Ruthenica, 2020, vol. 30, No. 3: 155-164.
Published online 03.07.2020.

© *Ruthenica*, 20**
http: ruthenica.net

A new genus and species of cepolid from Cuba (Pulmonata, Helicoidea)

Maike HERNÁNDEZ QUINTA[1,4], Manuel A. BAUZÁ HERNÁNDEZ[1], Steffen FRANKE[2], Alejandro FERNÁNDEZ VELÁZQUEZ[3]

[1]*Grupo de Invertebrados de la Subdirección de Zoológicas, Instituto de Ecología y Sistemática, Carretera Varona # 11835 / Oriente y Lindero, Calabazar, Boyeros, La Habana, CUBA;*
[2]*Deutsche Malakozoologische Gesellschaft, Geistenstraße 24, 40476 Düsseldorf, GERMANY;*
[3]*Centro de Investigaciones y Servicios Ambientales y Tecnológicos Calle 18 s/n entre 1ra y Maceo, Holguín, CUBA*
[4]*Corresponding author: maike@ecologia.cu*

ABSTRACT. A new genus and species of Cepolidae is described from the Island of Cuba: ***Plagiosimilis gibarensis*** gen. et sp. nov. It is classified in Cepolidae based on the following diagnostic characteristics of the family: dart apparatus consisting of a dart sac with a pedunculated gland on its apical side, both covered by a sheath; at the base of the dart apparatus there are two accessory glands; absence of a diverticulum. The specimens from the new genus come from the northern part of the Holguin province in the vicinity of the town of Gibara and live in special habitat dominated by *Tillandsia* plants. *S*hell with the rounded last whorl, circular umbilicus and strongly reflected lip distinguishes conchologically the new genus. The reproductive system and the shell differ from the other genera, although have a certain similarity with the genera *Plagioptycha* and *Hemitrochus*.

Zoobank registration: urn:lsid:zoobank.org:pub:66817030-5F49-4F95-9089-33A75263D1A0

Новый род и вид Cepolidae is Кубы (Pulmonata, Helicoidea)

Майке ЭРНАНДЕС КУИНТА[1,4], Мануэль А. БАУЗА ЭРНАНДЕС[1], Штеффен ФРАНКЕ[2], Алехандро ФЕРНАНДЕС ВЕЛАСКЕС[3]

[1]*Grupo de Invertebrados de la Subdirección de Zoológicas, Instituto de Ecología y Sistemática, Carretera Varona # 11835 / Oriente y Lindero, Calabazar, Boyeros, La Habana, CUBA*

[2]*Deutsche Malakozoologische Gesellschaft. Geistenstraße 24, 40476 Düsseldorf, Germany;*

[3]*Centro de Investigaciones y Servicios Ambientales y Tecnológicos Calle 18 s/n entre 1ra y Maceo, Holguín, CUBA.*

[4]*Автор-корреспондент: maike@ecologia.cu*

РЕЗЮМЕ. Описание нового рода и вида Cepolidae из Кубы: ***Plagiosimilis*** gen. nov. с видом ***Plagiosimilis gibarensis*** sp. nov. Род отнесён к Cepolidae на основании следующих признаков: придаточные органы на вагине состоят из стилофора и железы, расположенной на вершине стилофора; стилофор и железа охвачены общим прозрачным чехлом; при основании стилофора имеются две дополнительные железы; дивертикул протока семеприемника отсутствует. Конхологически новый род характеризуется плавно закруглённым последним оборотом, круглым пупком и сильно отвёрнутым краем устья. Репродуктивный тракт и раковина нового таксона обнаруживают некоторое сходство с родами *Plagioptycha* и *Hemitrochus*. Вид обнаружен в северной части провинции Олгуин близ города Гибара, где живёт в основном среди растений рода *Tillandsia*.

Introduction

Despite the studies conducted by Pilsbry [1894], Baker [1943], Turner [1958] and Schileyko [2004], there is uncertainty and little taxonomic knowledge for several genera of the Cepolidae family, perhaps because the anatomy of the reproductive system is presently described for less than 30% of the known species. In the particular case of Cuban species, the most complete study was carried out by Moreno [1950] for *Polymita* Beck, 1837 for which all the species are characterized as well as for *Jeanneretia* Pfeiffer, 1877 [Hernández, Backeljau 2013], while in *Coryda* Albers, 1850, *Eurycampta* Martens, 1860, *Hemitrochus* Swaison, 1840, *Setipellis* Pilsbry, 1926 and *Euclastaria* Pilsbry, 1926 one or two species were studied. In *Cysticopsis* Mörch, 1852 and *Guladentia* Clench y Aguayo, 1951 the

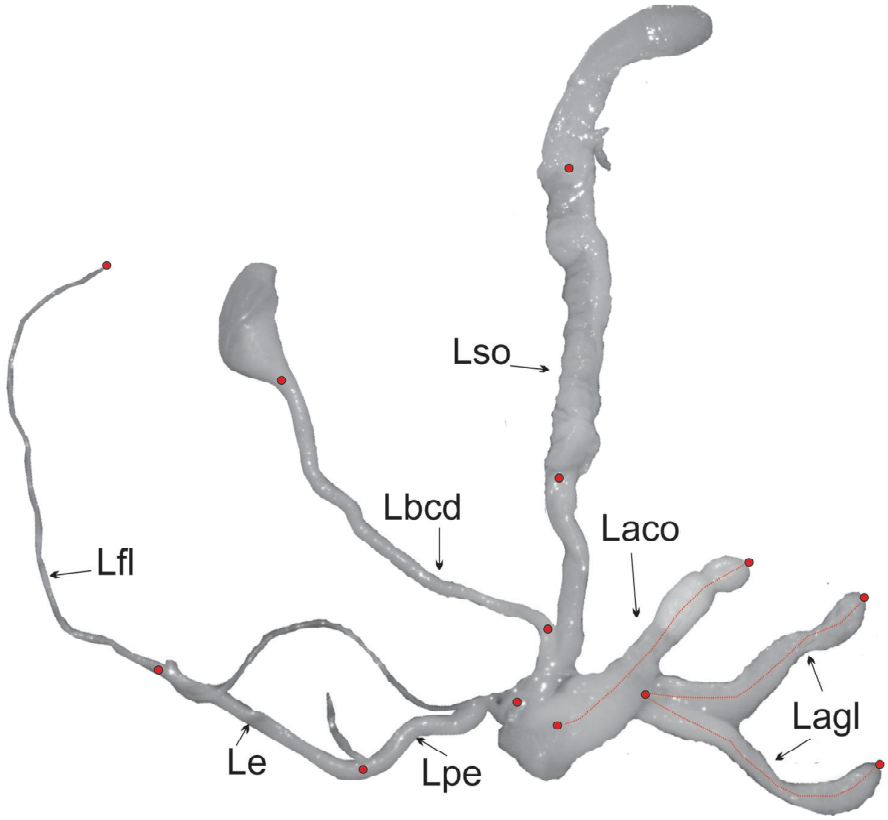

FIG. 1. Measurements of the seven structures in the reproductive apparatus. Lpe, Length of the penis; Lfl, Length of the flagellum; Le, Length of the epiphallus; Lbcd, Length of the bursa copulatrix duct; Laco, Length of the auxiliary copulatory organ; Lagl, Length of the accessory glands; Lso, Length of the spermoviduct.

РИС. 1. Измерения семи структур репродуктивного аппарата. Lpe, длина пениса; Lfl, длина флагеллюма; Le, длина эпифаллуса; Lbcd, длина протока bursa copulatrix; Laco, длина дополнительного копулятивного органа; Lagl, длина дополнительных желез; Lso, длина семеяйцепровода.

reproductive systems was not studied in any species.

Cepolidae Ihering, 1909 are distributed throughout the Greater Antilles and some Lesser Antilles, Cayman Islands, Florida and Florida Keys. Cuba presents the highest representation of genera with nine of the 14 existing. The genus *Hemitrochus* has the most broad distribution range and is present in all the Greater Antilles, Bahamas, Cayman Islands and the Florida Keys. *Euclastaria* is distributed in Cuba and Puerto Rico. *Eurycampta* is distributed in Cuba and the Bahamas. *Plagioptycha* Pfeiffer, 1856 so far is distributed in the Hispaniola and the Bahamas. *Coryda* in Cuba and the Hispaniola (so far). The remaining genera are endemics of single islands: *Cepolis* Montfort, 1810 in the Hispaniola; *Dialeuca* Albers, 1850 in Jamaica; *Levicepolis* Baker, 1943 and *Bellacepolis* Pilsbry, 1943 in Puerto Rico; *Jeanneretia*, *Cysticopsis*, *Polymita*, *Setipellis* and *Guladentia* in Cuba.

The presence of the *Plagioptycha* in Cuba has been debated for the last 15 years. Espinosa *et al.* [1994] listed *Plagioptycha indistincta* (Férussac, 1821) (originally reported for the Dominican Republic) for Cuba, although this was not reported later [Espinosa, Ortea, 1999]. However, Espinosa and Ortea [2009] list *Plagioptycha gregoriana* (Dall, 1905) (originally reported for the Bahamas) due to the finding made in 2007 by Alejandro Fernández Velázquez and Steffen Franke in the territory of Gibara, Holguín. Recent revisions of the Gibara specimens concluded that these do not belong to *Plagioptycha gregoriana* and that from a conchological point of view they resemble in a few characters specimens of the genera *Hemitrochus* (*H. multifasciata* (Weinland et Martens, 1859)) and *Plagioptycha* (*P. abacoensis* (Von Martens, 1876)), however, they present characteristics that merit being recognized as a new genus. The present study aims to describe a new genus of Cepolidae.

Materials and methods

Material. The specimens of the new genus were collected in several localities of Gibara: Tierra Buena, in November 2003; El Macio, in November

2003; Cueva El Chombo, Velasco, Gibara, in February 2005, near the Jobal, in November 2016 and February 2017. The material examined was deposited in the collection of the Institute of Ecology and Systematic (CZAC) in Havana City, Cuba, the Museum für Naturkunde, Berlin (ZMB) and the Steffen Franke collection (SF-collection), Düsseldorf, Germany.

Shell characters. The following measurements of the shell of adult individuals were taken with a caliper, with accuracy 0.01 mm: shell height (Hmax), minimal (Dmax) and maximal (Dmin) diameter, height (Ha) and diameter (Da) of aperture.

Dissections. The individuals were drowned in an airtight jar full of water for 12 hours, later they were separated from the shell and fixed in 70% ethanol prior to anatomical study. Four snails (all adults) were dissected, and both the internal and external genital morphology was observed under a dissecting microscope. The genitalia were photographed with a Nikon camera.

Radulae and jaws were extracted manually, cleaned by soaking in 5% NaOH solution for about six hours followed by rinsing in ethanol. They were mounted for scanning electron microscopy (Zeiss Evo 40 VP).

Reproductive tract characters. We used a slightly modified terminology of the morphology of the reproductive tract proposed by Baker [1943] and Baur [2012]. We measured seven structures in the reproductive apparatus (Fig. 1) using scale paper with error 1 mm: *Length of the flagellum*: from its insertion on the epiphallus to its terminal tip. *Length of the penis*: from its joint with the vagina to the insertion point of the penis retractor. *Length of the epiphallus*: from the insertion point of the penis retractor to the split of the vas deferens and the flagellum. *Length of the bursa copulatrix duct*: from its joint with the oviduct to the basis of the bursa copulatrix. *Length of the auxiliary copulatory organ*: from its joint with the atrial sac to its distal end. *Length of the accessory glands*: from their joint with the atrial sac to their distal end. *Length of the spermoviduct*: from the oviduct to the albumen gland.

Systematic part

Order Stylommatophora
Superfamily Helicoidea
Family Cepolidae Ihering, 1909

Genus ***Plagiosimilis*** gen. nov.

Zoobank registration: urn:lsid:zoobank.org:act:F9287959-72D3-4893-A8B4-BECBB59D76A4

Diagnosis. Shell with the first four whorls depressed and the last very globose. Umbilicus almost circular and deep. Teleoconch with well-marked radial ribs. Aperture margins with thin lip and very reflected. Genital orifice reddish in colour. Epiphallus of similar length to that of the penis. Dart sac well developed, bilobed accessory glands with long common stem.

[**Диагноз.** Первые 4 оборота раковины составляют прижатый завиток, последний оборот плавно закруглён. Телеоконх с хорошо выраженными радиальными рёбрышками. Края устья с тонкой губой, сильно отвёрнуты. Окраска красноватая. Эпифаллус и пенис примерно равной длины. Стилофор хорошо развит, двулопастные дополнительные железы с длинным общим стволом].

Etymology: The name refers to the similarity with the *Plagioptycha* genus.

Type species: ***Plagiosimilis gibarensis*** sp. nov.

Plagiosimilis gibarensis gen. et sp. nov.
(Figs 2–5)

Zoobank registration: urn:lsid:zoobank.org:act:A6141942-B06D-48A8-99B2-58F5F82B478B

Type material. Holotype: CZAC 8.1.300, Near of El Jobal, Gibara, Holguín (21º07’45’’N, 76º13’22’’W), coll. M. Hernández and M. A. Bauzá, 18.11.2016 (Fig. 3). Paratypes, CZAC 8.1.301 (10 spms), Near of El Jobal, Gibara, Holguín, coll. M. A. Bauzá and M. Hernández, 18.11.2016; ZMB/Moll 230109 (1 spm), Laguna Blanca, Gibara, Holguín (21º10’00’’N, 76º14’00’’W), coll. A. Fernández and S. Franke, 31.01.2003; SFC 0817 (1 spm), Tierra Buena, Gibara, Holguín (21º08’01’’N, 76º15’38’’W), coll. A. Fernández and S. Franke, 21.11.2003; SFC 0963 (2 spms), El Macío, Gibara, Holguín (21º08’29’’N, 76º12’51’’W), coll. A. Fernández and S. Franke, 18.11.2003.

Type locality. Near of El Jobal, Gibara, Holguín (21º07’45’’N, 76º13’22’’W).

Description. Shell (holotype) (Fig. 3). Shell depressed, with low spire and evenly rounded last whorl, rather thin but solid, somewhat translucent. Umbilicus almost circular and deep, slightly overlapped by the reflection of the lip. Oval aperture subhorizontal, with thin lip and much reflected margins. Periostracum of beige colour with a lighter band on the shell on the last whorl. Shell with 4 whorls. Protoconch of ½ whorl, almost polished, teleoconch whorls with well marked and closely spaced ribs.

Measurements. Holotype: Hmax 8.93 mm, Dmax 15.6 mm, Dmin 13.53, Ha 7.94, Da 10.26. Paratypes (type locality N=10, Laguna Blanca N=1 and Tierra Buena N=1 and El Macío N=2, all in Gibara, Holguín): Hmax 9.06±0.40 mm, Dmax 15.35±0.68 mm, Dmin 12.99±0.94 mm, Ha 7.35±0.38 mm, Da 8.27±0.61 mm.

FIG. 2. ***Plagiosimilis gibarensis*** gen. et sp. nov. in nature. Near of the Jobal, Gibara, Holguín.

РИС. 2. ***Plagiosimilis gibarensis*** gen. et sp. nov. в природе. Около Jobal, Gibara, Holguín.

FIG. 3. Dorsal, ventral and lateral view of the shell of the holotype of ***Plagiosimilis gibarensis*** gen. et sp. nov. Scale bar, 1 mm.

РИС. 3. Дорсальный, вентральный и латеральный виды раковины голотипа ***Plagiosimilis gibarensis*** gen. et sp. nov. Масштаб 1 мм.

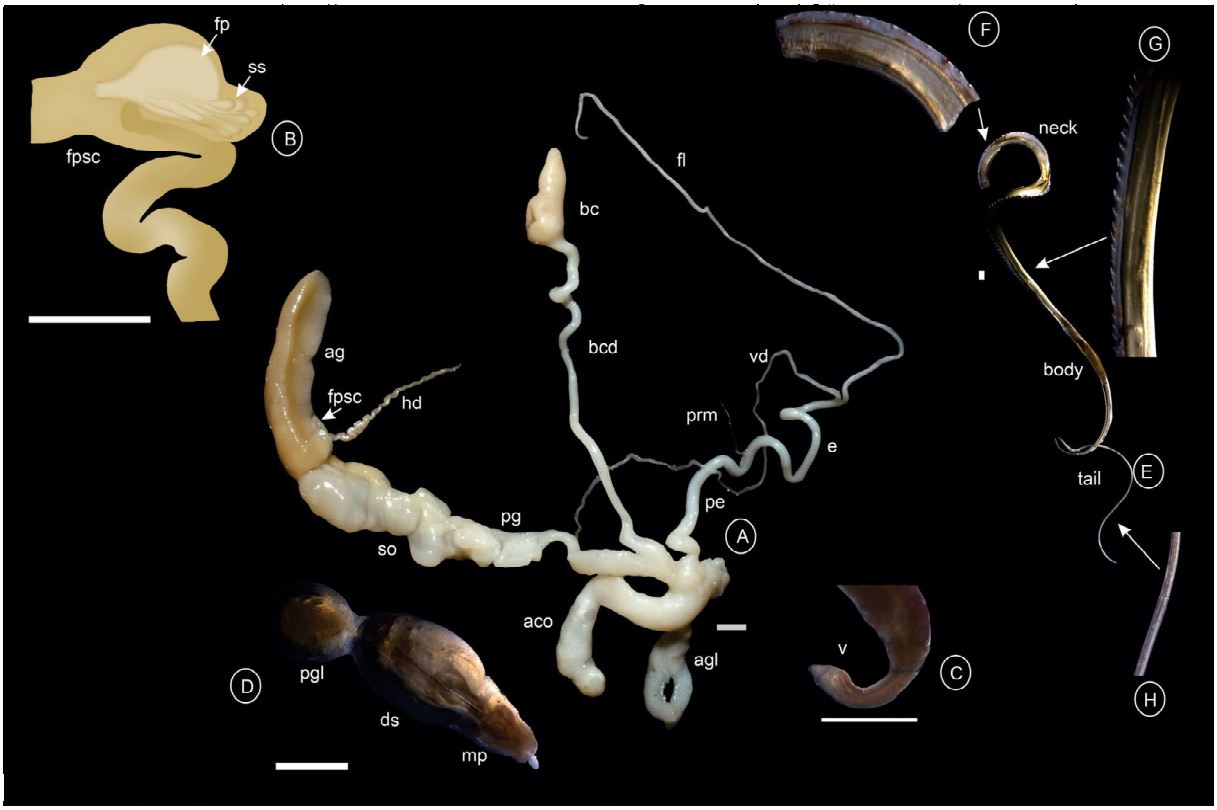

FIG. 4. **A**. Genital anatomy of ***Plagiosimilis gibarensis*** gen. et sp. nov., aco, auxiliary copulatory organ; ag, albumen gland; agl, accessory glands; bc, bursa copulatrix; bcd, bursa copulatrix duct; e, epiphallus; fl, flagellum; fpsc, fertilization pouch-spermathecal complex; pe; penis; pg, prostate gland; prm, penial retractor muscle; so, spermoviduct; vd, vas deferens. **B**. Fertilization pouch-spermathecal complex. **C**. verge. **D**. ds, dart sac; mp, muscular papilla; pgl, pedunculate glands. **E**. Spermatophore. **F** and **G**. Portion of the neck of the spermatophore. **H**. Final portion of the tail of spermatophore. Scale bar, 1 mm.

РИС. 4. **A**. Анатомия половой системы ***Plagiosimilis gibarensis*** gen. et sp. nov. aco, дополнительный копуляторный орган; ag, белковая железа; agl, дополнительные железы; bc, bursa copulatrix; bcd, проток bursa copulatrix; e, эпифаллус; fl, флагеллюм; fpsc, квадривий; pe; пенис; pg, простата; prm, ретрактор пениса; so, семеяйцепровод; vd, vas deferens. **B**. Квадривий. **C**. Пениальная папилла. **D**. ds, стилофор; mp, мускульная папилла; pgl, вагинальные железы. **E**. Сперматофор. **F** и **G**. Часть шейки сперматофора. **H**. Хвост сперматофорп. Масштаб 1 мм.

[**Описание раковины голотипа**. Раковина тонкостенная, но прочная, слегка просвечивающая, уплощенная, с низким завитком; последний оборот плавно закруглен. Пупок почти круглый, глубокий, слегка перекрытый отворотом края устья. Устье почти горизонтальное, с тонкой губой и сильно отвернутыми краями. Число оборотов 4. Протоконх (1/2 оборота) почти полированный, телеоконх с частыми, хорошо выраженными рёбрами.]

Genital morphology of paratypes. (Fig. 4A). Reproductive tract similar to those of other cepolids. Ovotestis consisting of multiple long acini embedded in digestive gland, thin ducts of acini converging into hermaphroditic duct. Zigzag shaped seminal vesicle in nearest portion to albumen gland. Fertilization pouch-spermathecal complex (fpsc) with subdivided spermatheca exposed (small talon) (Fig. 4B). Spermoviduct (length 14±3 mm) transversely sacculated; distally spermoviduct splitting into free oviduct (length 6±2 mm) and vas deferens. Vagina short. Bursa copulatrix duct (length 17±4 mm) with an elongated bursa copulatrix. Penis slender, cylindrical and measures 10±1 mm; in first third with narrow and lengthened verge (Fig. 4C). Epiphallus (length 7±1 mm) with slightly less diameter than penis. Penis retractor muscle small and slender. Flagellum long (length 20±4 mm); although medium-sized in comparison with other genera of Cepolidae. Auxiliary copulatory organ (length 10±2 mm) composed by a pedunculated gland (almost spherical of small size) towards distal portion, which is inserted laterally into dart sac (length 3±1 mm), generally well defined and muscular, although smaller than atrial sac (length 6±2 mm), which is inserted in the base, accessory gland (length 8±2 mm) bilobed, with long common stem, internally formed by cylindrical tubules.

The spermatophore of ***Plagiosimilis gibarensis*** gen. et sp. nov. measures approximately 15 mm and consists of a long neck and tail, and a small body (Fig. 4E). The neck of the spermatophore forms a single spiral with two crests of which only one has

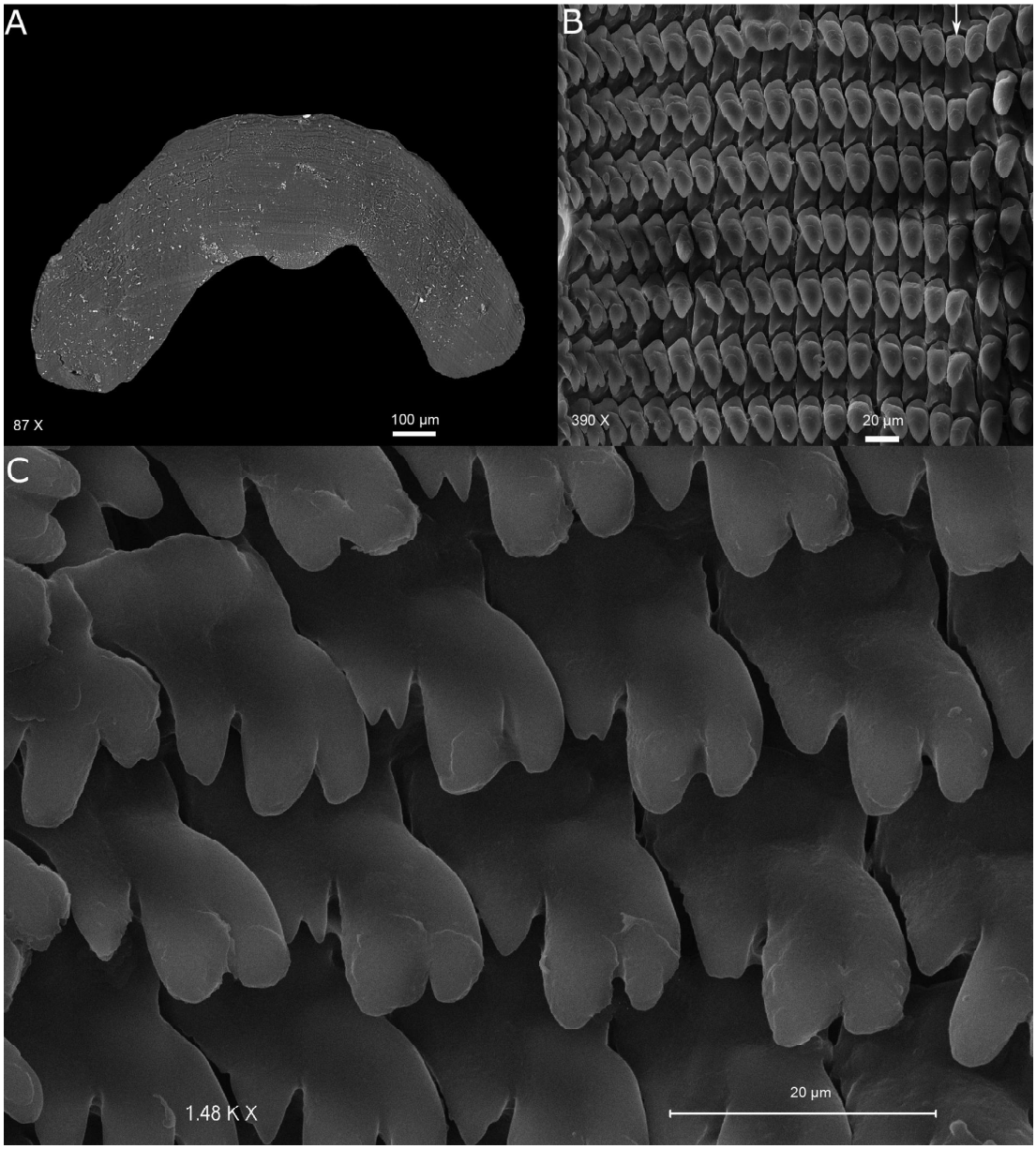

FIG. 5. SEM photographs of the jaw and radula of ***Plagiosimilis gibarensis*** gen. et sp. nov. **A**. Jaw. **B**. Central teeth (marked with a white arrow) and lateral teeth. **C**. Marginal teeth.

FIG. 5. Сканoвые микрофотографии челюсти и радулы ***Plagiosimilis gibarensis*** gen. et sp. nov. **A**. Челюсть. **B**. Центральные (обозначены белой стрелкой) и латеральные зубы. **C**. Маргинальные зубы.

spines, which are more prominent after the first third and are directed forward (Figs. 4F-G). The body is narrow of a similar thickness to the neck, while the tail is rounded and lacks spines (Fig. 4H).

Jaw and radular morphology. The jaw is oxygnath (Fig. 5A), solid, median projection, high arched, almost smooth except for slight striae all over the surface. The radula has a central monocuspid, rounded tooth that is smaller than the other teeth. Lateral teeth monocuspid and rounded too. Between the lateral and marginal teeth, there are transitional teeth with ectocones (Fig. 5B). Marginal teeth multicuspid with the endocones and ectocones smaller than the mesocone. The ectocones teeth are frequently subdivided (Fig. 5C).

Habitat and natural history. The species inhabits the low altitude karstic elevations in the western region of the Gibara municipality. This region is characterized by scarce rainfall, which is why it can be considered a dry habitat. So far ***Plagiosimilis gibarensis*** gen. et sp. nov. inhabits the mogote vegetation complex, which is the predominant vegetation formation characterized by the presence of shrub plants with small leaves and sclerophyllous. The species is very difficult to observe in this environment because it is fundamental inhabitant in

FIG. 6. Dorsal, lateral and ventral view of the shells. **A**. ***Plagiosimilis gibarensis*** gen. et sp. nov. **B**. *Plagioptycha gregoriana*. **C**. *P. loxodon*. **D.** *Hemitrochus multifasciata*. **E.** *H. rufoapicata*. Scale bar, 1 mm.

РИС. 6. Дорсальный, латеральный и вентральный виды раковин. **A**. ***Plagiosimilis gibarensis*** gen. et sp. nov. **B**. *Plagioptycha gregoriana*. **C**. *P. loxodon*. **D.** *Hemitrochus multifasciata*. **E.** *H. rufoapicata*. Scale bar, 1 mm.

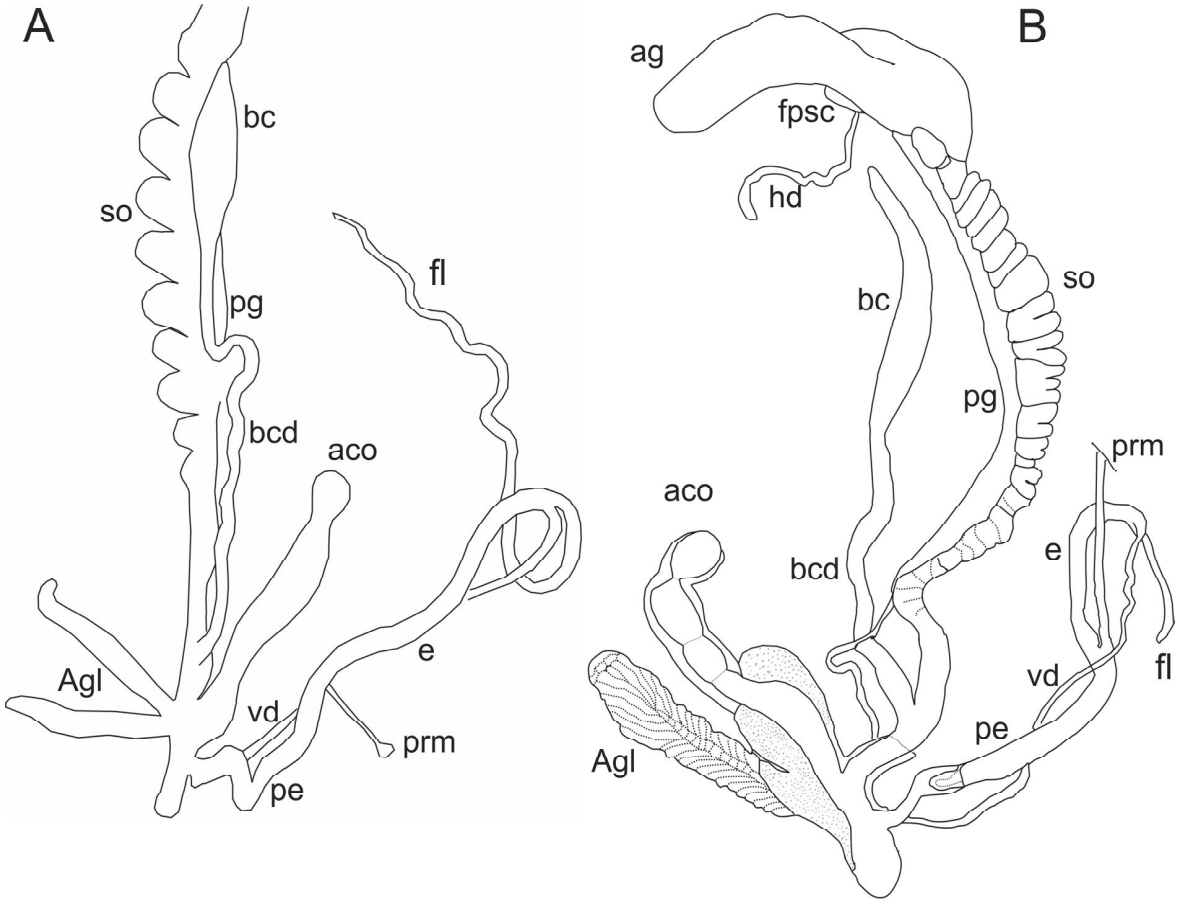

FIG. 7. **A**. Genitalia of *Plagioptycha salvatoris* [after Pilsbry, 1892] and **B**. *P. indistincta* [after Baker, 1943]. Abbreviations as in Fig. 4.

РИС. 7. **A**. Половая система *Plagioptycha salvatoris* [по Pilsbry, 1892] и **B**. *P. indistincta* [по Baker, 1943]. Обозначения на Рис. 4.

bromeliads, all the individuals found alive were observed in *Tillandsia fasciculata*, very abundant in the area. Perhaps during the night, the species uses other substrata. All the individuals were observed very close to the base of the leaves where the humidity was quite high due to the accumulation of water from the rains. Other species of molluscs were also found in *Tillandsia fasciculata*, sharing the same microhabitat such as: *Euclastaria euclasta*, *Coryda alauda*, *Polymita muscarum* and *Caracolus sagemon*.

Remarks. Table 1 shows comparative shell values between ***Plagiosimilis gibarensis*** gen. et sp. nov., *Plagioptycha loxodon* (Pfeiffer,1850), *P. gregoriana, Hemitrochus multifasciata* and *H. rufoapicata* (Poey, 1858). With the exception of *H. multifasciata*, ***Plagiosimilis gibarensis*** gen. et sp. nov. exhibits the highest values of these dimensions.

Table 1. Values (mm) of the shell height (Hmax), shell diameter (Dmax), height (Ha) and diameter (Da) of the aperture.

Табл. 1. Значения (мм) высоты раковины (Hmax), диаметра раковины (Dmax), высоты (Ha) и диаметра (Da) устья.

Taxa	N	Hmax	Dmax	Ha	Da
Plagiosimilis gibarensis	14	9.06±0.4	15.35±0.68	7.35±0.38	8.27±0.61
Plagioptycha gregoriana	11	7.38±0.60	13.40±0.66	6.29±0.38	7.64±1.01
Plagioptycha loxodon	10	7.29±0.52	12.60±0.65	6.25±0.50	7.21±0.51
Hemitrochus multifasciata	1	10.75	16.45	-	-
Hemitrochus rufoapicata	15	9,22±0,66	12,75±0,72	7,29±0,62	6,49±0,57

Plagiosimilis gen. nov. is distinguished from *Hemitrochus* in more depressed spire and a well-open circular umbilicus, in *Hemitrochus* it is narrow or absent. The reflection of the aperture margins is more marked than in *Hemitrochus*, except *H. multifasciata* from the Bahamas. *H. multifasciata* differs concholologically from the cuban and remaining islands *Hemitrochus*, although this species is closely related to ***Plagiosimilis***, so its status should be clarified. ***Plagiosimilis*** gen. nov. also shows great differences from *Plagioptycha* species of the Hispaniola. ***Plagiosimilis*** gen. nov. lacks the lateral fold present in the final portion of the last whorl as in the Hispaniola species. On the other hand, the shell of ***Plagiosimilis*** gen. nov. resembles that of the *Plagioptycha* species of the Bahamas, although ***Plagiosimilis*** gen. nov. lacks the oblique nodule or fold of callus in columellar lip that appears in most of the *Plagioptycha* species of the Bahamas. The reflection of the aperture margins of ***Plagiosimilis*** gen. nov. is as marked as some species of *Plagioptycha* of the Bahamas (Fig. 6)

The morphology of the reproductive system of ***Plagiosimilis*** gen. nov. is similar to those of *Hemitrochus*, although it differs in the accessory gland and in the penis-epiphallus proportion. There is also a similarity between the reproductive system of ***Plagiosimilis gibarensis*** gen. et sp. nov. (Fig. 4A) and *Plagioptycha salvatoris* (Pfeiffer,1867) (Fig. 7A). With respect to the *Plagioptycha* species of the Hispaniola, the differences are more marked, the accessory gland is bilobed in ***Plagiosimilis*** gen. nov. and not bilobed in *Plagioptycha* of the Hispaniola; the flagellum differs in length (Fig. 7B).

Etymology. Specific name referring to the name to the municipality where was discovered the species.

Discussion

It has been more than 60 years since a new genus of the land snails was described for Cuba, so this finding reveals that there is still much to study about terrestrial molluscs. The Cepolidae family is one of the most problematic, because it is poorly studied. This contribution, for the moment, brings the number of genera described for the family to 15 in the Caribbean and to 10 for Cuba evidencing the high diversification of the family.

According to the morphological characteristics of the shell and the reproductive system, ***Plagiosimilis*** gen. nov. is classified in Cepolidae based on the following diagnostic characteristics of the family: dart apparatus consisting of a dart sac with a pedunculated gland on its apical side, both covered by a sheath; at the base of the dart apparatus there is a bilobed accessory glands. These glands of ***Plagiosimilis*** gen. nov. are similar to those of the genera *Plagioptycha* (Bahamas), *Hemitrochus*, *Cysticopsis*, *Coryda*, *Bellacepolis*, *Levicepolis*, *Polymita*, *Eurycampta* and *Euclastaria*.

Plagiosimilis gen. nov. has great similarities with the *Plagioptycha* of the Bahamas in the reproductive system described for *Plagioptycha salvatoris* [Pilsbry, 1892] and in the characteristics of the shell. The absence of the oblique nodule or fold of callus in columellar lip in ***Plagiosimilis*** gen. nov. differs from the majority of the Bahamas species. However, we suppose that Cuban and Bahama species form a same group. It is necessary to carry out more detailed studies to elucidate this problem.

Pilsbry [1894] and Schileyko [2004] considered that *Plagioptycha* species both of the Hispaniola and of the Bahamas belong to the same group. However, Baker [1943] stated that *Plagioptycha salvatoris* (Bahamas) has a bilobed accessory gland unlike *Plagioptycha indistincta* (the Hispaniola) that has a non-bilobed gland, which seems to be closely related to the type species of *Plagioptycha* (*P. loxodon*, from the Hispaniola). In addition, *P. salvatoris* coincides with the characteristics of the accessory gland described by Pilsbry [1892] for *P. salvatoris* (Bahamas), which reinforces our opinion that the species of the Bahamas do not belong to *Plagioptycha*. ***Plagiosimilis*** gen. nov. has some similarities in both the shell and the reproductive system with the genera *Plagioptycha* (Bahamas) and *Hemitrochus*, so it may be more closely related to these genera than to other members of the family, although it is necessary to perform more detailed molecular and anatomical studies to confirm this.

Acknowledgements

We want to thank the German Malacozoological Society and Marlies Franke for the support given to the expeditions and Angel Luis Hernández Rodríguez who helped in the field trips. We thank IdeaWild for support with equipment.

References

Baker H.B. 1943. Some Antillean Helicids. *The Nautilus*, 56(3): 81–91.

Baur B. 2010. Stylommatophoran Gastropods. In: Leonard J. L., Córdova-Aguilar A. (Eds). *The evolution of primary sexual characters in animals*. Oxford: University Press: 197–217.

Espinosa J., Ortea J. 1999. Moluscos terrestres del archipiélago cubano. *Avicennia*, 2: 1–137.

Espinosa J., Ortea J. 2009. *Moluscos terrestres de Cuba*. UCP Print, Vaasa, F inland, 191 p.

Espinosa J., Ortea J., Valdés A. 1994. Clasificación taxonómica y endemismo de moluscos terrestres de Cuba. *Avicennia*, 1: 11–124.

Hernández M., Backeljau T. 2013. First data on the genital anatomy of the genus *Jeanneretia* (Heli-

coidea: Cepolidae), endemic of the western region of Cuba. *Açoreana*, Suplemento 8: 145–146.

Moreno A. 1950. Estudio anatómico del género *Polymita* Beck. *Memorias de la Sociedad Cubana de Historia Natural*, 20(1): 21–35.

Pilsbry H.A. 1892. Anatomy of West Indian Helices. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 44: 128–129.

Pilsbry H.A. 1894. *Guide to the study of Helices. Manual of Conchology*. 9. Academy of Natural Sciences of Philadelphia. Philadelphia. E.E.U.U, 366 p.

Schileyko A.A. 2004. Treatise on recent terrestrial pulmonate molluscs. Part 12. Bradybaenidae, Monadeniidae, Xanthonychidae, Epiphragmophoridae, Helminthoglyptidae, Elonidae, Humboldtianidae, Sphincterochilidae, Cochlicellidae. *Ruthenica*, *Russian Malacological Journal,* Supplement 2: 1627–1763.

Turner R. 1958. The genus *Hemitrochus* in Puerto Rico. *Occasional Papers On Mollusks*, 22(2): 153–178.