» has also been laid by the same subspecies to the detriment of *gilmani pretzmanni* and *gilmani placensis*.

Material examined. Holotype, adult female (carapace length: 52.4; carapace width: 83.3; length of the right chela: 53.4), Rio San Juan, 12.VIII.2001. Paratypes: 6 adult females (56.7; 50.4; 48.3; 47.9; 46.5; 43.2) and 1 adult male (44.0), Rio San Juan; 2 adult and 1 subadult females (48.9; 43.2; 22.8) and 1 adult and 1 subadult males (45.0; 19.4), Rio Arimao at La Moza; 5 adult and 1 subadult females (46.2; 45.5; 44.6; 44.3; 42.2; 34.3) and 3 subadult males (37.7; 29.0; 25.6), Rio Mabujina between El Quirro and Lagunita; 4 subadult females (31.1; 24.5; 20.9; 19.3), Torrent at less than 1 km from Torre de Iznaga towards Condado; 7 adult and 1 subadult females (50.7; 44.5; 39.0; 36.7; 35.7; 30.0; 27.3; 23.7) and 3 adult and 2 subadult males (46.5; 38.6; 33.1; 27.0; 23.1), Rio Cañas at Piti Fajardo.

Epilobocera cubensis poliorcetes maculiventris nova morpha

(Fig. IV)

Description. The *Epilobocera cubensis poliorcetes* population living along Rio Cañas shows a chromatic peculiarity in its ventral region that I have never observed with such an intensity in any other *Epilobocera* population of Cuba. The incidence of the phenomenon in this population is high at least in the station visited by me at about 5 km from the river mouth, where the course of the river approaches the road rising towards Topes de Collantes. In the other stations more downhill, in locality «Arroyo seco», it appears less marked. A moderate population of *Grapsus* sp. is also permanently present in both these stations. The phenomenon involves the outer

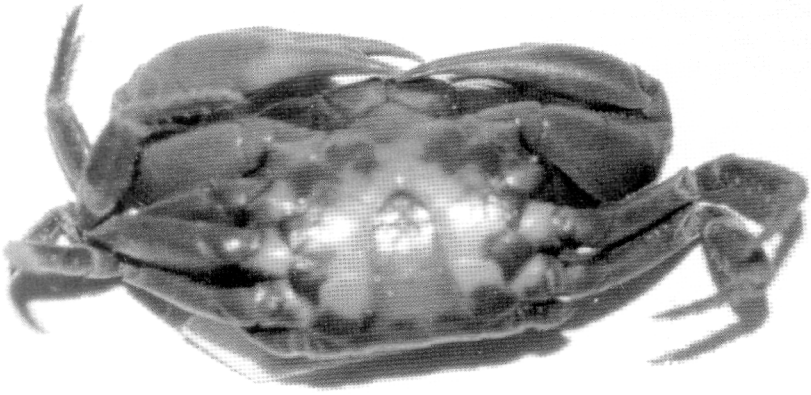

Fig. IV - Ventral view of a young specimen belonging to *E.cubensis poliorcetes* morpha *maculiventris*.

margins of the thoracic sternites, which appear showy colored by large and continuous dark-gray spots extending as far as the 4th abdominal segment. In individuals with more marked spots, a kind of subelliptical dark-gray ring forms, marked all around by the coxopodites of the first four pereiopods and by the sternal triangle, which remain very light. In particular, on the 4th abdominal segment, maculation is compact at the base and bilobate in the higher portion, the other three abdominal segments (3rd, 2nd, and 1st) are completely colored, joining chromatically with the base of the carapace without any discontinuity. The phenomenon is more conspicuous in young individuals and tends to decrease with age without disappearing completely. As already mentioned, it does not affect all the population with the same intensity, since sometimes the spots are small and not joined together. Moreover, chromatic intensity may vary with changed conditions of the single individuals, disappearing completely to appear again. As already said, I observed this phenomenon only in the Rio Cañas population; I cannot rule out that, due to the remarkable physiological homogeneity of the various *Epilobocera* species, similar cases may also sporadically occur in other populations of the same or other species.

Distribution. According to my observations, confined to Rio Cañas. In both the stations studied, *E. c. poliorcetes maculiventris* coexists with a population of *Grapsus* sp..

Additional material examined. Some stations examined by me are reported in the following. The samples are not significant, due to the low number of individuals, and hence subspecific attribution is provisional. Moa, Sagua de Tánamo, Material from the Museum of Natural History of Holguín ascribable to *E. cubensis cubensis*; Banao, Potrerillo, Quemado de Güines, the populations of these three localities, situated in the provinces of Sancti Spiritus, Cienfuegos and Villa Clara, respectively, are ascribable to *E. cubensis poliorcetes*; Mantua, Cajálbana, Soroa, Artemisa, Rio Jaimanitas, Parque Lenin, Cotorro, Jaruco, San Miguel de los Baños, the populations of these nine localities, the first three situated in the Pinar del Río province, the following five in the Havana and Havana City provinces, and the last one in the Matanzas province, are ascribable to *E. gilmani synoecia*.

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