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Taxonomy and phylogeny of the genus *Trichopelma* Simon, 1888 (Araneae: Theraphosidae: Trichopelmatinae) in Cuba, with the descriptions of seven new species and a new species of *Thalerommata* Ausserer, 1875

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ABSTRACT. The spiders of the genus *Trichopelma* Simon, 1888 present in Cuba, are revised. Currently, the genus *Trichopelma* comprises 22 known species distributed in the Caribbean, and Central and the upper region of South America. Cuba currently hosts five valid species and, in this study, the descriptions of seven new species distributed throughout the island are presented: *T. baracoense* **sp. nov.** (♂♀, Guantanamo prov.), *T. cheguevarai* **sp. nov.** (♂, Ciego de Ávila prov.), *T. citma* **sp. nov.** (♀, Granma prov.), *T. fidelcastroi* **sp. nov.** (♂♀, Holguín prov.), *T. granmense* **sp. nov.** (♂♀, Granma prov.), *T. rudloffi* **sp. nov.** (♂♀, Holguín prov.) and *T. soroense* **sp. nov.** (♂♀, Artemisa prov.). Based on morphological characters, a cladistic analysis was performed, revealing the phylogenetic position of the new species compared to the species previously described. Based on this phylogeny, morphological characters and close proximity in distribution, *T. banksia* Özdikmen & Demir, 2012 **syn. n.,** is proposed as a junior synonym of *T. cubanum* (Simon, 1903). The genus *Thalerommata* Ausserer, 1871 is reported from Cuba for the first time, with the description of *T. anae* **sp. nov.** (♂, Sancti Spíritus prov.).

Key words: Mygalomorphae, Caribbean, tarantulas, phylogeny, taxonomy

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INTRODUCTION

Due to the high concentration of habitats, species and endemism, Cuba is the most diversified island in the insular Caribbean and one of the 35 most significant biodiversity hotspots on the planet (Mittermeier et al., 2011; Zachos & Habel, 2011). Within the Caribbean, Cuba is the largest island in the Antilles, has the greatest documented diversity of arachnids and their arachnological information in general is higher than that of the other islands. Nonetheless, knowledge of the true diversity of arachnids is still far from fully known (Mancina & Cruz Flores, 2017). To date, Cuba has reported the presence of around 500 species of spiders, of which about 40 are members of the infraorder Mygalomorphae (WSC, 2024). The genus *Trichopelma* Simon, 1888 comprises 22 recognized species and, according to Guadanucci (2014) and Mori & Bertani (2020), belongs to the family Theraphosidae Thorell, 1869, and is distributed in the Caribbean, Central America and northern South America. This genus is represented in Cuba by small to medium-sized spiders that typically live under rocks, fallen tree trunks or in small burrows. Until recently, Cuba was known to host only four species: *T. cubanum* (Simon, 1903); *T. spinosum* (Franganillo, 1926); *T. eucubanum* Özdikmen & Demir, 2012; and *T. banksia*

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Özdikmen & Demir, 2012. Ríos-Tamayo (2017) redescribed *T. cubanum*, whereas Mori & Bertani (2020) proposed *T. spinosum* and *T. eucubanum* as *nomina dubia*, redescribed *T. banksia* and described three new species: *T. goloboffi* Mori & Bertani, 2020 and *T. laurae* Mori & Bertani, 2020 from Havana; and *T. juventud* Mori & Bertani, 2020 from Isla de la Juventud. The phylogeny of the subfamily Trichopelmatinae has been controversial (Raven, 1985; Guadanucci, 2014) and recently Mori & Bertani (2020) updated its taxonomy and phylogeny. The authors provided the most exhaustive treatment for the genus *Trichopelma*, including a rediagnosis of the genus, a redescription of previously known species, and descriptions of new species. They also revalidated the subfamily Trichopelmatinae as a member of the family Theraphosidae and provided a broader phylogeny of the genus.

The genus *Thalerommata* Ausserer, 1875 present in northern South America (Colombia and Venezuela) and the Caribbean islands (Jamaica and Bahamas), has been recently revised. Bertani & Raven (2023) revised the genus with the descriptions of six new species and gave a rediagnosis of all known species. This work provided several important characters as well as comments on their phylogenetic relationship with other genera, which is helpful for future work.

The current study is based on the examination of material labelled as *Trichopelma*, deposited in the collection of Museum für Naturkunde, Berlin. The morphological analysis revealed seven new species belonging to *Trichopelma* and a new species of *Thalerommata.* This work makes a great contribution to the Cuban arachnofauna and biological diversity, continuing to demonstrate the island as one of the most diverse in the Caribbean.

MATERIAL AND METHODS

The specimens used in this study are deposited in Museum für Naturkunde, Berlin, Germany (ZMB) and the National Museum of Natural History, Paris, France (MNHN). All measurements are given in millimetres (mm) and were taken on the right side of the specimen. Total lengths were taken with chelicerae and without spinnerets. Reference points for measurements follow Coyle (1974, 1981). Spermathecae were clarified by immersion in clove oil, thus making transparent the opaque glandular tissues that cover the structure. The copulatory bulb was separated using a microscalpel. The approach of Goloboff (1995) for positioning the bulb in illustrations was followed when taking photographs, using the subtegulum to position the bulb, instead of the general form of the bulb. Specimens were measured and photographed with a Leica M205A stereomicroscope. All descriptions were made with a MOTIC trinocular/SMZ-168 stereoscope, and SEM photomicrographs were taken with a Supra55VP Scanning Electron Microscope.

The notation for leg spines follows Petrunkevitch (1925) and the works made by Raven (1994) and Mori & Bertani (2020); variation in the sides of a specimen (in the number of spines, cuspules, or teeth) is indicated as two numbers or formulae separated by a forward slash (/); when describing variation in chaetotaxy, only surfaces with different numbers of spines are listed. The STC teeth were described beginning first with the prolateral claw and then the retrolateral claw [e.g., 5/3 refers to five teeth on the external side of the prolateral claw and three teeth on the external side of the retrolateral claw]. In the case of the claws with two rows of teeth, they were described as 4/2, 2/3 (refers to four teeth on the external side and two on the internal side of the prolateral claw and two teeth on the internal side, and three teeth on the external side of the retrolateral claw). Collection sites were georeferenced by finding the locality specified or the nearest town present on the label in Google Earth®, and then those coordinates were recorded. The distribution map was produced using QGIS 3.28.5 (QGIS Development Team, 2023)

The abbreviations are as follows: ALE anterior lateral eyes; AME anterior median eyes; PLE posterior lateral eyes; PME posterior median eyes; STC superior tarsal claws; Me 3:4 A, indicate that the scopulae referred to are in the three quarters of the segment. Femur: fe, Patella: pa, Tibia: ti or Ti, Metatarsus: me or ME, Tarsus: ta or TA.

Phylogenetic analysis. The phylogenetic analysis was made taking as a basis the matrix made by Mori

& Bertani (2020). The matrix from Mori & Bertani (2020) presented 66 taxa with two continuous and 93 discrete characters (see supplementary material S1). In this work, I added the seven new species of *Trichopelma* (*T. baracoense* **sp. nov.**; *T. cheguevarai* **sp. nov.**; *T. citma* **sp. nov.**; *T. fidelcastroi* **sp. nov.**; *T. granmense* **sp. nov.**; *T. rudloffi* **sp. nov.**; and *T. soroense* **sp. nov.**) as well as *Thalerommata anae* **sp. nov.** The new matrix (see supplementary material S2) consists of 74 taxa and was scored for the same characters proposed by Mori & Bertani (2020). Missing or inapplicable characters were scored with "?". With the inclusion of the new taxa, some characters were re-coded:

Character 25: Abdominal structures: (0) absent; (1) tubercles. The state (2) "scales" was added. This structure is present in the genus *Thalerommata.*

Characters 62: Scopula, distribution on female leg IV: (0) on tarsus; (1) on tarsus and metatarsus; and **65**: Scopula, distribution on male leg I: (0) on tarsus; (1) on tarsus and part of metatarsus; (2) on tarsus and metatarsus. In this analysis, if the scopulae on the metatarsus is present in ½ of the segment was re-coded as state 1 (in character 62) and 2 (in character 65).

Character 63: Pedipalp, legs I and II on male, scopula: (0) absent; (1) sparse; (2) dense; (3) spatulate. The states of this character are problematic because it depends on the observations made by the authors. In this analysis, this character was not coded for the new species added.

Character 77: Spermathecae, lobes: (0) lacking lobes; (1) one lobe; (2) two lobes; (3) several lobes. A new character state is added: only one lobe present.

Character 81: Tibial apophysis, placement: (0) prolateral; (1) proventral; (2) ventral. The reanalysis of this character allows me to re-code as state 1 in the genus *Trichopelma*, and state 0 in *Thalerommata.*

Character 82: Dual tibial apophysis, distance between lobes: (0) close; (1) far. The character states of this character are problematic because it is not clear how the authors decided what is "close" or "far"; it depends on the observations made by the authors; in this analysis, the genus *Trichopelma* was coded as 0.

Character 90: Cymbium, incision: (0) lacking an incision; (0) with weak incision; (1) with strong, long incision. In the matrix presented by Mori & Bertani (2020), this character was coded wrong. In the published matrix, the character presents three states but was coded as only two. The two first states were coded as 0 and the third as 1. In the present analysis, this character was re-coded properly as 0-1-2.

The cladistic analysis was carried out with TNT version 1.6 (Goloboff et al., 2008; Goloboff & Catalano, 2016; Goloboff & Morales, 2023), using parsimony as the optimality criterion. The tree searches were carried out using the "new technology search" under implied weight (k = 12) with the use of *Sectorial search* and *Tree fusing*. Ten random addition sequences were added, and the minimum length was found on five occasions. The support values were estimated using the combined Bremer support using suboptimal trees of value 0.789. This measurement combines values from the absolute Bremer (Bremer, 1994) and relative Bremer (Goloboff & Farris, 2001) in a single value, producing, in simple cases, evaluations that approximate the results of jackknifing (Farris et al., 1996).

RESULTS

Phylogenetic analysis. In the current study, one new species of *Thalerommata* and seven new species of *Trichopelma* are described and incorporated into the analysis, increasing the number to eleven species. The phylogenetic results agreed with the previous work, and the overall phylogenetic relationships are held, but relations inside the genus *Trichopelma* changed. The analysis under implied weighting, with a constant of concavity k = 12, resulted in a single tree (Fig. 1) with fit = 19.80431 and length = 564.884. As in Mori & Bertani (2020), this analysis showed the families Paratropididae, Barychelidae, and Theraphosidae as monophyletic. Inside Theraphosidae, the different generic relationships appeared according to the previous analysis. The low support values present could be due to the high homoplasy present in the matrix used; these values are lower in the deeper nodes of the genus *Trichopelma.* In this analysis, the genus *Thalerommata* is supported by four characters: (1) the presence of abdominal scales (character 25); (2) scopulae only on male tarsus of leg IV (character 67); (3) tibial apophysis on tibia I, situated prolaterally (character 81), and (4) both branches far from each other (character 82), and appeared as the sister group of the clade *Cyrtogrammomma* + *Trichopelma.* These results agreed with the transfer of *Thalerommata* by Bertani & Raven (2023) to Theraphosidae and support their consideration that is a genus related to *Trichopelma*. The clade of *Cyrtogrammomma* + *Trichopelma* was recovered but in contrast to Mori & Bertani (2020), was supported by only three characters: (1) presence of intercheliceral intumescence in males (character 9); (2) the clear area on the prolateral maxillae edge (character 10), and (3) the apex of the triangular cymbium elongate and conical in dorsal view (character 89). Despite the high homoplasy present in the characters of the matrix studied, the incorporation of the new species of *Trichopelma* described here helped to solve the internal relationship of the genus previously presented by Mori & Bertani (2020) where several species were collapsed in a basal polytomy. In this analysis, the genus *Trichopelma* is supported by two characters: (1) the presence of 18-spot pattern on the abdomen dorsally (character 23), and (2) booklung combs (character 26), similar as in Mori & Bertani (2020).

The species *T. goloboffi* appeared in the base of the cladogram as a sister of all other species. The rest of the species are supported by two homoplastic characters in the spermathecae: the presence of two lobes (character 77) and a rounded shape (character 78). The node constituted by *T. coenobita* (Simon, 1889) (*T. bimini* + *T. steini* (Simon, 1889)) is supported by females with an integral tarsus IV (character 72). The clade *T. bimini* + *T. steini* is supported by only one character, an 18-spot pattern connected. The remaining species are supported by three weak characters: (1) maxillary cuspules number 0.293–0.316 (character 0), (2) labial cuspules number 0.087–0.090 (character 1), and (3) spermathecae with base weakly sclerotised (character 79). The species *T. cheguevarai* **sp. nov.**, *T. juventud,* and *T. gabrieli* are collapsed into a clade supported by one character: the tarsus III in females cracked (character 70) and appeared as a sister group of the clade that contains the rest of the species. *Trichopelma juventud* and *T. cheguevarai* **sp. nov.** present an unusual bulb morphology with a more rounded tegulum and an embolus with developed keels (Fig. 6F–H). The polytomy of *T. gabrieli* will be resolved once the first description of the male is presented. The continuous clade is supported by the cymbium with a strong and long incision (character 90). The monophyletic clade formed by *T. laurae* + *T. cubanum* is supported by the dense scopula on pedipalp and legs I–II of males (character 63) and is the sister group of the remaining species of the genus, which are supported by two homoplastic characters of the spermathecae: presence of two lobes (character 77) and lobes rounded (character 78). The clade *T. platnicki* + *T. loui* are sisters of the rest of the species and are characterized by a merged 18-spot pattern on the abdomen (character 24). The species *T. tostoi* + *T. maculatum* appeared together as in Mori & Bertani (2020) and are supported by the cracked tarsus III in males (character 71), being a sister group in comparison to the rest of the species. The clade, with the rest of the species, is supported by a single character: STC on female legs with more than two teeth laterally on the outer edge (character 52). A monophyletic clade with *T. laselva* Valerio, 1986 (*T. soroense* **sp. nov.** + *T. affine* (Simon, 1892)) is characterized by spermathecae without lobes (character 77) and uniformly slightly sclerotised (character 79). This is the sister group of the remaining species which are characterized by STC on male legs with a double row of several teeth (character 53).

The species *T. huffi* and *T. fulvus* Bryant, 1948, appeared as sisters of the remaining species. This long clade is supported by the scopulae on the tarsus of the pedipalp of females divided by a row of setae (character 57). A clade of *T. fidelcastroi* **sp. nov.** + *T. citma* **sp. nov.** is supported by the scopulae on leg IV of females distributed on the tarsus and metatarsus (character 62). The clade is additionally supported by a reversion of the character 78 with two subequal rounded lobes or two distinct rounded lobes to only one rounded lobe on the spermathecae. This last clade is formed on one side by *T. insulanum* (Petrunkevitch, 1926) + *T. nitidum* Simon, 1888, supported by two characters: (1) scopulae on male leg I distributed on tarsus and part of metatarsus (character 65), and (2) tibial apophysis apex without spine row (character 85). It is supported on the other side by *T. baracoense* **sp. nov.** + (*T. rudloffi* **sp. nov.** + *T. granmense* **sp. nov.**), given the scopulae of female tarsi I is divided by a row of setae (character 59). Four of the seven new species (*T. fidelcastroi* **sp. nov.**, *T. rudloffi* **sp. nov.**, *T. granmense* **sp. nov.** and *T. baracoense* **sp. nov.**) are distributed in the eastern region of the country in the provinces of Holguín, Granma and Guantánamo. Meanwhile, the other species are distributed in the central and western regions of Cuba.

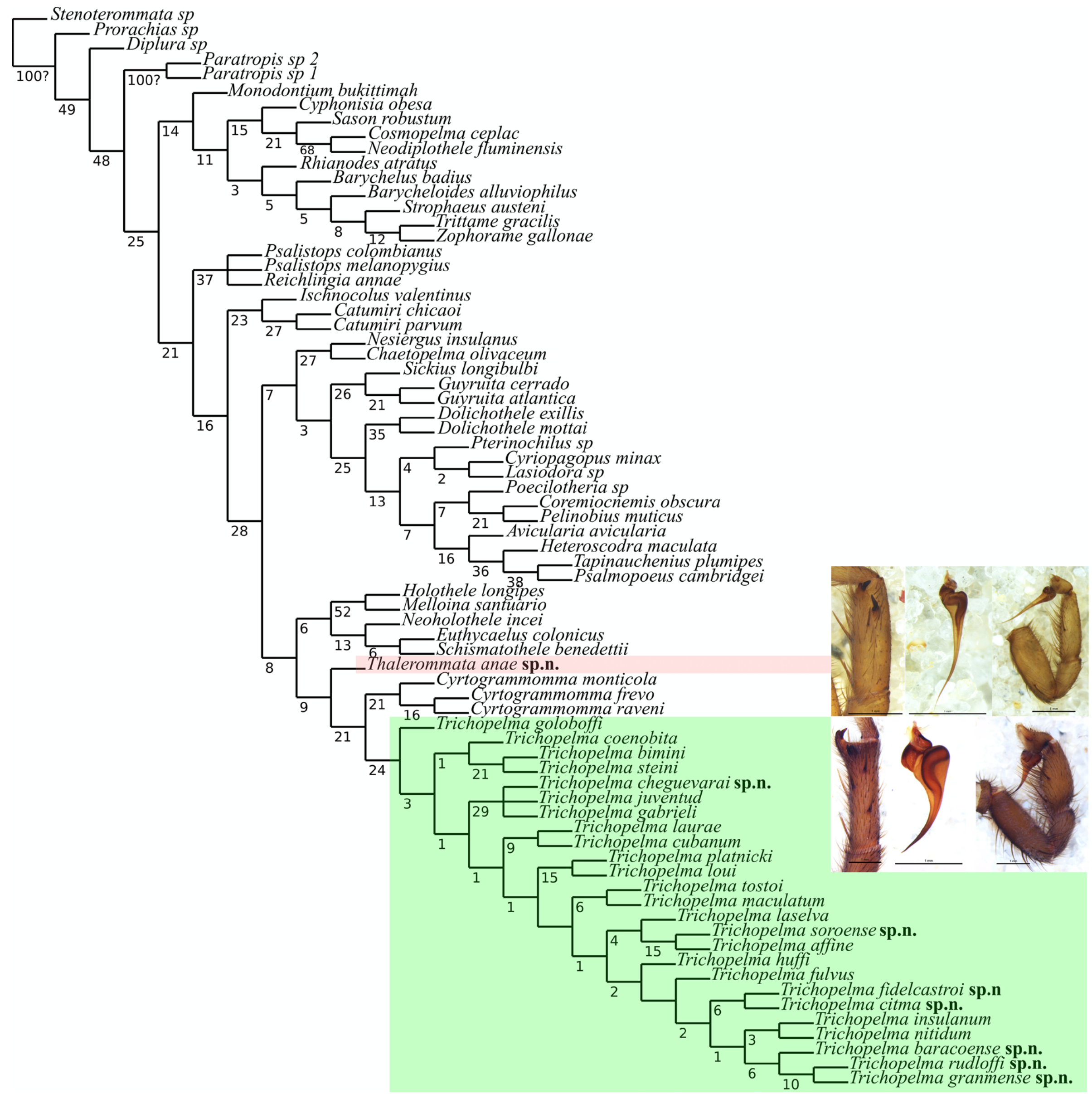

Figure 1. The single phylogenetic tree obtained under implied weight (k = 12) by TNT. The numbers above of branches are support values of combined Bremer support. In red, the genus *Thalerommata* Ausserer, 1875, in green, the genus *Trichopelma* Simon, 1888.

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Taxonomic hierarchy

Phylum Arthropoda Gravenhorst, 1843
Class Arachnida Lamarck, 1801
Order Araneae Clerck, 1757
Family Theraphosidae Thorell, 1869
Subfamily Trichopelmatinae Raven, 1985
Genus *Trichopelma* Simon, 1888

Type species: *Trichopelma nitidum* Simon, 1888:215

Key to the Cuban species of *Trichopelma*

NB: Males of *T. goloboffi* and *T. citma* **sp. nov.** and females of *T. laurae*, and *T. cheguevarai* **sp. nov.** are unknown.

1 Male. **2**
— Female. **10**

2 Embolus with developed keels (Fig. 6F–H). **3**
— Embolus lacking developed keels (Figs 3E–G; 9E–G; 11E–G; 14E–G; 17E–G; 20F–H). **4**

3 Small keels, from the middle of the embolus to tip (figs 256; 257 in Mori & Bertani, 2020:102). .. ***T. juventud***
— Developed keels, from the base of the embolus to tip (Fig. 6F–H). .... ***T. cheguevarai*** **sp. nov.**

4 STC without teeth. **5**
— STC with teeth. **6**

5 Fovea slightly recurved and labium with <20 cuspules (Fig. 260 in Mori & Bertani, 2020), embolus with similar length as the tegulum. .... ***T. laurae***
— Fovea recurved (Fig. 8A) and labium with >30 cuspules (Fig. 8B, D), embolus being two or more times the length of the tegulum. .... ***T. cubanum***

6 Tibial apophysis, prolateral branch with contiguous spine comparatively the same size or only slightly longer (Figs 3B, C; 17B, C). **7**
— Tibial apophysis prolateral branch with contiguous spine notably longer (Figs 11B, C; 14B, C; 20B–D). .. **8**

7 Tibial apophysis, proventral branch with a sharpened apex to megaspine, and prolateral branch with associated spine slightly longer than the small branch (Fig. 3A–C). .... ***T. baracoense*** **sp. nov.**
— Tibial apophysis, proventral branch with a small and blunt megaspine, and prolateral branch with the associated spine the same length as the small branch (Fig. 17A–C). .... ***T. rudloffi*** **sp. nov.**

8 Tibial apophysis, proventral branch with a long and acuminate megaspine (Fig. 20A–D), bulb robust (Fig. 20F–H). .... ***T. soroense*** **sp. nov.**
— Tibial apophysis, proventral branch with a short and blunt megaspine (Fig. 14A–C), bulb tapered (Fig. 14E–G). **9**

9 Bulb with tegulum rounded, embolus retrolaterally curved in ventral view (Fig. 14E–G). .... ***T. granmense*** **sp. nov.**
— Bulb with tegulum tapering, embolus prolaterally curved in ventral view (Fig. 11E–G). .... ***T. fidelcastroi*** **sp. nov.**

10 Spermathecae fused (fig. 243 in Mori & Bertani, 2020:100). .... ***T. juventud***
— Spermathecae not fused (Figs 4F; 7F; 12F; 15F; 18F; 21F). **11**

11 Spermathecae without lobes (Figs 4F; 21F). **12**
— Spermathecae with lobes (Figs 7F; 12F; 15F). **15**

12 Spermathecae simple, lacking medial constriction (Fig. 21F). **13**
— Spermathecae with a strong medial constriction (Fig. 4F). **14**

13 Spermathecae long with a narrow base, labium more than 20 cuspules. .... ***T. goloboffi***
— Spermathecae short with a wide base (Fig. 21F), labium less than 15 cuspules (Fig. 21B). .... ***T. soroense*** **sp. nov.**

14	Spermathecae with elongate apex, labium with less than 15 cuspules.	***T. cubanum***
–	Spermathecae with rounded apex (Fig. 4F), labium with more than 40 cuspules (Fig. 4B).	***T. baracoense* sp. nov.**
15	STC with teeth on all legs.	**16**
–	STC with teeth only on legs I–II.	***T. fidelcastroi* sp. nov.**
16	Spermathecae with two lobes on each side (Fig. 7F).	***T. citma* sp. nov.**
–	Spermathecae with only one lobe on each side (Figs 15F; 18F).	**17**
17	Spermathecae with lateral projections basally (Fig. 15F), labium with 78 cuspules (Fig. 15B).	***T. granmense* sp. nov.**
–	Spermathecae with apical projections (Fig. 18F), labium with 50 cuspules (Fig. 18B).	***T. rudloffi* sp. nov.**

***Trichopelma baracoense* sp. nov.** (Figs 2A–G, 3A–H, 4A–F, 26)
https://zoobank.org/urn:lsid:zoobank.org:act:E8B062A4-F744-477A-ACD7-DFB1B24889EB

Type material. **Holotype** ♂, **Cuba**, *Guantánamo Province*, Sabana, Maisí [20°16'N 74°15'W], 10.IV.1994, coll. A. Sánchez, [under stone in grass area], (ZMB 50610); **Paratype** 1♀, **Cuba**, *Guantánamo Province*, Punta de Maisí [20°16'N 74°9'W], 27.XII.1994, coll. J. Rudloff (ZMB 50620); 1♀, Yunque de Baracoa, [20°21'N 74°34'W], 11.IX.1995, coll. J. Rudloff, (ZMB 50602).

Additional material. 1♀, 1 juvenile **Cuba.** *Guantánamo Province*, El Recreo, Nibujón [20°30'31.10"N 74°39'15.71"W], 5.III.1998, coll. R. Teruel (ZMB 50612); 1 juvenile, Yunque de Baracoa [20°21'5.07"N 74°34'25.82"W], 11.IX.1995, coll. J. Rudloff (ZMB 50600).

Etymology. The specific epithet refers to the municipality and city of Baracoa, where the species is present. Baracoa was the first city founded in Cuba.

Diagnosis. Males of *T. baracoense* **sp. nov.** resemble those of *T. fidelcastroi* **sp. nov.** and *T. rudloffi* **sp. nov.** by the bulb piriform (Fig. 3E–G). They can be differentiated from *T. fidelcastroi* **sp. nov.** by the lesser number of prolateral spines on pedipalp tibia (Fig. 3H), and from *T. rudloffi* **sp. nov.** by the proventral branch of the tibia I apophysis with a sharper apical megaspine and the prolateral branch with the associated spine slightly longer than the small branch (Fig. 3B, C). The new species can be distinguished from *T. cubanum* by the STC with two rows of spines; from *T. cheguevarai* **sp. nov.** by the bulb with absence of keels; from *T. soroense* **sp. nov.** and *T. granmense* **sp. nov.** by the embolus slightly recurved (Fig. 3E–G, recurved in *T. soroense* **sp. nov.** and procurved in *T. granmense* **sp. nov.**). Females can be distinguished from all other species by the shape of their spermathecae with wide stalk truncated apically ending in a rounded lobe (Fig. 4F).

Description. — **Male** (holotype, ZMB 50610, Figs 2, 3). Total length: 11.40. Carapace (Fig. 2A): 5.66 long, 4.65 wide. Cephalic region 3.74 long, thoracic striae shallow; caput almost flat. Fovea slightly recurved and deep, 0.57 wide. Ocular region (Fig. 2C) slightly raised, 0.52 long, 0.94 wide. Anterior ocular row procurved with five anterior setae; posterior slightly recurved with eight posterior setae.

Ocular measurements: AME 0.20, ALE 0.25, PME 0.14, PLE 0.21; AME–ALE 0.10, PME–PLE 0.04, AME–PME 0.09, ALE–PLE 0.15, AME–AME 0.12, PME–PME 0.45. Chelicerae (Fig. 2E): elongate and slender, hirsute, 3.00 long; 1.49 wide. Furrow promargin with 11 teeth, retromargin with 5 tiny teeth on outer edge and 13 denticles near the apex. Intercheliceral tumescence basal, pallid with small bristles. Rastellum composed of thick long setae. Labium (Fig. 2D): 0.57 long; 0.76 wide; with 30 rounded cuspules and abundant apical bristles. Labio-sternal suture a narrow groove with two lateral sigilla well defined, almost joined. Maxillae (Fig. 2D): promargin 1.53 long, retromargin 1.94 long, 0.89 wide, with ~66/64 cuspules in inner angle, developed angular heel. Sternum (Fig. 2B): 2.47 long, 2.26 wide; sigilla small and marginal, oval. Abdomen, dorsal (Fig. 2F): 5.08 long, anterior edge of the booklung opening with combs present. Spinnerets (Fig. 2G): posterior median: 0.25 long; posterior lateral with basal: medial: apical lengths 0.64:0.36:0.22.

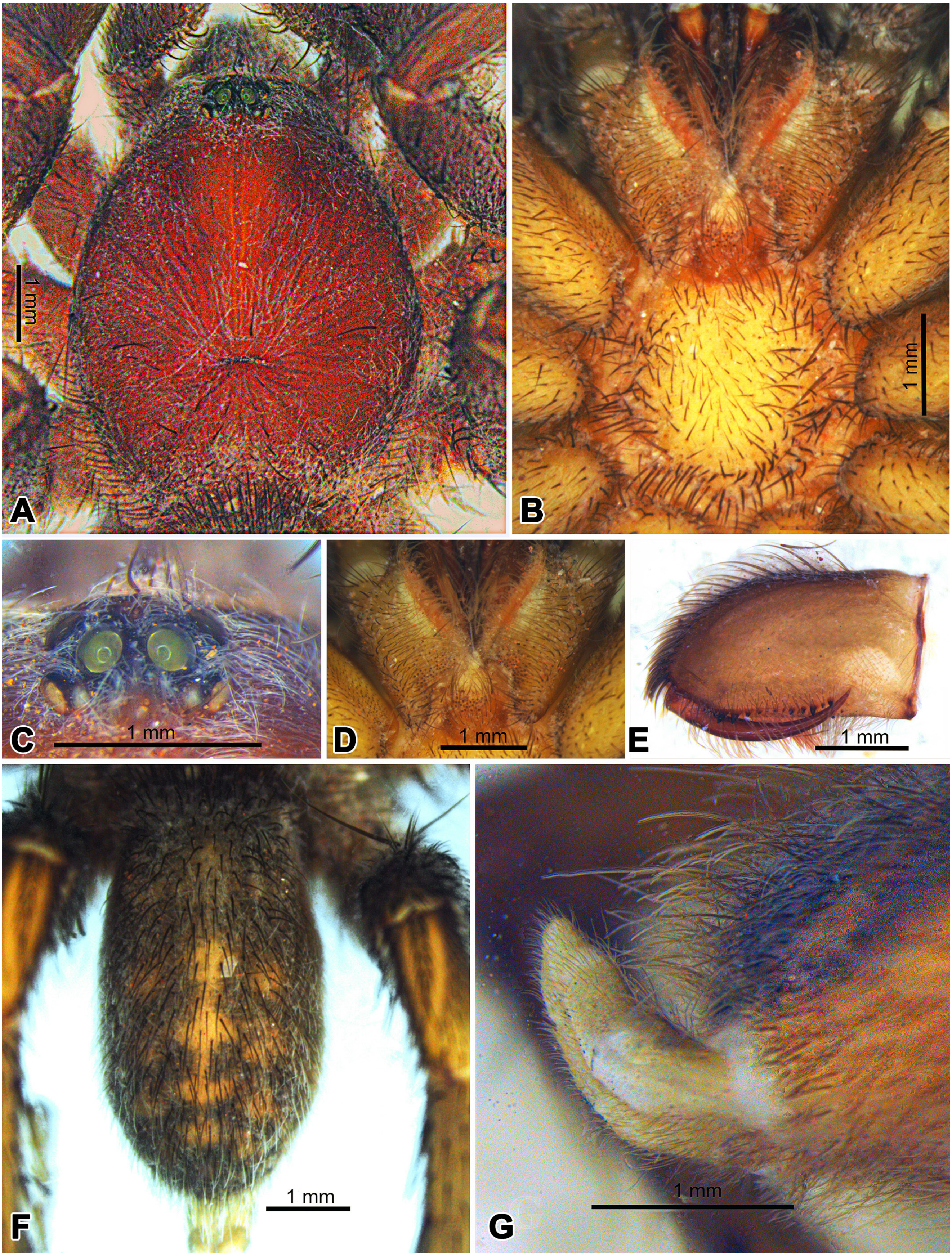

Figure 2. *Trichopelma baracoense* **sp. nov.**, male holotype (ZMB 50610). **A.** Cephalothorax, dorsal view; **B.** Sternum, labium, maxillae, ventral view; **C.** Ocular region, dorsal view; **D.** Labium and maxillae; **E.** Chelicera, prolateral view; **F.** Abdomen, dorsal view; **G.** Spinnerets, prolateral view.

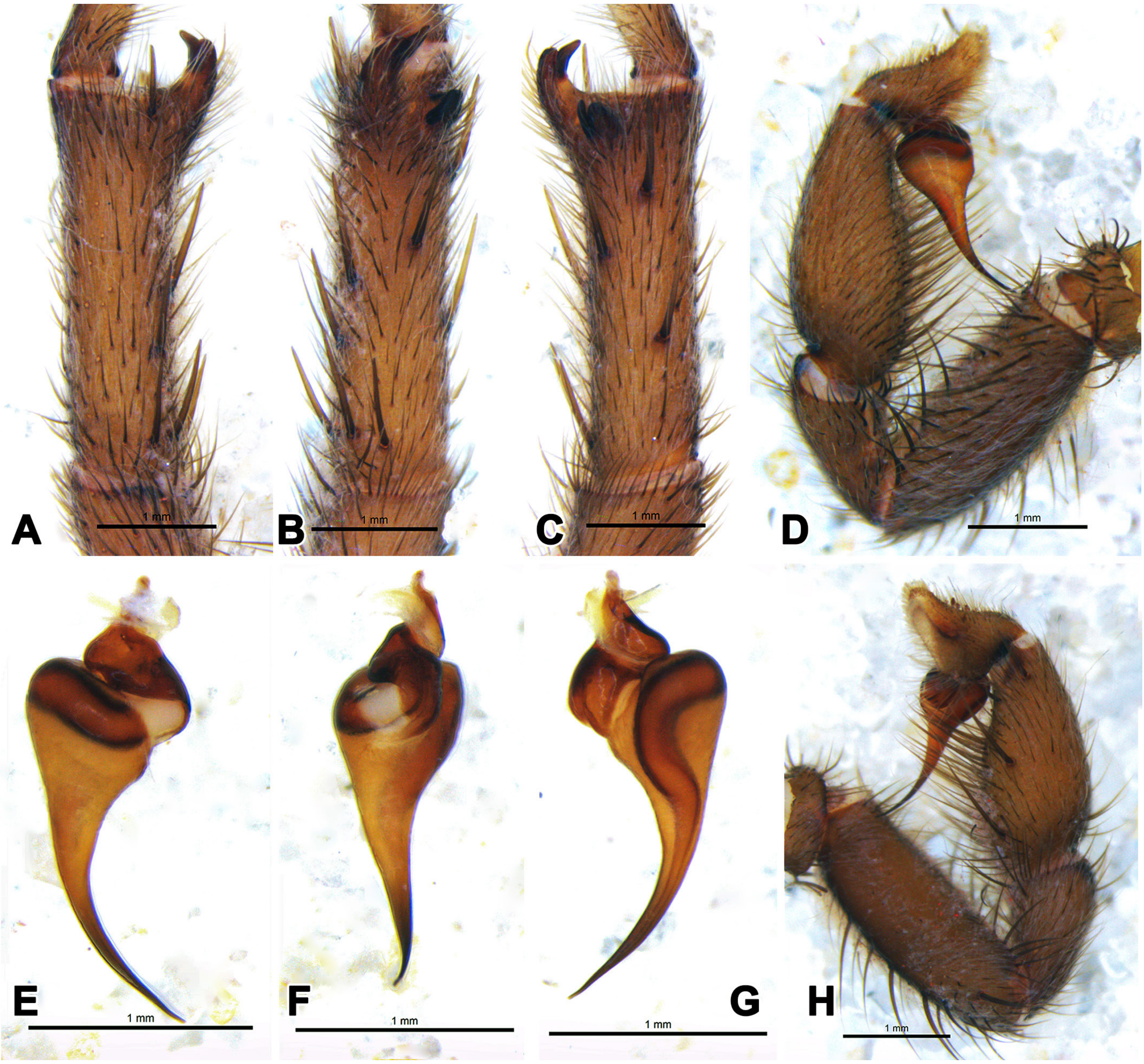

Figure 3. *Trichopelma baracoense* **sp. nov.**, male holotype (ZMB 50610). **A–C.**, Right tibia I: **A.** Retrolateral view; **B.** Ventral view; **C.** Prolateral view; **D., H.** Right pedipalp: **D.** Retrolateral view; **H.** Prolateral view; **E–G.**, Bulb: **E.** Retrolateral view; **F.** Ventral view; **G.** Prolateral view.

Lengths of legs and pedipalp (femur, patella, tibia, metatarsus, tarsus, total): I: 4.51, 2.69, 3.20, 3.41, 2.15, 15.95. II: 4.28, 2.41, 3.22, 3.53, 2.19, 15.63. III: 3.99, 1.89, 2.50, 3.96, 2.24, 14.57. IV: 5.12, 2.17, 4.14, 5.84, 2.51, 19.78. pedipalp: 2.52, 1.62, 2.10, —, 1.12, 7.36. *Chaetotaxy:* Leg I: fe d0-0-1ap, pa p0-1-0, ti p0-1-1, v3-1-1-1-1ap, me v0-1-0-1ap, when folded it touches the outer side of the megaspine of the ventral branch, ta 0. Leg II: fe d0-2-2, pa p0-0-1, ti p0-1-1-0 v2-2-3ap, me v1-0-1, ta 0. Leg III: fe d0-2-2, pa p0-0-2, ti p1-2-1 v3-2-3ap r0-1-1, me d2-2-2ap v2-2-3ap, ta 0. Leg IV: fe d0-2-2, pa p1, ti p0-1-1-0 v3-3-0-3ap r1-2-1, me d2-1-2-2ap v3-1-1-2-3ap, ta 0. Pedipalp: fe d0-0-1, pa 0, ti p1-2-1-1ap (with rigid setae, more abundant in the prolateral apical side), ta 0. Metatarsi and tarsi I ventrally discoloured; tarsi IV cracked. Tibia I with twin apophysis (Fig. 3A–C): positioned proventrally, ventral branch curved, long, with an apical megaspine half the length of the ventral branch; prolateral branch small with a contiguous spine (a slightly longer litter longer than the branch), prolateral and ventral branches well separated. Pedipalp (Fig. 3D, H); cymbium triangular, elongate, with deep incision. Bulb (Fig. 3E–G): 1.62 long, bulb piriform with duct tapering. Embolus short piriform 1.04 long, apical portion slightly recurved (Fig. 3F); keels absent.

Scopulae: apical on cymbium. Legs: I: Me 3:4 A, Ta complete throughout the segment. II: Me 3:4 A, Ta complete throughout the segment. III: Me 3:4 A, Ta complete, divided by a band of setae delimited by a line of bristles on each side. IV: Me 1:2 A, divided by strong setae, Ta complete, divided by two central rows of setae and a line of bristles on each side. *Trichobothria*: (Filiform): Pedipalp: 5/5 on tarsus (separated by a wide band of small rigid setae). Legs: I Ti 8/6, Me 8, Ta 6/6; II, Ti 7/6, Me 10, Ta 7/6; III Ti 5/5, Me 9, Ta 6/6; IV Ti 6/5, Me 10, Ta 10/10. Clavate trichobothria in two rows on distal half (separated by a wide band of small rigid setae): 6/5 on pedipalp; 7/6 on tarsus I; 5/5 on tarsus II; 8/9 on tarsus III; 9/8 on tarsus IV. STC one row: I 5/4, 3/5; II 5/3, 4/3; III 4/4, 4/3; IV 5/4, 4/4. *Colour in alcohol*: chelicerae and dorsal surface of legs covered by whitish setae. Chelicerae brown, carapace and legs brown-orange. Abdomen dorsal pattern faint, symmetrical, with 5 clear spots in the middle, and on the side of each spot a lateral line.

Female (paratype, ZMB 50620, Fig. 4A–F). Total length: 19.43. Carapace (Fig. 4A): 6.42 long, 5.37 wide. Cephalic region 4.51 long, thoracic striae shallow; caput raised, numerous setae behind the ocular group and fovea, reaching the end of the carapace. Fovea straight and deep, 0.96. Ocular region (Fig. 4E) slightly raised, 0.65 long, 1.11 wide. Anterior ocular row procurved with 10 anterior setae; posterior slightly recurved with seven posterior setae.

Ocular measurements: AME 0.20, ALE 0.29, PME 0.15, PLE 0.24; AME–ALE 0.19, PME–PLE 0.06, AME–PME 0.09, ALE–PLE 0.23, AME–AME 0.14, PME–PME 0.49. Chelicerae: elongate and slender, 4.45 long; 2.38 wide. Furrow promargin with 12 teeth, retromargin with seven tiny teeth on outer edge and 13 denticles near the apex. Rastellum composed of thick long setae. Labium (Fig. 4B): 0.87 long; 1.25 wide; with 42 rounded cuspules and abundant apical bristles. Labio-sternal suture a narrow groove with two lateral sigilla well defined, almost joined. Maxillae (Fig. 4B): promargin 2.16 long, retromargin 2.71 long, 1.26 wide, with 60/65 cuspules in inner angle, developed angular heel. Sternum (Fig. 4B): 3.13 long, 3.01 wide; sigilla small and marginal, oval. Abdomen, dorsal (Fig. 4C): 9.27 long, anterior edge of the booklung opening with combs present. Spinnerets (Fig. 4D): Posterior median: 0.56 long; posterior lateral with basal: medial: apical lengths 0.77:0.56:0.32, apical segment domed. Spermathecae (Fig. 4F): two, with a wide base, a constriction and a circular apex.

Lengths of legs and pedipalp (femur, patella, tibia, metatarsus, tarsus, total): I: 4.42, 3.25, 3.05, 2.54, 1.48, 14.74. II: 3.79, 2.83, 2.55, 2.50, 1.53, 13.21. III: 3.65, 2.32, 2.11, 3.06, 1.62, 12.76. IV: 5.03, 2.72, 3.81, 5.13, 2.10, 18.78. pedipalp: 3.71, 2.11, 1.92, —, 1.99, 9.18. *Chaetotaxy:* Legs: I: fe d0-0-1, pa 0, ti 0, me v0-0-1ap, ta 0; II: fe d0-0-1, pa 0, ti pr 0-1-1-0 v1-1 spiniform setae-0, me v0-1-1ap, ta 0; III: fe d0-0-1-1ap, pa p0-2, ti p0-2-1 v2-1-3ap r1-0-1, me d2-2-2 v2-2-3ap, ta 0; IV: fe d0-0-1ap, pa 0, ti v2-2-3ap r1-0-1, me d2-2-1-2ap v2-2-2-3, ta 0; Pedipalp: fe 0, pa 0, ti p0-2-0 v1-1-3ap, ta 0.

Scopulae: Pedipalp: complete and divided by a wide band of setae. Legs: I: Me 3:4 A, divided by a band of setae, Ta complete throughout the segment, divided by a wide band of setae. II: Me 1:2 A (more abundant prolateral), Ta complete throughout the segment, divided by a wide band of setae. III Me 1:4 A, Ta complete throughout the segment, divided by a very wide band of setae and a line of bristles on each side of the central band. IV Me 1:4 A, scarce, divided by a band of strong setae, Ta complete throughout the segment, divided by a wide central band of setae (more abundant apically, almost occupying the wide of the apex), delimited by a line of bristles on each side. *Trichobothria*: (Filiform): Pedipalp: Ti 8/7, 8/6 on tarsus (separated by a wide band of small rigid setae). Legs: I Ti 6/5, Me 8, Ta 8/8; II, Ti 6/5, Me 9, Ta 7/7; III Ti 5/5, Me 8, Ta 9/8; IV Ti 5/5, Me 11, Ta 9/9. Clavate trichobothria in two rows on distal half (separated by a wide band of small rigid setae): 7/11 on pedipalp tarsus; 8/9 on tarsus I; 8/6 on tarsus II; 6/6 on tarsus III; 8/9 on tarsus IV. STC one row: pedipalp claw bare; Legs: I, 2/2; II, 5/2; III 1/0; IV 0/1. Tarsus IV cracked. *Colour in alcohol*: Chelicerae, carapace and legs brown-orange. Abdomen dorsally brown, dorsal pattern symmetrical, with 4 spots in the middle (anterior larger), and a small lateral spot on the side of each central.

Distribution. **Cuba**, Guantánamo province, municipalities of Maisí and Baracoa (Fig. 26).

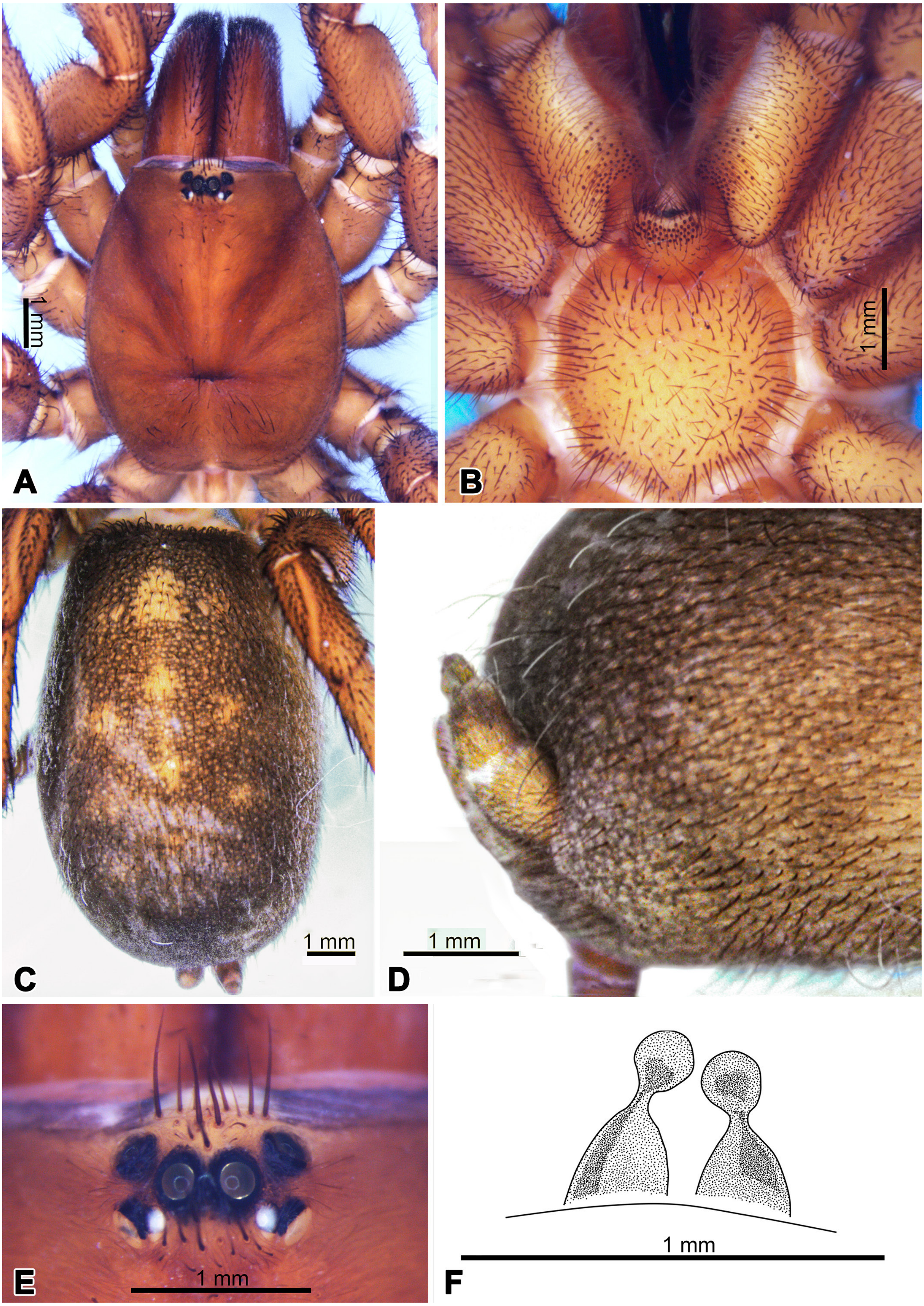

Figure 4. *Trichopelma baracoense* **sp. nov.**, female paratype (ZMB 50620). **A.** Cephalothorax, dorsal view; **B.** Sternum, labium, maxillae, ventral view; **C.** Abdomen, dorsal view; **D.** Spinnerets, prolateral view; **E.** Ocular region, dorsal view; **F.** Spermathecae.

Trichopelma cheguevarai **sp. nov.** (Figs 5A–G, 6A–I, 26)
https://zoobank.org/urn:lsid:zoobank.org:act:946A65F2-BCD7-4E05-8F36-31A97C613C8A

Type material. **Holotype** ♂, **Cuba,** *Ciego de Ávila Province,* Cayo Coco, Vereda de los Márquez [22°30'N 78°24'W], VI.1996, coll. R. Teruel, (ZMB 50614).

Etymology. The specific epithet is a patronym in honour of Ernesto "Che" Guevara, an Argentinian revolutionary (later a nationalized Cuban), who fought for the liberation of Cuba and Latin America.

Diagnosis. Males of *T. cheguevarai* **sp. nov.** can be differentiated from all other known congeners (except *T. juventud*) by the bulb with a thick and rounded tegulum and embolus short, curved, with slightly curved apical portion and developed keels through embolus edges giving a spoon-like appearance (Fig. 6F–H). The new species differs from *T. juventud* by the tibial apophysis with two contiguous spines on the prolateral branch (both spines 1/2 longer than the prolateral branch, the external spine larger than the internal, Fig. 6A, B) and by the STC bare.

Description. **— Male** (holotype, ZMB 50614; Figs 5, 6): Total length: 15.35. Carapace (Fig. 5A): 6.92 long, 5.37 wide. Cephalic region 4.44 long, thoracic striae shallow, hirsute; caput almost flat. Fovea slightly recurved and deep, 0.80 wide. Ocular region (Fig. 5C) slightly raised, 0.59 long, 1.06 wide. Anterior ocular row procurved with 10 anterior setae; posterior straight with 10 posterior setae.

Ocular measurements: AME 0.17, ALE 0.25, PME 0.14, PLE 0.22; AME–ALE 0.13, PME–PLE 0.05, AME–PME 0.11, ALE–PLE 0.27, AME–AME 0.15, PME–PME 0.49. Chelicerae (Fig. 5E): elongate and slender, hirsute, 3.51 long; 1.89 wide. Furrow promargin with 10 teeth, retromargin with five tiny teeth on outer edge and eight denticles near the apex. Intercheliceral tumescence basal, pallid with small bristles. Rastellum composed of thick long setae. Labium (Fig. 5D): 0.63 long; 2.64 wide; with 15 rounded cuspules and abundant apical bristles. Labio-sternal suture narrow with two lateral sigilla well separated. Maxillae (Fig. 5D): promargin 1.79 long, retromargin 2.38 long, 0.93 wide, with ~53/50 cuspules in inner angle, developed angular heel. Sternum (Fig. 5B): 3.29 long, 2.64 wide; sigilla small and marginal, oval. Abdomen, dorsal (Fig. 5F): 5.85 long, anterior edge of the booklung opening with combs present. Spinnerets (Fig. 5G): posterior median: 0.42 long; posterior lateral with basal: medial: apical lengths 0.66:0.31:0.18.

Lengths of legs and pedipalp (femur, patella, tibia, metatarsus, tarsus, total): I: 5.23, 2.79, 3.67, 3.56, 2.30, 17.54. II: 5.08, 2.77, 3.58, 3.84, 2.31, 17.57. III: 4.63, 2.20, 2.87, 4.49, 2.16, 16.34. IV: 5.97, 2.66, 4.60, 6.45, 2.35, 22.02. pedipalp: 3.22, 1.79, 2.51, —, 1.49, 9.01. *Chaetotaxy:* Leg I: fe d0-0-2ap, pa p0-0-1ap, ti p0-1-2-1ap, v3-2-1-1ap, me p1-0-0, v0-1-0-0, when folded do not touches the ventral branch, does it on the ventral axis, ta 0. Leg II: fe d0-1-0-2, pa p0-1-1, ti p0-1-1-0 v3-2-3ap, me v0-1-0-0, ta 0. Leg III: fe d2-2-2, pa p0-1-0 r0-2-1, ti p1-2-0 v2-1-3ap r2-1-0, me d2-2-3ap v2-2-2ap, ta 0. Leg IV: fe d0-0-2-2, pa r0-1-0, ti p0-1-1-0 v3-2-3ap r1-5-1, me d1-2-1-2-1-2-1ap v2-1-2-3ap, ta 0. Pedipalp: fe d0-0-1, pa 0, ti p2-2-1-1ap v0-0-1 (with rigid setae, on the sides of the groove, where the bulb rests) r0-0-1ap, ta 0. Metatarsi and tarsi I ventrally discoloured; tarsi IV cracked. Tibia I with twin apophysis (Fig. 6A–D): positioned proventrally, ventral branch curved, long, with an apical megaspine half the length of the ventral branch; prolateral branch small with two contiguous spines (Fig. 6B; both spines 1:2 longer than the branch, the external spine larger than the internal), prolateral and ventral branches well separated. Pedipalp (Fig. 6E, I): Cymbium triangular, elongate, with deep incision. Bulb (Fig. 6F–H): 1.69 long, bulb rounded and thick with duct tapering. Embolus short 0.92 long, curved, with slightly curved apical portion, developed keels through embolus edges giving a spoon-like shape.

Scopulae: apical on cymbium. Legs: I–II: Me-Ta complete throughout the segment. II: Me 3:4 A, divided by a band of setae, Ta complete throughout the segment. IV: Me 1:2 A, divided by strong setae, Ta complete throughout the segment, divided by two central rows of setae and a line of bristles on each side. *Trichobothria*: (Filiform): Pedipalp: Me 5/5, 6/6 on tarsus (separated by a wide band of small rigid setae). Legs: I Ti 7/6, Me 8, Ta 7/6; II, Ti 6/4, Me 9, Ta cannot be distinguished; III Ti 5/5, Me 10, Ta 8/8; IV Ti 7/5, Me 11, Ta 9/9. Clavate trichobothria in two rows on distal half (separated by a wide band of small rigid setae): 11/11 on pedipalp; 8/7 on tarsus I; cannot be distinguished on tarsus II; 9/8 on tarsus III; 9/9 on tarsus IV. STC: I–VI 0. *Colour in alcohol*: chelicerae and dorsal legs covered by whitish setae. Chelicerae brown, carapace and legs orange-brown. Abdomen dorsal pattern faint, symmetrical, with 4 spots in the middle, and on the side of each spot a lateral line.

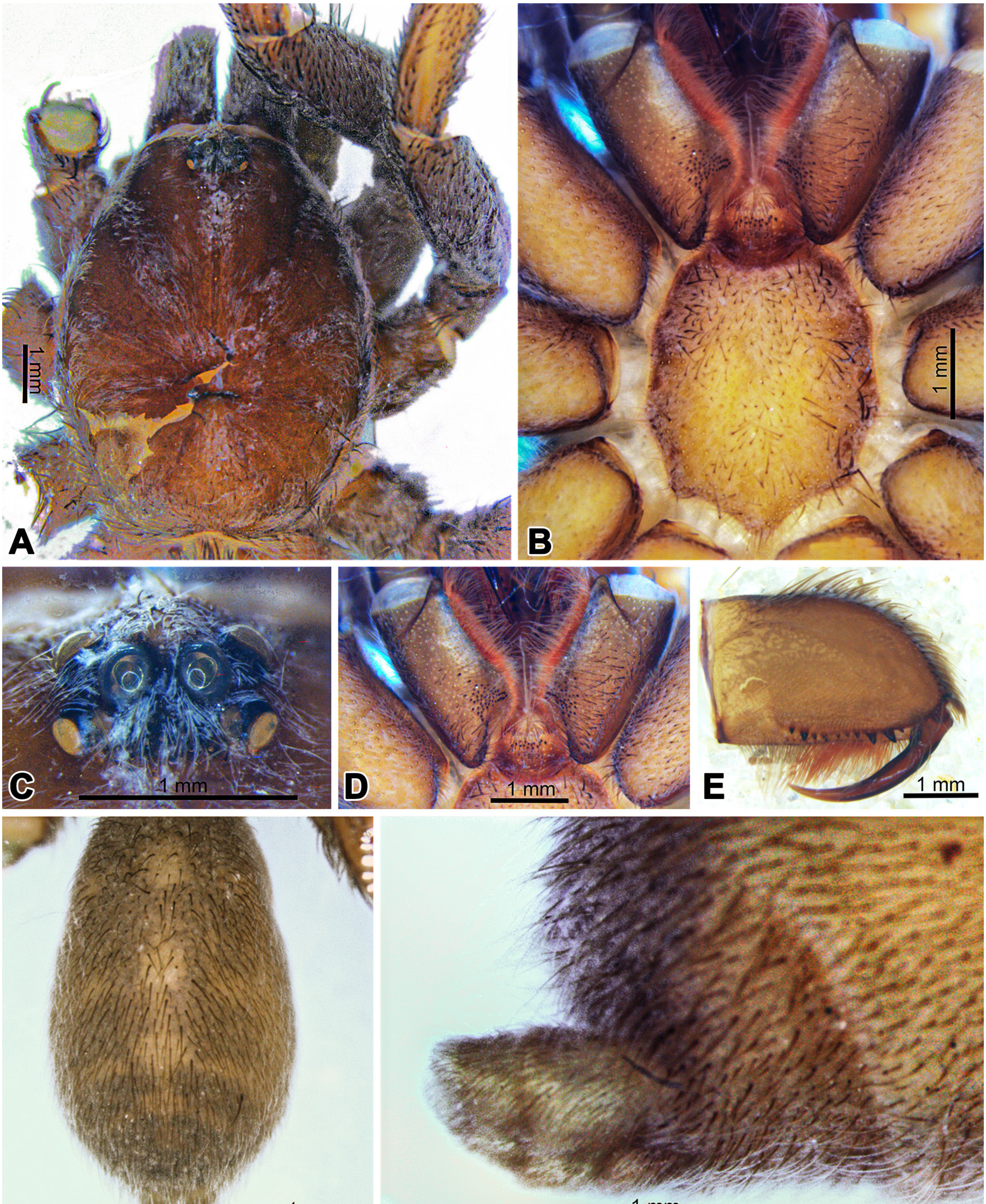

Figure 5. *Trichopelma cheguevarai* **sp. nov.**, male holotype (ZMB 50614). **A.** Cephalothorax, dorsal view; **B.** Sternum, labium, maxillae, ventral view; **C.** Ocular region, dorsal view; **D.** Labium and maxillae; **E.** Chelicera, prolateral view; **F.** Abdomen, dorsal view; **G.** Spinnerets, prolateral view.

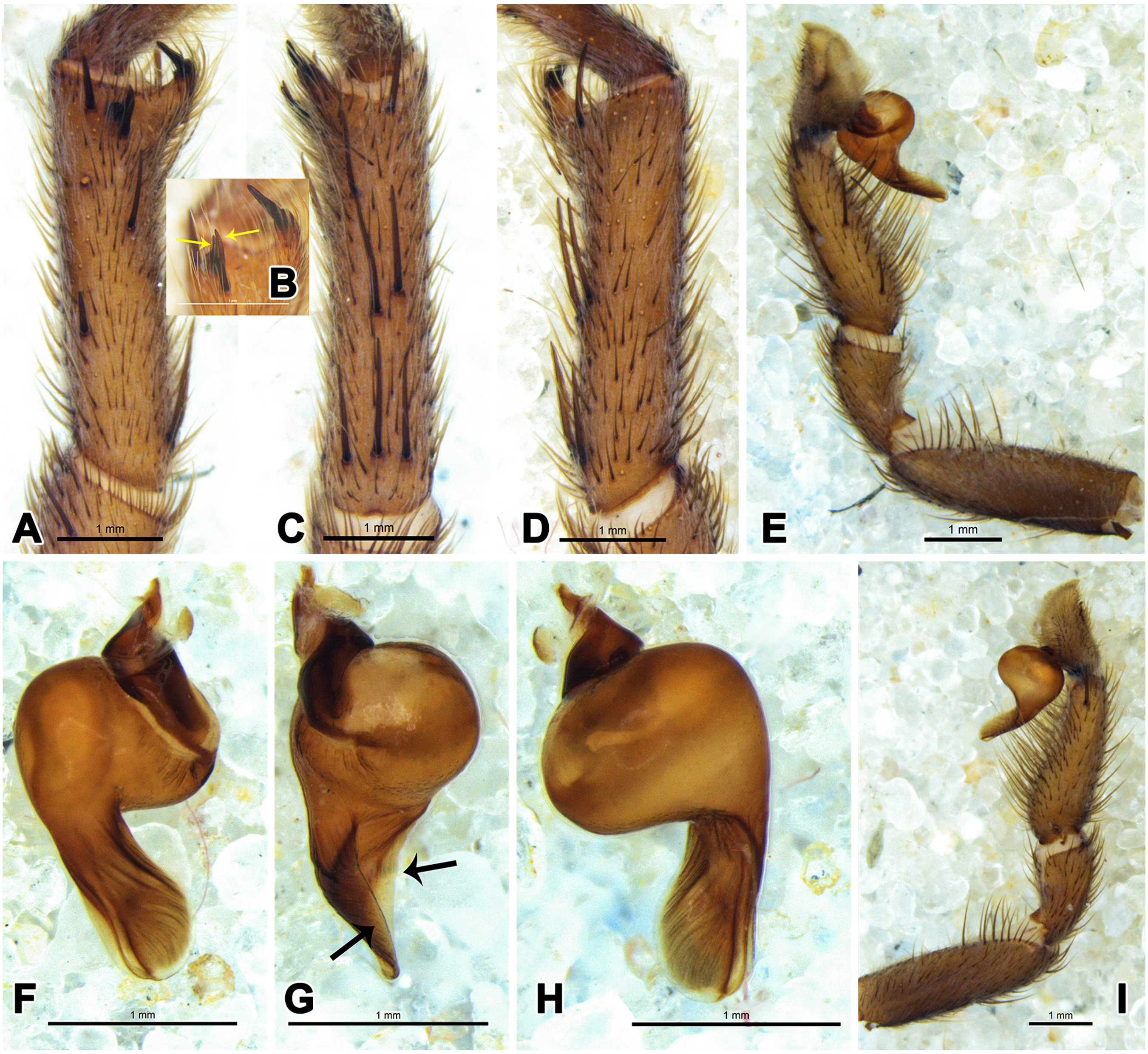

Figure 6. *Trichopelma cheguevarai* **sp. nov.**, male holotype (ZMB 50614). **A–D.**, Left tibia I: **A.** Prolateral view; **B.** Prolateral branch close up, arrow shows the two contiguous spines; **C.** Ventral view; **D.** Retrolateral view; **E.**, **I.** Right pedipalp: **E.** Retrolateral view; **I.** Prolateral view; **F–H.**, Bulb: **F.** Retrolateral view; **G.** Ventral view, arrow shows the two developed keels; **H.** Prolateral view.

Female. Unknown.

***Distribution*.** **Cuba**, Ciego de Ávila province, municipality of Morón (Fig. 26).

***Trichopelma citma* sp. nov.** (Figs 7A–F, 26)
https://zoobank.org/urn:lsid:zoobank.org:act:2203FAF6-7493-425C-8E03-183D9C01687C

Type material. **Holotype** ♀, **Cuba**, *Granma Province,* Buey Arriba, San Pedro de Yabo [20°10'N 76°45'W], 18.XII.1994, coll. J. Rudloff (ZMB 50607).

***Etymology*.** The specific epithet refers to the Ministry of Science, Technology and Environment of Cuba (CITMA by its acronym in Spanish), for their constant support and contribution to research and care of the environment on the island.

Diagnosis. Females of *T. citma* **sp. nov.** can be distinguished by their spermathecae shape (Fig. 7F). They resemble those of *T. fidelcastroi* **sp. nov.** but differ by the small stalk and equal lobes. Male unknown.

Description. — **Female** (holotype, ZMB 50607, Fig. 7A–F). Total length: ~11.00. Carapace (Fig. 7A): 5.14 long, 4.27 wide. Cephalic region 3.64 long, thoracic striae shallow; caput raised. Fovea slightly recurved and deep, 0.76 wide. Ocular region (Fig. 7E) slightly raised, 0.60 long, 0.91 wide. Anterior ocular row procurved with eight anterior setae; posterior slightly recurved with five posterior setae.

Ocular measurements: AME 0.15, ALE 0.25, PME 0.09, PLE 0.20; AME–ALE 0.14, PME–PLE 0.04, AME–PME 0.11, ALE–PLE 0.22, AME–AME 0.16, PME–PME 0.45. Chelicerae: elongate and slender, 3.46 long; 1.98 wide. Furrow promargin with nine teeth, retromargin with seven tiny teeth on outer edge and nine denticles near the apex. Rastellum composed of thick long setae. Labium (Fig. 7B): 0.57 long; 0.82 wide; with 49 rounded cuspules and abundant apical bristles. Labio-sternal suture narrow with two lateral sigilla well separated. Maxillae (Fig. 7B): promargin 1.42 long, retromargin 1.78 long, 0.96 wide, with 65/71 cuspules in inner angle, developed angular heel. Sternum (Fig. 7B): 2.65 long, 1.91 wide; sigilla small and marginal, oval. Abdomen, dorsal (Fig. 7C): bad preserved, ~4.00 long, anterior edge of the booklung opening with combs present. Spinnerets (Fig. 7D): Posterior median: ~0.49 long; posterior lateral with basal: medial: apical lengths ~0.54:0.43:0.14, apical segment domed. Spermathecae (Fig. 7F): two, with two equal lobes on each side.

Lengths of legs and pedipalp (femur, patella, tibia, metatarsus, tarsus, total): I: 3.42, 2.40, 2.29, 1.88, 1.14, 11.12. II: 3.07, 2.26, 1.80, 1.78, 1.22, 10.13. III: 2.79, 1.68, 1.62, 2.24, 1.31, 9.63. IV: 3.79, 2.28, 2.79, 3.80, 1.70, 14.35. pedipalp: 2.55, 1.73, 1.30, —, 1.34, 6.92. *Chaetotaxy:* Legs: I: fe d0-0-1, pa 0, ti 0, me v1-0-1ap, ta 0; II: fe d0-0-1, pa 0, ti 0, me v1-1ap, ta 0; III: fe 0, pa p0-2, ti p0-2-1 v2-1-3ap r1-0-1, me d2-2-2 v2-2-3ap, ta 0; IV: fe d0-0-1ap, pa p1 r1, ti v3-2-3ap r1-0-1, me d2-1-1-1-2ap v3-1-1-2-3, ta 0; Pedipalp: fe 0, pa 0, ti p0-1 spiniform setae-0 v0-1 spiniform setae-3ap, ta 0.

Scopulae: Pedipalp: complete and divided by a wide band of setae. Legs: I: Me-Ta complete throughout the segments. II: Me 3:4 A (more abundant prolateral), Ta complete throughout the segment, divided by a band of setae. III: Me 1:2 A, Ta complete throughout the segment, divided by a very wide band of setae and a line of bristles on each side of the central band. IV: Me 1:2 A, scarce, divided by a band of setae, Ta complete throughout the segment, divided by a wide central band of setae (more abundant apical), delimited by a line of bristles on each side. *Trichobothria*: (Filiform): Pedipalp: Ti 5/5, 6/6 on tarsus (separated by a wide band of small rigid setae). Legs: I Ti 5/5, Me 5, Ta 6/6; II, Ti 5/4, Me 6, Ta 5/4; III Ti 5/5, Me 7, Ta 5/7; IV Ti 5/5, Me 10, Ta 7/8. Clavate trichobothria in two rows on distal half (separated by a wide band of small rigid setae): 6/5 on pedipalp tarsus; 5/4 on tarsus I; 5/5 on tarsus II; 5/6 on tarsus III; 8/6 on tarsus IV. STC one row: pedipalp claw bare; Legs: I, 4/4; II, 4/3; III 2/2; IV 1/1. Tarsus IV cracked. *Colour in alcohol*: Chelicerae, carapace and legs brown-orange. Abdomen dorsally brown; the dorsal pattern cannot be distinguished.

Male. Unknown.

Distribution. **Cuba,** Granma province, Buey Arriba (Fig. 26).

Trichopelma cubanum **(Simon, 1903)** (Figs 8A–G, 9A–H, 26)

Hapalopinus cubanus Simon, 1903:930;

Petrunkevitch, 1911:69; 1928:78; 1939:273; Roewer, 1942:230; Bonnet, 1957:2084; Gerschman & Schiapelli, 1973:930; Schmidt, 1986:42; *Psalistops cubanus:* Wunderlich, 1988:52; *Trichopelma cubanum*: Alayón, 2000; Ríos-Tamayo, 2017; Mori & Bertani, 2020:65; *Sthothis cubana* Banks, 1909:155;

Petrunkevitch, 1939:302; Roewer, 1942:223; Bonnet, 1958:4182; *Sthothis* [sic] *cubana*: Franganillo, 1930:5; *Trichopelma banksia* Özdikmen & Demir, 2012:119 (replacement name);

Mori & Bertani, 2020:70. **syn. nov.**

Type material (examined)**.** Holotype ♂, **Cuba** (MNHN 17702); Allotype female (type species by original designation of Sthotis cubana Banks, 1909), Havana province, Santiago de Las Vegas [22°58′N 82°22′W], coll. N. Banks (MCZ no number).

Additional material (not examined)**.** 1♂ **Cuba**, *Havana Province,* Soledad [23°08′N 82°22′W], II.1925, coll. Salt & Meyers (MCZ 75007).

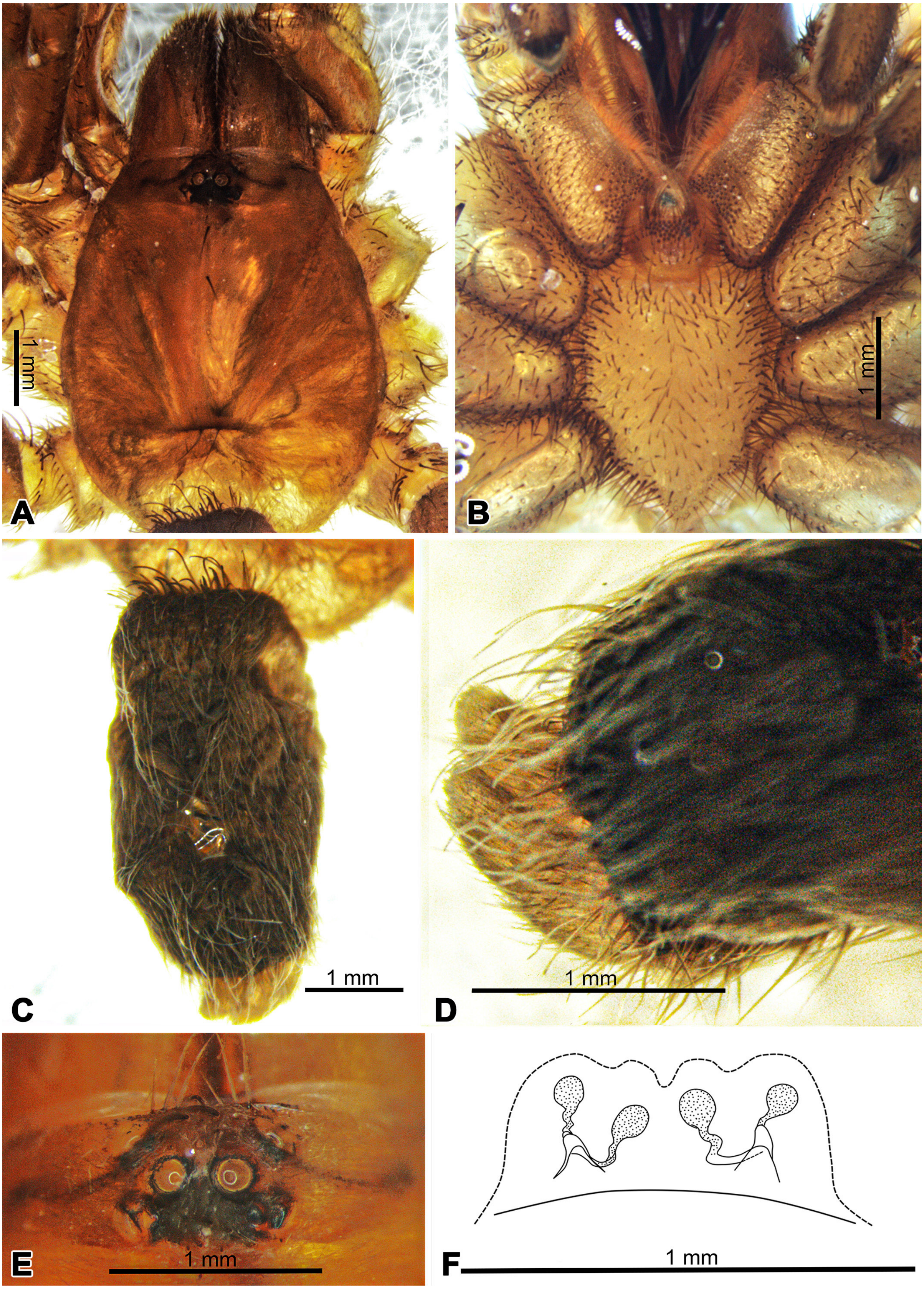

Figure 7. *Trichopelma citma* **sp. nov.**, female holotype (ZMB 50607). **A.** Cephalothorax, dorsal view; **B.** Sternum, labium, maxillae, ventral view; **C.** Abdomen, dorsal view; **D.** Spinnerets, prolateral view; **E.** Ocular region, dorsal view; **F.** Spermathecae.

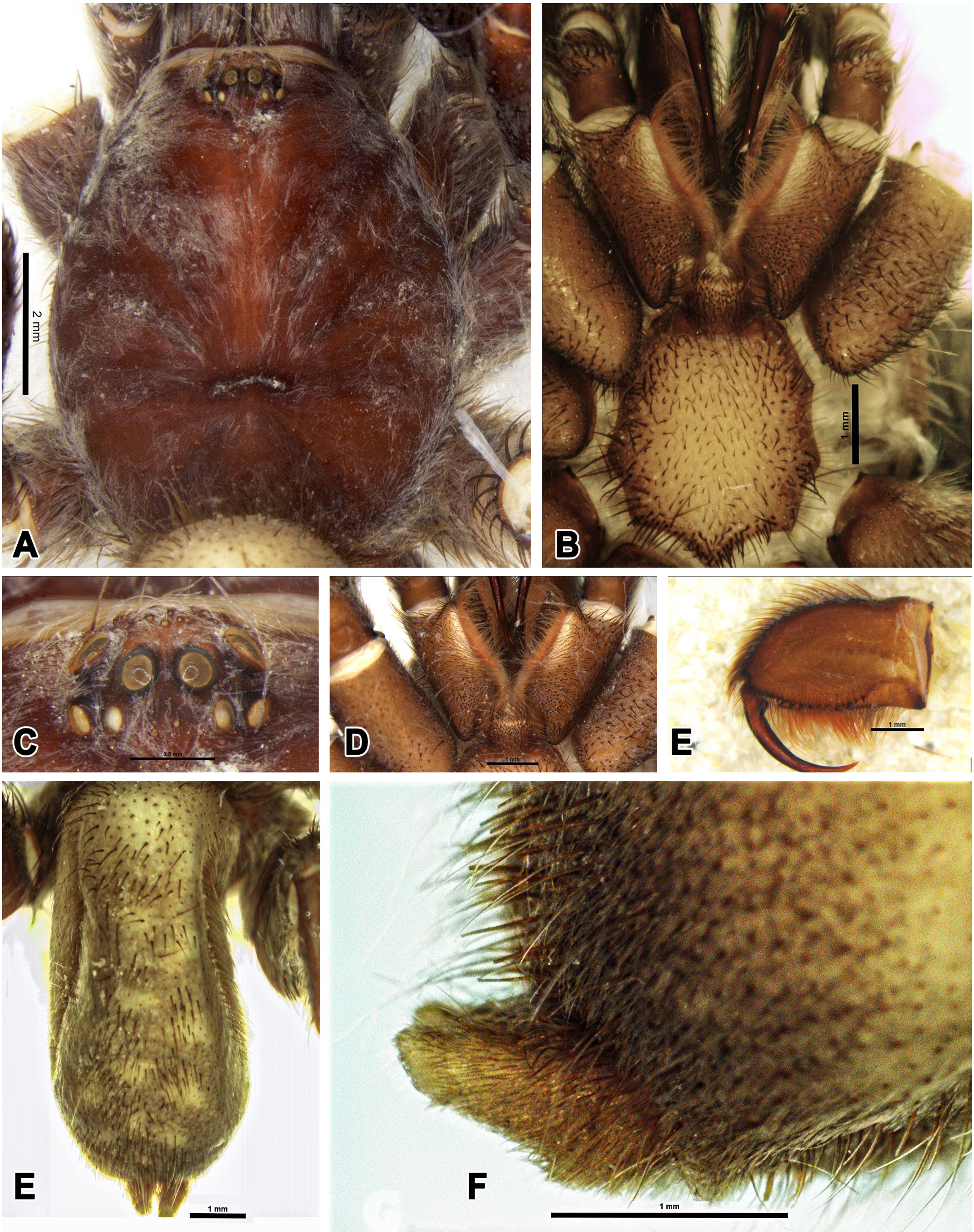

Figure 8. *Trichopelma cubanum* (Simon, 1903), male holotype (MNHN 17702). **A.** Cephalothorax, dorsal view; **B.** Sternum, labium, maxillae, ventral view; **C.** Ocular region, dorsal view; **D.** Labium and maxillae; **E.** Chelicera, prolateral view; **F.** Abdomen, dorsal view; **G.** Spinnerets, prolateral view.

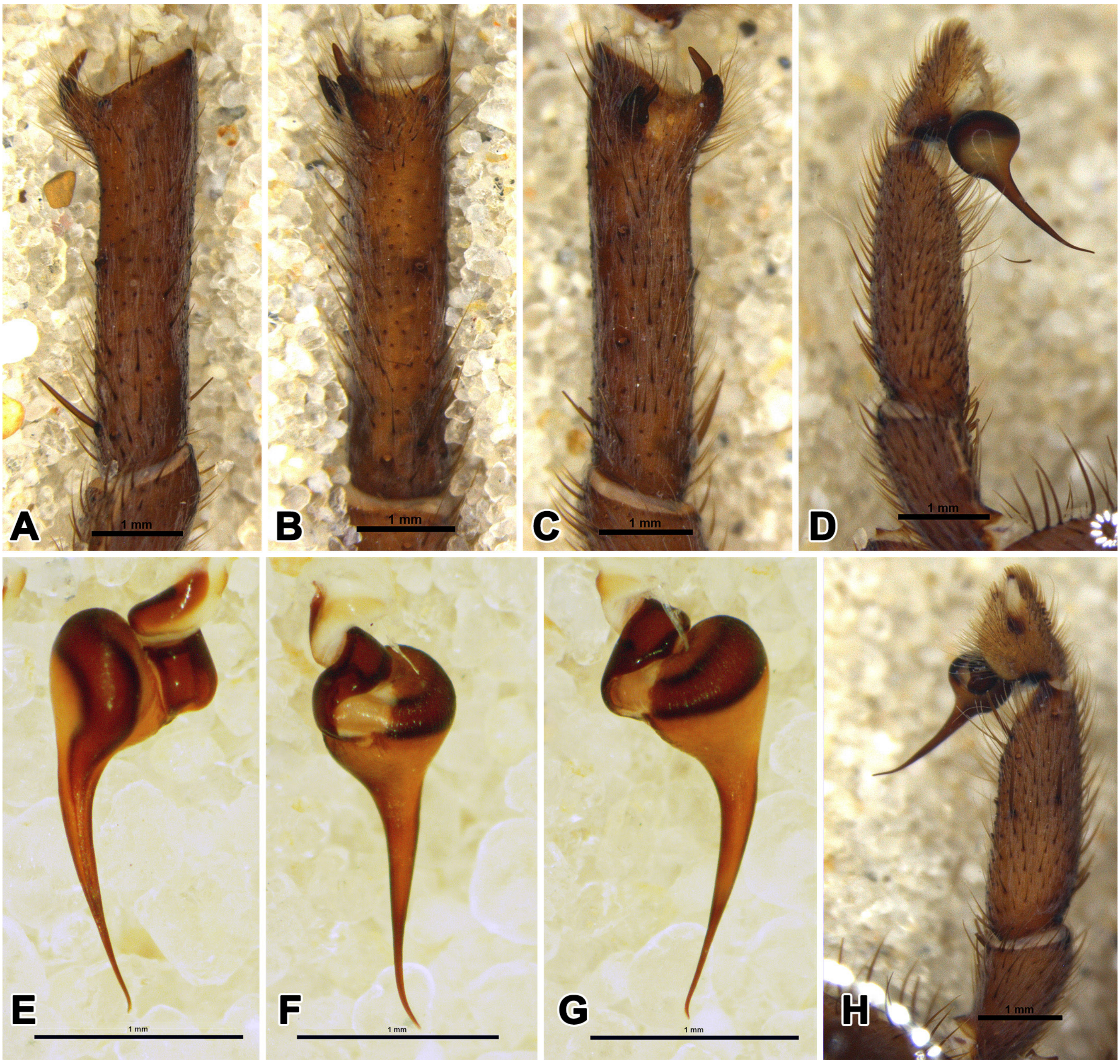

Figure 9. *Trichopelma cubanum* (Simon, 1903), male holotype (MNHN 17702). **A–C.**, Left tibia I: **A.** Retrolateral view; **B.** Ventral view; **C.** Prolateral view; **D., H.** Right pedipalp: **D.** Retrolateral view; **H.** Prolateral view; **E–G.**, Bulb: **E.** Prolateral view; **F.** Ventral view; **G.** Retrolateral view.

Diagnosis. Males of *T. cubanum* can be distinguished from all Cuban species by their STC bare; similar to *T. juventud* and *T. laurae*. It differs from *T. juventud* by bulb morphology (Fig. 9E–G) and from *T. laurae*, by the tibial apophysis with the prolateral branch the same length as the associated spine (Fig. 9A–C, longer in *T. laurae*). Females can be differentiated by their spermathecae without lobes with a superior constriction (similar to *T. baracoense* **sp. nov.**). *T. cubanum* can be differentiated from *T. baracoese* **sp. nov.**, by their spermathecae with an elongated apex and their lower number of labial cuspules.

Description. See Ríos-Tamayo (2017) and Mori & Bertani (2020).

Justification of synonymy. *Trichopelma cubanum* (Simon, 1903) was described first as *Hapalopinus cubanus* Simon, 1903 (under the family Theraphosidae) based on a single male with the only locality data "Cuba" on the label (Ríos-Tamayo, 2017). *Trichopelma banksia* was described as *Stothis cubana*

Banks, 1909, based on a female from Santiago de Las Vegas, Havana. Years later, Raven (1985) put this genus in synonymy with *Trichopelma* in the family Barychelidae. Özdikmen & Demir (2012) rejected the specific epithet *Trichopelma cubanum* (Banks, 1909) as it was a secondary junior homonym of the name *T. cubanum* (Simon, 1903) and proposed the replaced name *Trichopelma banksia* Özdikmen & Demir, 2012. *Trichopelma cubanum* (Simon, 1903) was redescribed by Ríos-Tamayo (2017) and Mori & Bertani (2020) redescribed *T. banksia*. As the exact locality of *T. cubanum* is imprecise, Mori & Bertani (2020) found a new male from Soledad, Havana belonging to the Museum of Comparative Zoology, Cambridge which was presented as conspecific with the originally described male. Both species in question are present in Havana, with a small distribution distance between them (only 18 km). Species of the genus *Trichopelma* present few characters shared between both sexes. The species under synonymy here, share their STC bare in all legs, and a recurved fovea. Besides the characters mentioned above, in the strict consensus presented by Mori & Bertani (2020) and in the present analysis, both species appeared as sister taxa. Based on the latter and with the aim to clarify the taxonomic status of these species, *T. cubanum* and *T. banksia* are herein synonymized.

***Trichopelma fidelcastroi* sp. nov.** (Figs 10A–G, 11A–H, 12A–F, 26)
https://zoobank.org/urn:lsid:zoobank.org:act:2661E946-35D9-46A9-9E91-C5D7D0C93BAD

Type material. **Holotype** ♂, **Cuba**, *Holguín Province,* Mayarí, Río Cabonico [20°41'N 75°28'W], 3.XI.1996, coll. N. Navarro (ZMB 50605); **Paratypes**. 1♀, **Cuba**, *Holguín Province,* Báguanos, El Manguito, [20°45'N 76°4'W], 12.VIII.1997, coll. R. Teruel, [collected under stone] (ZMB 50615); 1♀, Mayarí, Río Cabonico, [20°41'N 75°28'W], 3.XII.1996, coll. N. Navarro (ZMB 50616).

Additional material. 1♂, **Cuba**, *Holguín Province,* Salida a Las Tunas, Reparto El 71 [20°52'"N 76°17'W], IV.1997, coll. Roberto M, [collected under stone] (ZMB 50622).

Etymology. The specific epithet is a patronym in honour of Fidel Alejandro Castro Ruz, the historical leader of the Cuban revolution who was born in Holguín province.

Diagnosis. Males of *T. fidelcastroi* **sp. nov.** resemble those of *T. baracoense* **sp. nov.** and *T. rudloffi* **sp. nov.**, by the bulb with a piriform tegulum (Fig. 11E–G) but can be differentiated by the highest number of prolateral spines on pedipalp tibia (Fig. 11H). It differs from *T. rudloffi* **sp. nov.** by the proventral branch of the tibia I apophysis with a sharper apical megaspine and the prolateral branch with the associated spine slightly longer than the small branch (Fig. 11B, C). It differs from *T. cheguevarai* **sp. nov.**; *T. soroense* **sp. nov.**; *T. cubanum* (Simon 1903) and *T. granmense* **sp. nov.**, by their bulb shape (with keels in *T. cheguevarai* **sp. nov.**; rounded tegulum with a recurved embolus in *T. soroense* **sp. nov.**, fovea procurved in *T. granmense* **sp. nov.** and *T. cubanum* (Simon 1903). Females can be distinguished from all other species by the shape of their spermathecae (Fig. 12F). The female has similarities to *T. citma* **sp. nov.**, but differs by its subequal spermathecae lobes.

Description. — **Male** (holotype, ZMB 50605, Figs 10, 11). Total length: 14.43. Carapace (Fig. 10A): 6.48 long, 5.81 wide. Cephalic region 4.43 long, thoracic striae very shallow, hirsute; caput almost flat. Fovea recurved and deep, 0.98 wide. Ocular region (Fig. 10C) slightly raised, 0.60 long, 1.01 wide. Anterior ocular row procurved with 12 anterior setae; posterior straight with eight posterior setae.

Ocular measurements: AME 0.19, ALE 0.28, PME 0.13, PLE 0.22; AME–ALE 0.13, PME–PLE 0.04, AME–PME 0.10, ALE–PLE 0.19, AME–AME 0.15, PME–PME 0.44. Chelicerae (Fig. 10E): elongate and slender, hirsute, 3.52 long; 1.64 wide. Furrow promargin with 10 teeth, retromargin with eight tiny teeth on outer edge and four denticles near the apex. Intercheliceral tumescence basal, pallid with small bristles. Rastellum composed of thick long setae. Labium (Fig. 10D): 0.55 long; 0.74 wide; with 15 rounded cuspules and abundant apical bristles. Labio-sternal suture narrow with two lateral sigilla well separated. Maxillae (Fig. 10D): promargin 1.79 long, retromargin 2.30 long, 0.91 wide, with ~53/50 cuspules in inner angle, developed angular heel. Sternum (Fig. 10B): 3.17 long, 2.85 wide; sigilla small and marginal, oval. Abdomen, dorsal (Fig. 10F): 6.06 long, anterior edge of the booklung opening with combs present. Spinnerets (Fig. 10G): posterior median: 0.31 long; posterior lateral with basal: medial: apical lengths 0.41:0.35:0.20.

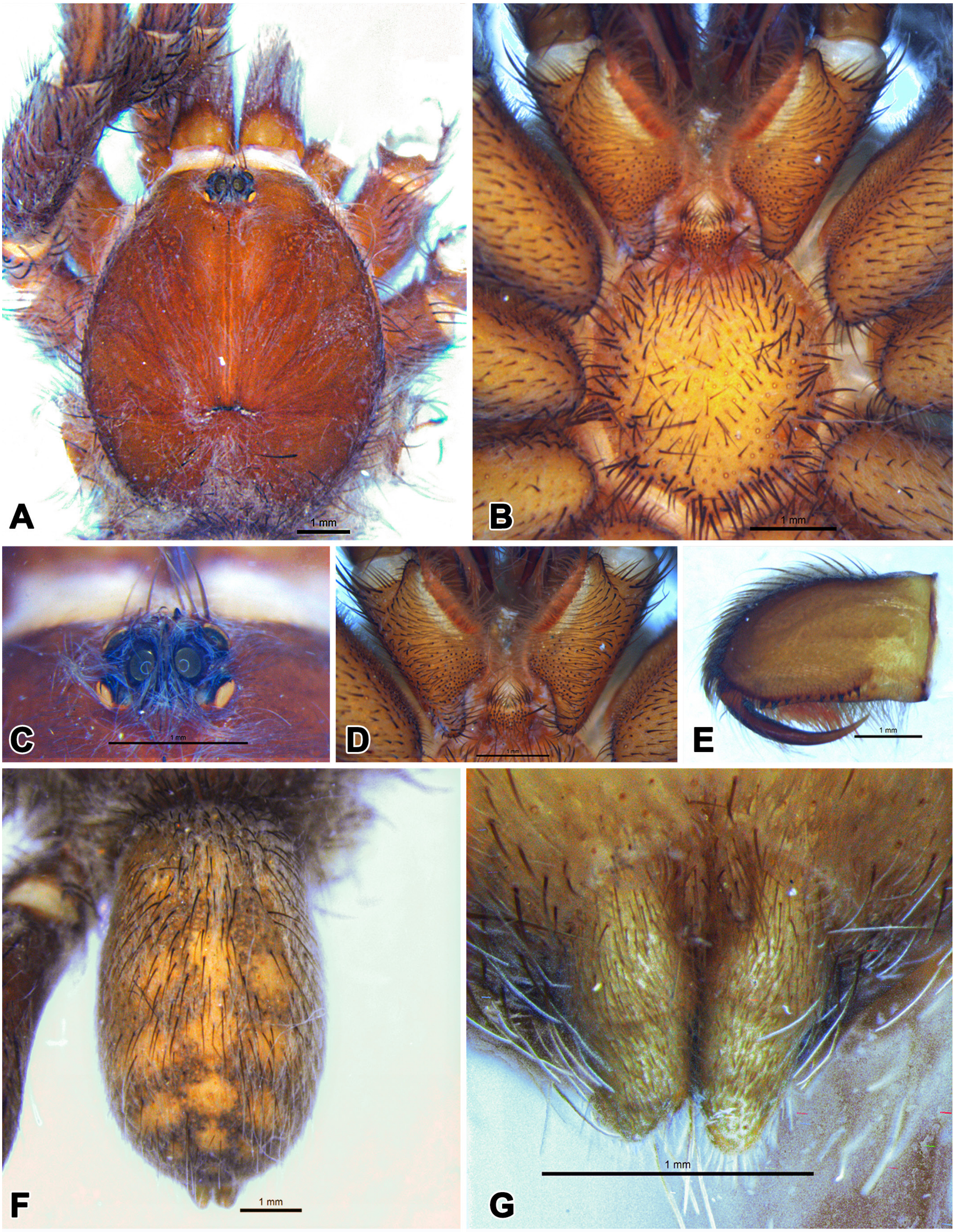

Figure 10. *Trichopelma fidelcastroi* **sp. nov.**, male holotype (ZMB 50605). **A.** Cephalothorax, dorsal view; **B.** Sternum, labium, maxillae, ventral view; **C.** Ocular region, dorsal view; **D.** Labium and maxillae, ventral view; **E.** Chelicera, prolateral view; **F.** Abdomen, dorsal view; **G.** Spinnerets, prolateral view.

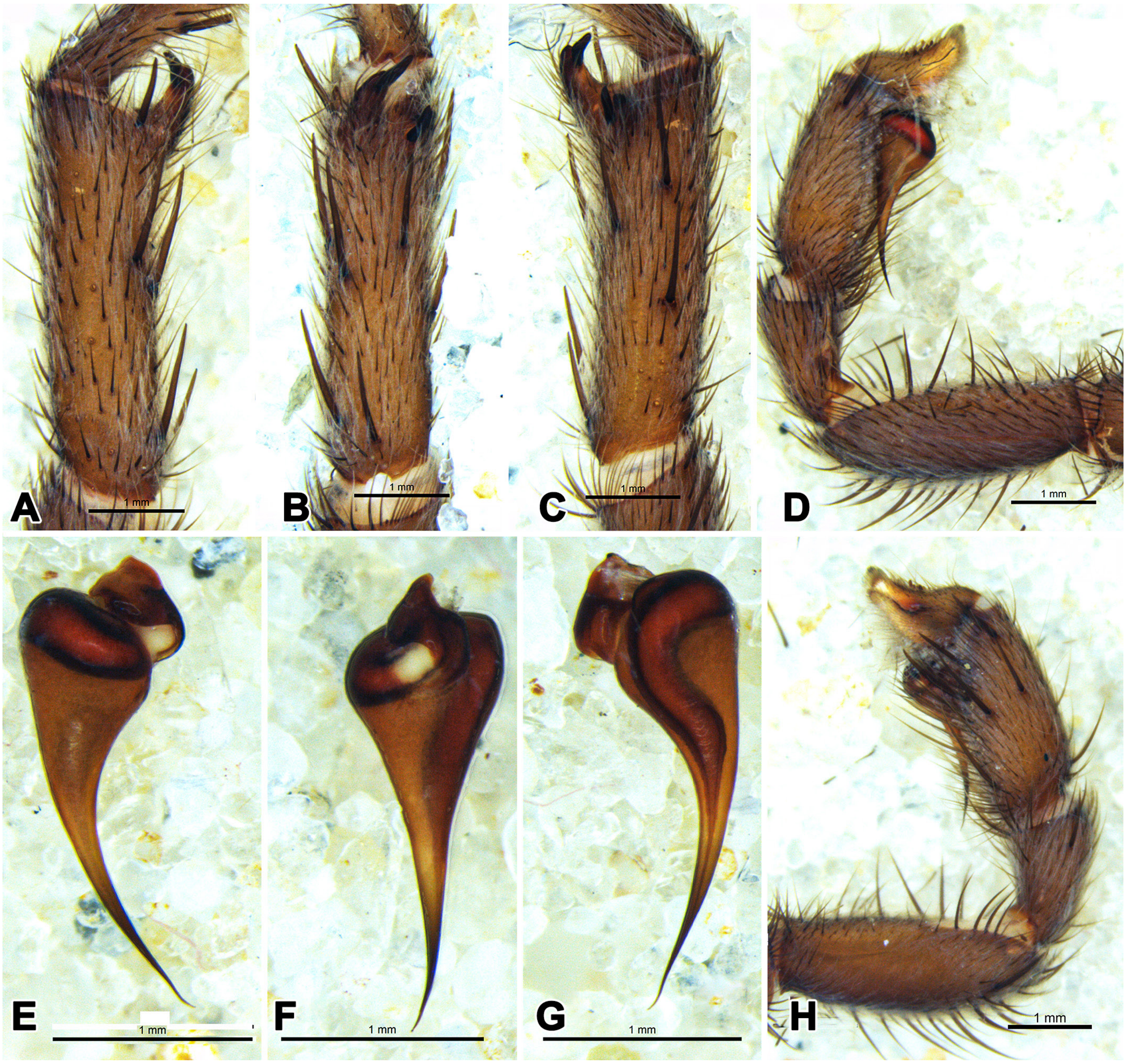

Figure 11. *Trichopelma fidelcastroi* **sp. nov.**, male holotype (ZMB 50605). **A–C.**, Right tibia I: **A.** Retrolateral view; **B.** Ventral view; **C.** Prolateral view; **D., H.** Right pedipalp: **D.** Retrolateral view; **H.** Prolateral view; **E–G.**, Bulb: **E.** Retrolateral view; **F.** Ventral view; **G.** Prolateral view.

Lengths of legs and pedipalp (femur, patella, tibia, metatarsus, tarsus, total): I: 5.43, 3.33, 3.99, 3.97, 2.51, 19.23. II: 5.14, 3.12, 3.82, 4.20, 2.37, 18.63. III: 4.76, 2.53, 3.11, 4.78, 2.42, 17.59. IV: 6.39, 2.75, 4.99, 7.30, 3.02, 24.45. pedipalp: 3.10, 1.98, 2.45, –, 1.30, 8.83. *Chaetotaxy:* Leg I: fe d0-0-2ap, pa p0-0-1ap, ti p0-1-2-0, v2-2-1ap, me v0-1-0-0, when folded touches the ventral branch, ta 0. Leg II: fe d0-0-1-2, pa p0-0-1, ti p0-1-1-0 v2-2-3ap, me v0-1-0-1, ta 0. Leg III: fe d0-0-2-2, pa p0-2-0, ti p1-2-1 v2-1-3ap r0-1-2-0, me d2-2-2ap v3-1-2-3ap, ta 0. Leg IV: fe d0-0-2-2, pa p0-1-0, ti p1-0-1 v3-2-3ap r1-2-1, me d2-2-1-2ap v3-1-1-2-3ap, ta 0. Pedipalp: fe d0-0-1, pa p1, ti p0-2-2 v2-0-1 (with rigid setae, on the sides of the groove where the bulb rests) r0-0-1ap, ta 0. Metatarsi and tarsi I ventrally discoloured; tarsi IV cracked. Tibia I with twin apophysis (Fig. 11A–C): positioned proventrally, ventral branch curved, long, with an apical megaspine half the length of the ventral branch, prolateral branch small with a contiguous spine (1:3 longer than the branch), prolateral and ventral branches well separated. Pedipalp (Fig. 11D, H); cymbium triangular, elongate, with deep incision. Bulb (Fig. 11E–G): 2.11 length, bulb piriform with duct tapering. Embolus long 1.49 long, apical portion slightly recurved in ventral view (Fig. 11F); keels absent.

Scopulae: apical on cymbium. Legs: I: Me 1:2 A, Ta complete throughout the segment. II: Me 1:2 A, Ta complete throughout the segment. III: Me 3:4 A, divided by a band of setae, Ta complete throughout the segment, divided by a band of setae. IV: Me 1:2 A, scarce, divided by strong setae, Ta complete throughout the segment, divided by two central rows of setae and a line of bristles on each side. *Trichobothria*: (Filiform): Pedipalp: Met 7/7, 8/7 on tarsus (separated by a wide band of small rigid setae). Legs: I Ti 7/7, Me 10, Ta 8/8; II, Ti 8/6, Me 10, Ta 7/7; III Ti 5/5, Me 9, Ta 7/6; IV Ti 6/6, Me 10, Ta 9/10. Clavate trichobothria in two rows on distal half (separated by a wide band of small rigid setae): 7/9 on pedipalp; 8/5 on tarsus I; 7/7 on tarsus II; 7/6 on tarsus III; 6/7 on tarsus IV. STC two rows (double on each side of the paired claws): I 6/6, 6/6; II 6/5, 6/5; III 6/4, 6/4; VI 5/5, 5/5. *Colour in alcohol*: chelicerae and dorsal legs covered by whitish setae. Chelicerae brown, carapace and legs orange-brown. Abdomen dorsal pattern faint, symmetrical, with 5 spots in the middle, and on the side of each spot a lateral line.

Female (paratype, ZMB 50615, Fig. 12A–F). Total length: 16.31. Carapace (Fig. 12A): 7.57 long, 5.88 wide. Cephalic region 5.02 long, thoracic striae shallow; caput slightly raised. Fovea slightly recurved and deep, 1.09 wide. Ocular region (Fig. 12E) slightly raised, 0.72 long, 1.18 wide. Anterior ocular row procurved with 10 anterior setae; posterior slightly recurved with three posterior setae.

Ocular measurements: AME 0.19, ALE 0.31, PME 0.15, PLE 0.21; AME–ALE 0.22, PME–PLE 0.08, AME–PME 0.15, ALE–PLE 0.31, AME–AME 0.20, PME–PME 0.57. Chelicerae: elongate and slender, 4.48 long; 2.55 wide. Furrow promargin with 10 teeth, retromargin with seven tiny teeth on outer edge and 14 denticles near the apex. Rastellum composed of thick long setae. Labium (Fig. 12B): 0.79 long; 1.14 wide; with 46 rounded cuspules and abundant apical bristles. Labio-sternal suture wide with two lateral sigilla well separated. Maxillae (Fig. 12B): promargin 2.05 long, retromargin 2.70 long, 1.25 wide, with 106/108 cuspules in inner angle, developed angular heel. Sternum (Fig. 12B): 3.70 long, 0.96 wide; sigilla small and marginal, oval. Abdomen, dorsal (Fig. 12C): 6.60 long, anterior edge of the booklung opening with combs present. Spinnerets (Fig. 12D): Posterior median: long 0.36; posterior lateral with basal: medial: apical lengths 0.55:0.36:0.23, apical segment domed. Spermathecae (Fig. 12F): two, with a long base and two subequal lobes, one small and the other rounded.

Lengths of legs and pedipalp (femur, patella, tibia, metatarsus, tarsus, total): I: 4.49, 3.37, 2.89, 2.63, 1.52, 14.90. II: 4.10, 3.00, 2.68, 2.51, 1.60, 13.88. III: 3.67, 2.44, 2.12, 3.06, 1.82, 13.11. IV: 5.19, 2.90, 3.41, 5.18, 2.51, 19.19. pedipalp: 3.39, 2.17, 1.98, —, 1.96, 9.48. *Chaetotaxy:* Legs: I: fe d0-0-1, pa 0, ti 0, me v1-0-1ap, ta 0; II: fe d0-0-1, pa 0, ti v1 spiniform setae, me v1-1ap, ta 0; III: fe 0, pa p0-2 r1, ti p2-1 v2-1-3ap r1-0-1, me d2-2-2 v2-2-3ap, ta 0; IV: fe d0-0-1ap, pa p1 r1, ti v3-2-1-3ap r1-0-1, me d2-2-1-1 v3-1-2-2-3ap, ta 0; Pedipalp: fe 0, pa 0, ti p0-2 -1 all are spiniform setae v0-1 spiniform setae-3ap, ta 0.

Scopulae: Pedipalp: complete and divided by a wide band of setae. Legs: I: Me–Ta complete throughout the segments. II: Me complete throughout the segment, Ta complete throughout the segment, divided by a band of setae. III: Me 1:3 A, divided by a wide band of rigid setae, Ta complete throughout the segment, divided by a wide band of setae and a line of bristles on each side of the central band. IV: Me 1:2 A, scarce, divided by a band of rigid setae, Ta complete throughout the segment, divided by a wide central band of setae (more abundant apically), delimited by a line of bristles on each side. *Trichobothria*: (Filiform): Pedipalp: Tib 6/6, 7/7 on tarsus (separated by a wide band of small rigid setae). Legs: I Ti 7/6, Me 8, Ta 7/7; II, Ti 5/4, Me 6, Ta 5/4; III Ti 4/4, Me 9, Ta 8/9; IV Ti 4/5, Me 13, Ta 9/9. Clavate trichobothria in two rows on distal half (separated by a wide band of small rigid setae): 6/9 on pedipalp tarsus; 4/6 on tarsus I; 5/9 on tarsus II; 6/7 on tarsus III; 6/7 on tarsus IV. STC one row: pedipalp claw bare; Legs: I, 2/0; II, 1/3; III–IV bare. Tarsus IV cracked. *Colour in alcohol*: Chelicerae, carapace and legs brown-orange. Abdomen dorsal pattern faint, symmetrical, with 5 spots in the middle, and on the side of each spot a lateral line.

Distribution. **Cuba**, Holguín province, municipalities of Holguín, Báguanos and Mayarí (Fig. 26).

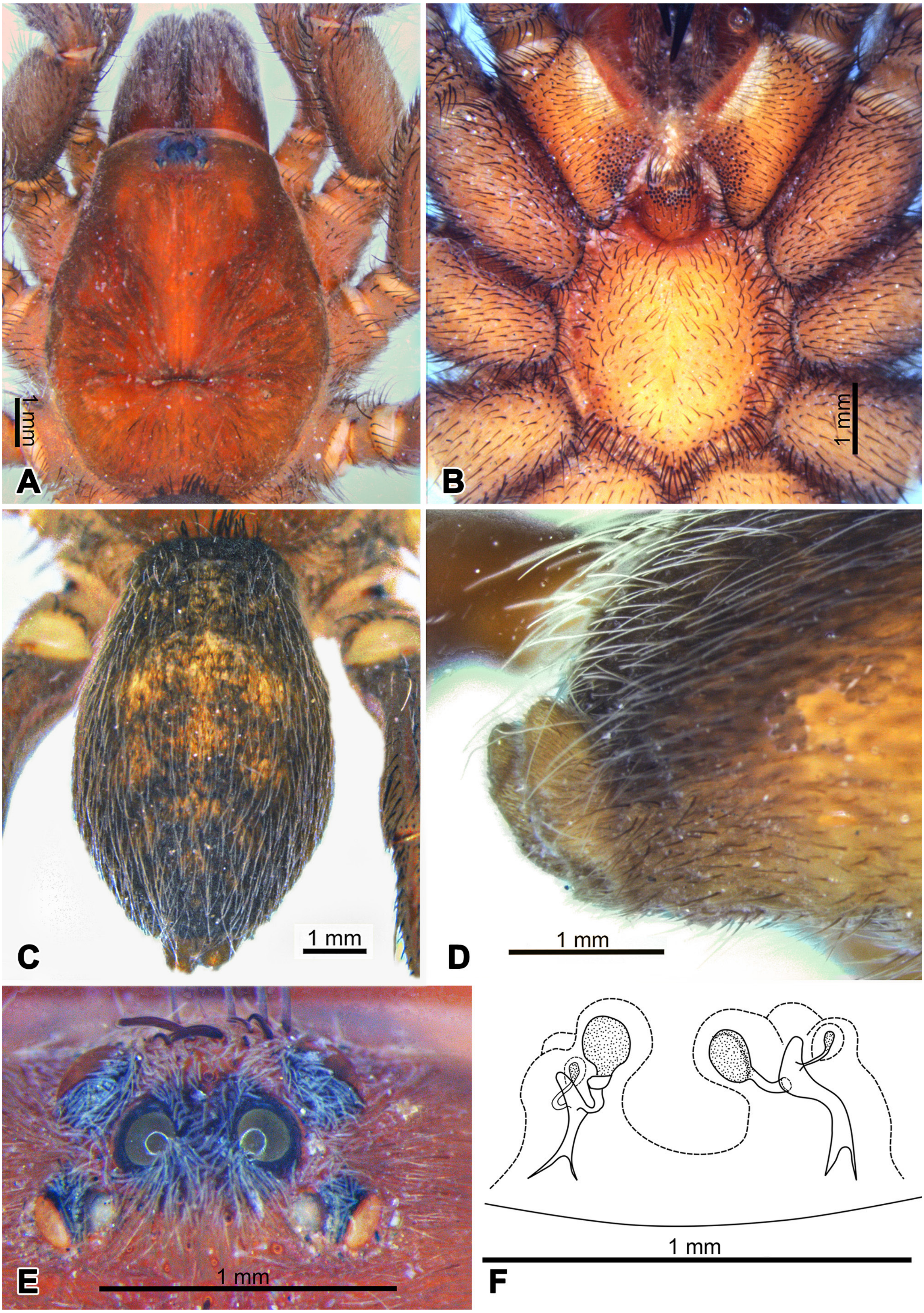

Figure 12. *Trichopelma fidelcastroi* **sp. nov.**, female paratype (ZMB 50615). **A.** Cephalothorax, dorsal view; **B.** Sternum, labium, maxillae, ventral view; **C.** Abdomen, dorsal view; **D.** Spinnerets, prolateral view; **E.** Ocular region, dorsal view; **F.** Spermathecae.

***Trichopelma goloboffi* Mori & Bertani, 2020**
Trichopelma goloboffi Mori & Bertani, 2020:97.

Type material (not examind). **Holotype** ♀, **Cuba**, *Havana Province,* [23°06'N, 82°21'W], coll. N. Banks (MCZ 75006).

Diagnosis. Females of *Trichopelma goloboffi* differ from other species of the genus in the country by their spermathecae morphology (resembling those of *T. soroense* **sp. nov.** and *T. cubanum* by having a single receptacle). They differ from females of *T. cubanum* by the spermathecae lacking an apical receptacle and from *T. soroense* **sp. nov.** by their narrow base and bare STC. Males unknown.

Description. See Mori & Bertani, 2020:97.

***Trichopelma granmense* sp. nov.** (Figs 13A–G, 14A–H, 15A–F, 26)
https://zoobank.org/urn:lsid:zoobank.org:act:AD42E3AC-307D-49B2-9D2F-9A5A03850386

Type material. **Holotype** ♂, **Cuba**, *Granma Province,* Cabo Cruz, Alegría de Pío, Campamento El Muerto [19°53'N 77°30'W], 14.IV.1996, coll. N. Navarro (ZMB 50618); **Paratypes** 1♀, **Cuba**, *Granma Province,* Same locality as holotype, 21.IV.1996, coll. N. Navarro; (ZMB 50613); 2♂♂ 1 juvenile, Niquero, Alegría de Pío, 20.IV.1996, coll. N. Navarro (ZMB 50624).

Additional material. 1♂ **Cuba**, Santiago de Cuba province, Ciudad de Santiago de Cuba, Universidad de Oriente, 15.I.1996, coll. R. Teruel (ZMB 50617).

Etymology. The specific epithet refers to the Granma province; on its coasts the expedition of the "Granma Yacht" landed, bringing Fidel Castro and his guerrillas from Mexico. It also refers the National Park "Desembarco del Granma", one of the most highly protected preservation areas in Cuba where the species is distributed.

Diagnosis. Males of *T. granmense* **sp. nov.** resemble those of *T. soroense* **sp. nov.**; *T. cubanum* and *T. cheguevarai* **sp. nov.**, by their rounded tegulum (Fig. 14E–G) but differ by the STC with double row of teeth. They also differ from *T. cheguevarai* **sp. nov.** by the embolus without keels and from *T. soroense* **sp. nov.** by the long and procurved embolus in ventral view. It differs from *T. baracoense* **sp. nov.**; *T. rudloffi* **sp. nov.** by the rounded tegulum. Females can be distinguished from all other species by the shape of the spermathecae (Fig. 15F). It resembles those of *T. citma* **sp. nov.**; but differs by the subequal spermathecal lobes.

Description. — **Male** (holotype, ZMB 50618, Figs 13, 14–15): Total length: 14.43. Carapace (Fig. 13A): 6.48 long, 5.81 wide. Cephalic region 4.43 long, thoracic striae very shallow; slightly raised. Fovea recurved and deep, 0.98 wide. Ocular region (Fig. 13C) slightly raised, 0.60 long, 1.01 wide. Anterior ocular row procurved with nine anterior setae; posterior straight with three posterior setae.

Ocular measurements: AME 0.19, ALE 0.28, PME 0.13, PLE 0.22; AME–ALE 0.13, PME–PLE 0.04, AME–PME 0.10, ALE–PLE 0.19, AME–AME 0.15, PME–PME 0.44. Chelicerae (Fig. 13E): elongate and slender, hirsute, 3.52 long; 1.64 wide. Furrow promargin with 10 teeth, retromargin with eight tiny teeth on outer edge and 14 denticles near the apex. Intercheliceral tumescence basal, pallid with small bristles. Rastellum composed of thick long setae. Labium (Fig. 13D): 0.55 long; 0.74 wide; with 15 rounded cuspules and abundant apical bristles. Labio-sternal suture narrow with two lateral sigilla well separated. Maxillae (Fig. 13D): promargin 1.79 long, retromargin 2.30 long, 0.91 wide, with ~53/50 cuspules in inner angle, developed angular heel. Sternum (Fig. 13B): 3.17 long, 2.85 wide; sigilla small and marginal, oval. Abdomen, dorsal (Fig. 13F): 6.06 length, anterior edge of the booklung opening with combs present. Spinnerets (Fig. 13G): posterior median: length 0.31; posterior lateral with basal: medial: apical lengths 0.41:0.35:0.20.

Lengths of legs and pedipalp (femur, patella, tibia, metatarsus, tarsus, total): I: 5.43, 3.33, 3.99, 3.97, 2.51, 19.23. II: 5.14, 3.12, 3.82, 4.20, 2.37, 18.63. III: 4.76, 2.53, 3.11, 4.78, 2.42, 17.59. IV: 6.39, 2.75, 4.99, 7.30, 3.02, 24.45. pedipalp: 3.10, 1.98, 2.45, —, 1.30, 8.83. *Chaetotaxy:* Leg I: fe d0-0-2ap, pa p0-1, ti p0-1-1-0 v2-3-1ap, me v0-1-0-1, when folded the Met base touches the ventral branch, ta 0. Leg II: fe d0-0-1, pa p0-1, ti p0-1-1-0 v2-1-3ap, me v0-1-0-1ap, ta 0. Leg III: fe d3-3-2, pa p0-2-0 r1, ti p2-1-1 v2-1-3ap r1-1-1-1, me d2-2-2-1ap v1-1-1-3ap, ta 0. Leg IV: fe d0-0-2-2, pa p0-2-0 r1, ti p1-1-1-1 v2-1-3ap r1-1-1-1-1, me d2-1-2-1-1 v3-1-1-2-3ap, ta 0.

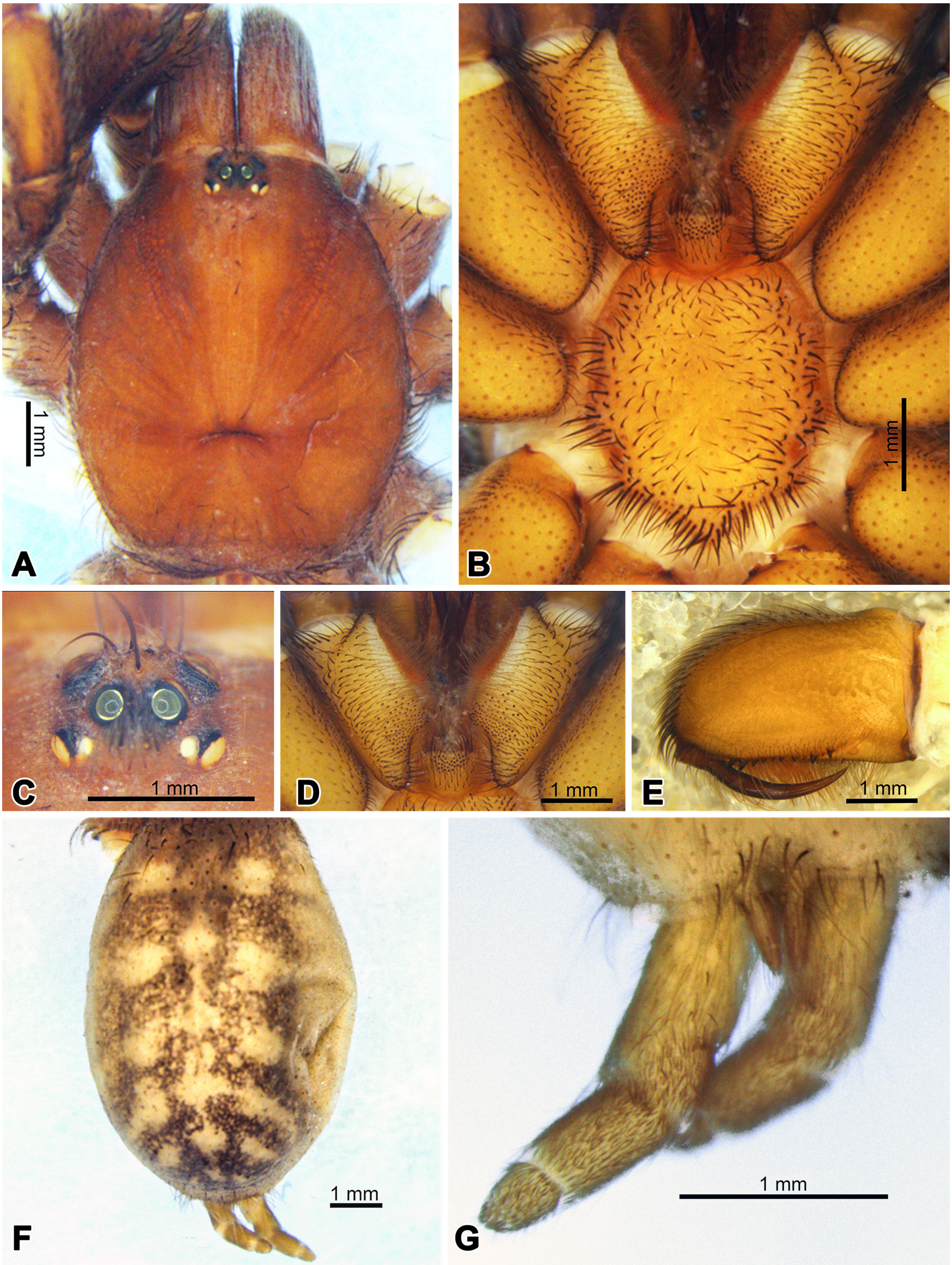

Figure 13. *Trichopelma granmense* **sp. nov.**, male holotype (ZMB 50618). **A.** Cephalothorax, dorsal view; **B.** Sternum, labium, maxillae, ventral view; **C.** Ocular region, dorsal view; **D.** Labium and maxillae, ventral view; **E.** Chelicera, prolateral view; **F.** Abdomen, dorsal view; **G.** Spinnerets, ventral view.

Pedipalp: fe d0-0-1, pa 0, ti p1ap, v1-2-1 (with rigid setae, on the sides of the groove, where the bulb rests) r1ap, tar 0. Metatarsi and tarsi I ventrally discoloured; tarsi IV cracked. Tibia I with twin apophysis (Fig. 14A–C): positioned proventrally, ventral branch curved, long, with an apical megaspine with the same length of the ventral branch, prolateral branch small with a contiguous spine (1:2 longer than the branch), prolateral and ventral branches well separated. Pedipalp (Fig. 14D, H); cymbium triangular, elongate, with deep incision. Bulb (Fig. 14E–G): 2.11 length, bulb rounded with duct tapering. Embolus 1.27 long, apical portion procurved in ventral view (Fig. 14F); keels absent.

Scopulae: apical on cymbium. Legs: I: Me complete throughout the segment, Ta complete, throughout the segment. II: Me complete throughout the segment (more abundant prolaterally), Ta complete, throughout the segment. III: Me 3:4 A, divided by a band of setae, Ta complete, throughout the segment, divided by a band of setae. IV: Me 3:4 A, scarce, divided by strong setae, Ta complete throughout the segment, divided by two central rows of setae and a line of bristles on each side. *Trichobothria*: (Filiform): Pedipalp: Me 5/6, 7/7 on tarsus (separated by a wide band of small rigid setae). Legs: I Ti 5/6, Me 10, Ta 8/8; II, Ti 5/6, Me 10, Ta 9/8; III Ti 5/5, Me 10, Ta 9/9; IV Ti 6/5, Me 11, Ta 9/8. Clavate trichobothria in two rows on distal half (separated by a wide band of small rigid setae): 8/8 on pedipalp; 5/6 on tarsus I; 6/5 on tarsus II; 6/7 on tarsus III; missing on tarsus IV. STC two row (double on each side of the paired claws): I-II 4/3, 4/3; III 3/2, 2/3; VI 2/3, 2/1. *Colour in alcohol*: chelicerae and dorsal legs covered by whitish setae. Chelicerae brown, carapace, and legs orange-brown. Abdomen dorsal pattern faint, symmetrical, with 6 spots in the middle, and on the side of each spot a lateral line.

Female (paratype, ZMB 50613, Fig. 15): Total length: 13.66. Carapace (Fig. 15A): 5.77 long, 4.37 wide. Cephalic region 3.94 long, thoracic striae shallow; caput slightly raised. Fovea straight and deep, 0.52. Ocular region (Fig. 15E) slightly raised, 0.62 long, 0.89 wide. Anterior ocular row procurved with 8 anterior setae; posterior slightly recurved with four posterior setae.

Ocular measurements: AME 0.17, ALE 0.22, PME 0.14, PLE 0.18; AME–ALE 0.78, PME–PLE 0.04, AME–PME 0.09, ALE–PLE 0.25, AME–AME 0.15, PME–PME 0.42. Chelicerae: elongate and slender, 3.76 long; 2.11 wide. Furrow promargin with 10 teeth, retromargin with six tiny teeth on outer edge and 10 denticles near the apex. Rastellum composed of thick long setae. Labium (Fig. 15B): 0.69 long; 1.05 wide; with 50 rounded cuspules and abundant apical bristles. Labio-sternal suture wide with two lateral sigilla well separated. Maxillae (Fig. 15B): promargin 1.12 long, retromargin 2.15 long, 1.63 wide, with 68/54 cuspules in inner angle, developed angular heel. Sternum (Fig. 15B): 2.75 long, 2.60 wide; sigilla small and marginal, oval. Abdomen, dorsal (Fig. 15C): 5.71 long, anterior edge of the booklung opening with combs present. Spinnerets (Fig. 15D): Posterior median: 0.49 long; posterior lateral with basal: medial: apical lengths 0.84:0.47:0.26, apical segment domed. Spermathecae (Fig. 15F): two, with a wide base an apical rounded lobe, one side present small lobes.

Lengths of legs and pedipalp (femur, patella, tibia, metatarsus, tarsus, total): I: 3.66, 2.54, 2.44, 2.08, 1.30, 12.02. II: 3.36, 2.34, 2.23, 2.02, 1.43, 11.38. III: 3.04, 1.92, 1.76, 2.52, 1.48, 10.73. IV: 4.03, 2.29, 2.99, 4.23, 2.00, 15.53. pedipalp: 2.71, 1.72, 1.63, —, 1.62, 7.68. *Chaetotaxy:* Legs: I: fe d0-0-1, pa 0, ti 0, me v1-0-1ap, ta 0; II: fe d0-0-1, pa 0, ti 0, me v1-1ap, ta 0; III: fe d1ap, pa p0-2 r1, ti p2-1 v2-1-3ap r1-0-1, me d2-2-2 v2-2-3ap, ta 0; IV: fe d0-0-1ap, pa p1 r1, ti v3-3-3ap r1-0-1, me d2-2-1-2 v3-2-2-3ap, ta 0; Pedipalp: fe d1ap, pa 0, ti v3ap p2, ta 0.

Scopulae: Pedipalp: complete and divided by a wide band of setae. Legs: I: Me complete throughout the segment, Ta complete throughout the segments, divided by a band of setae. II: Me-Ta complete scopulate throughout the segment, divided by a band of setae. III: Me 2:3 A, divided by a wide band of rigid setae, Ta complete throughout the segment, divided by a wide band of setae and a line of bristles on each side of the central band. IV: Me 1:4 A, scarce, divided by a band of rigid setae, Ta complete throughout the segment, divided by a wide central band of setae (more abundant apically), delimited by a line of bristles on each side. *Trichobothria*: (Filiform): Pedipalp: Ti 6/5, 8/8 on tarsus (separated by a wide band of small rigid setae). Legs: I Ti 7/6, Me 8, Ta 7/7; II, Ti 5/5, Me 7, Ta 7/6; III Ti 5/5, Me 9, Ta 7/7; IV Ti 6/6, Me 11, Ta 8/8. Clavate trichobothria in two rows on distal half (separated by a wide band of small rigid setae): 6/6 on pedipal tarsus; 5/5 on tarsus I; 5/6 on tarsus II; 6/6 on tarsus III; 6/5 on tarsus IV. STC one row: pedipal claw bare; Legs: I, 3/3; II, 3/2; III, 2/2; IV 1/-. Tarsus IV cracked.

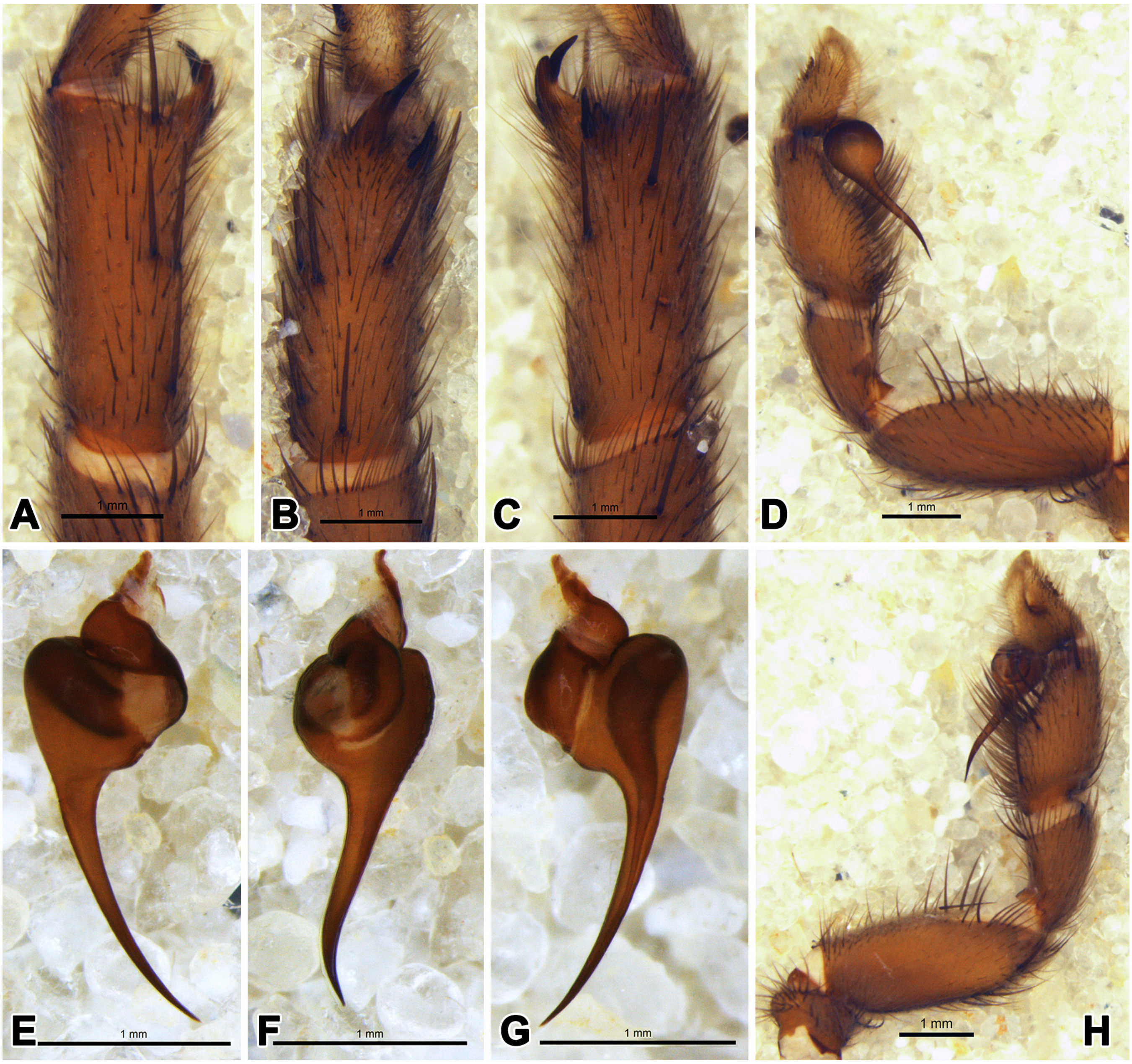

Figure 14. *Trichopelma granmense* **sp. nov.**, male holotype (ZMB 50618). **A–C.**, Right tibia I: **A.** Retrolateral view; **B.** Ventral view; **C.** Prolateral view; **D., H.** Right pedipalp: **D.** Retrolateral view; **H.** prolateral view; **E–G.**, Bulb: **E.** Retrolateral view; **F.** Ventral view; **G.** Prolateral view.

Colour in alcohol. Chelicerae, carapace and legs brown-orange. Abdomen dorsal pattern faint, symmetrical, with 5 spots in the middle, and on the side of each spot a lateral line.

Distribution. **Cuba**, Granma province, Niquero municipality and Santiago de Cuba province, Santiago de Cuba municipality (Fig. 26).

Trichopelma juventud Mori & Bertani, 2020

Trichopelma juventud Mori & Bertani, 2020:99.

Type Material (not examined). **Holotype** ♀, **Cuba**, Isla de Pinos (now Isla de la Juventud), [21°42′N, 82°49′W], 1.IV.1905, coll. Barbours & N. Banks (MCZ 75003); **Paratype** 1♂, **Cuba**, same data as female (MCZ 75005).

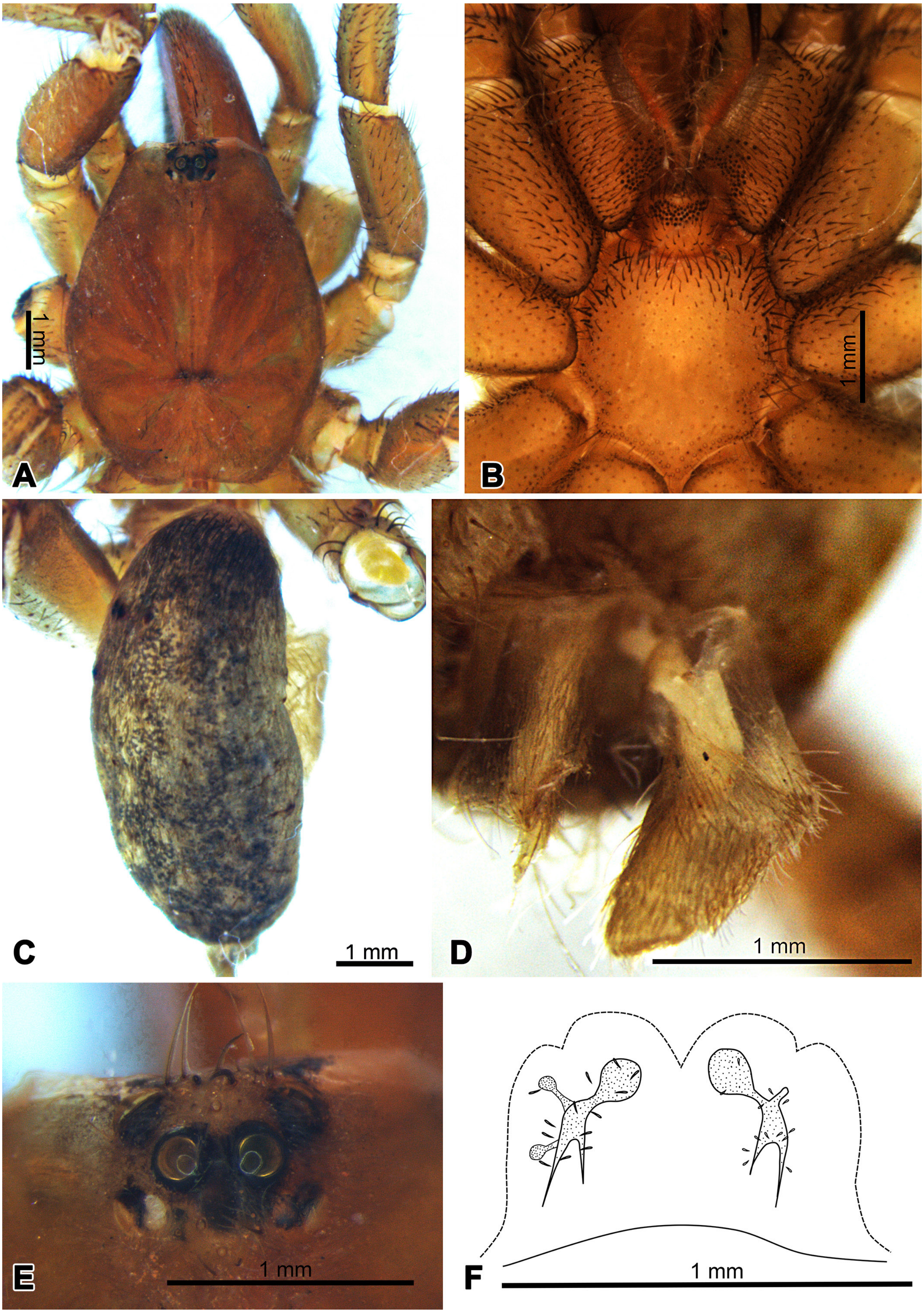

Figure 15. *Trichopelma granmense* **sp. nov.**, female paratype (ZMB 50613). **A.** Cephalothorax, dorsal view; **B.** Sternum, labium, maxillae, ventral view; **C.** Abdomen, dorsal view; **D.** Spinnerets; **E.** Ocular region, dorsal view; **F.** Spermathecae.

Diagnosis. Males of *T. juventud* can be distinguished from all other species in Cuba by their bulb morphology, similar to *T. cheguevarai* **sp. nov.** It differs from *T. cheguevarai* **sp. nov.** by the keels around the embolus smaller, the prolateral branch of their tibial I apophysis with only one spine and STC bare. Females can be differentiated by their simple and trapezoidal spermathecae.

Description. See Mori & Bertani, 2020:99.

Trichopelma laurae Mori & Bertani, 2020

Trichopelma laurae Mori & Bertani, 2020:103.

Type Material (not examined). **Holotype** ♂, **Cuba**, *Havana Province*, El Laguito, [23°05′N, 82°27′W], VII.1966, coll. P. Alayo, (MCZ 75067).

Diagnosis. Males of *Trichopelma laurae* can be distinguished by their bulb with a curved embolus and the STC bare (similar to *T. cheguevarai* **sp. nov.**; *T. cubanum* and *T. juventud*). It differs from *T. juventud* and *T. cheguevarai* **sp. nov.** by its bulb morphology and from *T. cubanum* by their tibial I apophysis with the prolateral branch the same size as the associated spine and the labium with 16 cuspules (*v.* 37 in *T. cubanum*).

Description. See Mori & Bertani, 2020:103.

Trichopelma rudloffi sp. nov. (Figs 16A–E, 17A–H, 18A–F, 26)

https://zoobank.org/urn:lsid:zoobank.org:act:356290BD-BAF6-421E-A17A-96272B6DEC83

Type Material. **Holotype** ♂, **Cuba**, *Holguín Province,* Farallones de Moa [20°29'N 74°58'W], 8.III.1994, coll. J. Rudloff (ZMB 50608); **Paratype** 1♀, **Cuba**, *Holguín Province,* Cuchillas del Toa, Farallones de Moa [20°23'N 74°41'W], 8III.1994, coll. J. Rudloff (ZMB 50609).

Additional material. 1 juvenile, **Cuba**, *Holguín Province,* Farallones de Moa, 9.IX.1995, coll. J. Rudloff, (ZMB 50601).

Etymology. The specific epithet is a patronym in honour of Jan-Peter Rudloff, collector of the species and many other specimens studied in this study.

Diagnosis. Males of *T. rudloffi* **sp. nov.** resemble those of *T. baracoense* **sp. nov.** and *T. fidelcastroi* **sp. nov.** by the bulb piriform (Fig. 17E–G) but can be differentiated by the Tibia I apophysis with a prolateral branch with the associated spine the same length as the branch (Fig. 17B, C, longer in other species). It differs from *T. rudloffi* **sp. nov.** by the small and blunt megaspine on the proventral branch and from *T. baracoense* **sp. nov.** by the lesser number of prolateral spines on the pedipalp tibia (Fig. 17H). This species differs from *T. cheguevarai* **sp. nov.**; *T. soroense* **sp. nov.** and *T. granmense* **sp. nov.**, by their piriform bulb shape (rounded with keels in *T. cheguevarai* **sp. nov.**; rounded with a recurved embolus in *T. soroense* **sp. nov.** and procurved in *T. granmense* **sp. nov.**). Females can be distinguished from all other species by the shape of their spermathecae (Fig. 18F).

Description. — **Male** (holotype, ZMB 50608, Figs 16, 17): Abdomen and leg IV are missing. Carapace (Fig. 16A): 7.26 long, 5.93 wide, with rigid bristles around the edge. Cephalic region 4.450 in length, thoracic striae shallow; slightly raised. Fovea recurved and deep, 0.88 wide. Ocular region (Fig. 16C) slightly raised, 0.68 long, 1.11 wide. Anterior ocular row procurved with eight anterior setae; posterior straight with six posterior setae.

Ocular measurements: AME 0.16, ALE 0.29, PME 0.13, PLE 0.24; AME–ALE 0.13, PME–PLE 0.06, AME–PME 0.14, ALE–PLE 0.25, AME–AME 0.22, PME–PME 0.50. Chelicerae (Fig. 16E): elongate and slender, hirsute, 3.91 long; 1.86 wide. Furrow promargin with 12 teeth, retromargin with eight tiny teeth on outer edge and five denticles near the apex. Intercheliceral tumescence basal, pallid with small bristles. Rastellum composed of thick long setae. Labium (Fig. 16D): 0.81 long; 1.14 wide; with 37 rounded cuspules and abundant apical bristles. Labio-sternal suture narrow with two lateral sigilla well separated. Maxillae (Fig. 16D): promargin 1.87 long, retromargin 2.54 long, 1.03 wide, with 100/87 cuspules in inner angle, developed angular heel. Sternum (Fig. 16B): 3.23 long, 2.99 wide; sigilla small and marginal, oval. Abdomen: missing.

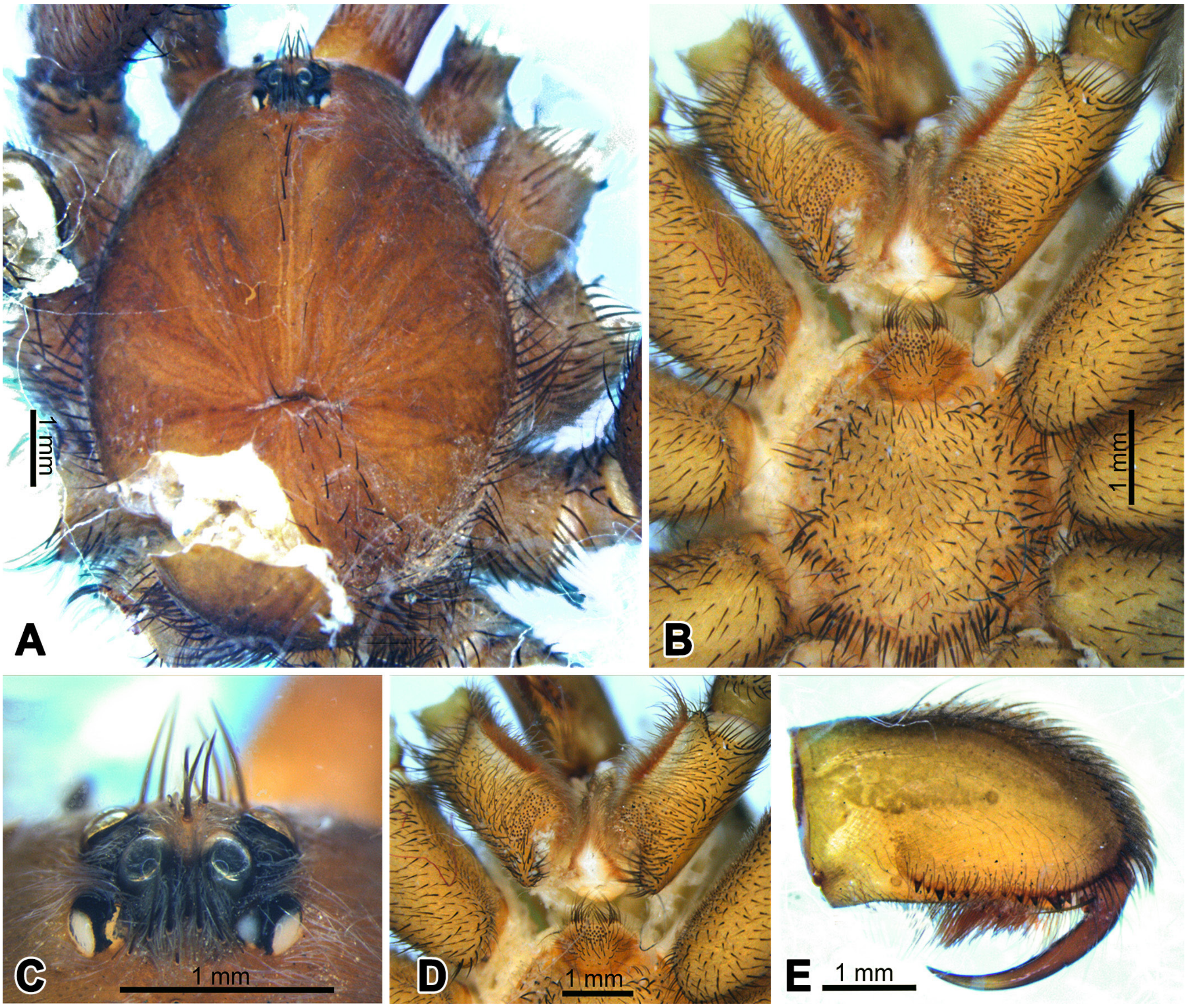

Figure 16. *Trichopelma rudloffi* **sp. nov.**, male holotype (ZMB 50608). **A.** Cephalothorax, dorsal view; **B.** Sternum, labium, maxillae, ventral view; **C.** Ocular region, dorsal view; **D.** Labium and maxillae, ventral view; **E.** Chelicera, prolateral view.

Lengths of legs and pedipalp (femur, patella, tibia, metatarsus, tarsus, total): I: 5.15, 3.39, 3.42, 3.64, 2.28, 17.88. II: 4.92, 3.23, 3.37, 3.76, 2.20, 17.49. III: 4.50, 2.43, 2.85, 4.09, 2.20, 16.07. IV: missing. pedipalp: 3.40, 1.97, 2.63, –, 1.27, 9.26. *Chaetotaxy:* Leg I: fe d0-0-2ap, pa p0-1, ti p0-1-1-0 v2-3-1ap, me v0-1-0-1, when folded the Met base touches the ventral branch, ta 0. Leg II: fe d0-0-1, pa p1-1, ti p0-1-1-0 v2-2-3ap, me v0-1-0-1ap, ta 0. Leg III: fe d0-2-2, pa p0-2-0, ti p2-1-1 v2-1-3ap r0-1-0-1, me d2-2-2ap v3-1-1-3ap, ta 0. Leg IV: missing. Pedipalp: fe d0-0-2, pa p1, ti p1ap v1-1-1 (with rigid setae, on the sides of the groove, where the bulb rests) r1ap, ta 0. Metatarsi and tarsi I ventrally discoloured. Tibia I with twin apophysis (Fig. 17A–C): positioned proventrally, ventral branch curved, long, with an apical small megaspine, half of length of the ventral branch, prolateral branch small with a contiguous small spine (same length as the branch), prolateral and ventral branches well separated. Pedipalp (Fig. 17D, H); cymbium triangular, elongate, with deep incision. Bulb (Fig. 17E–G): 1.75 length, bulb piriform with duct tapering. Embolus 1.13 long with an apical portion slightly recurved; keels absent.

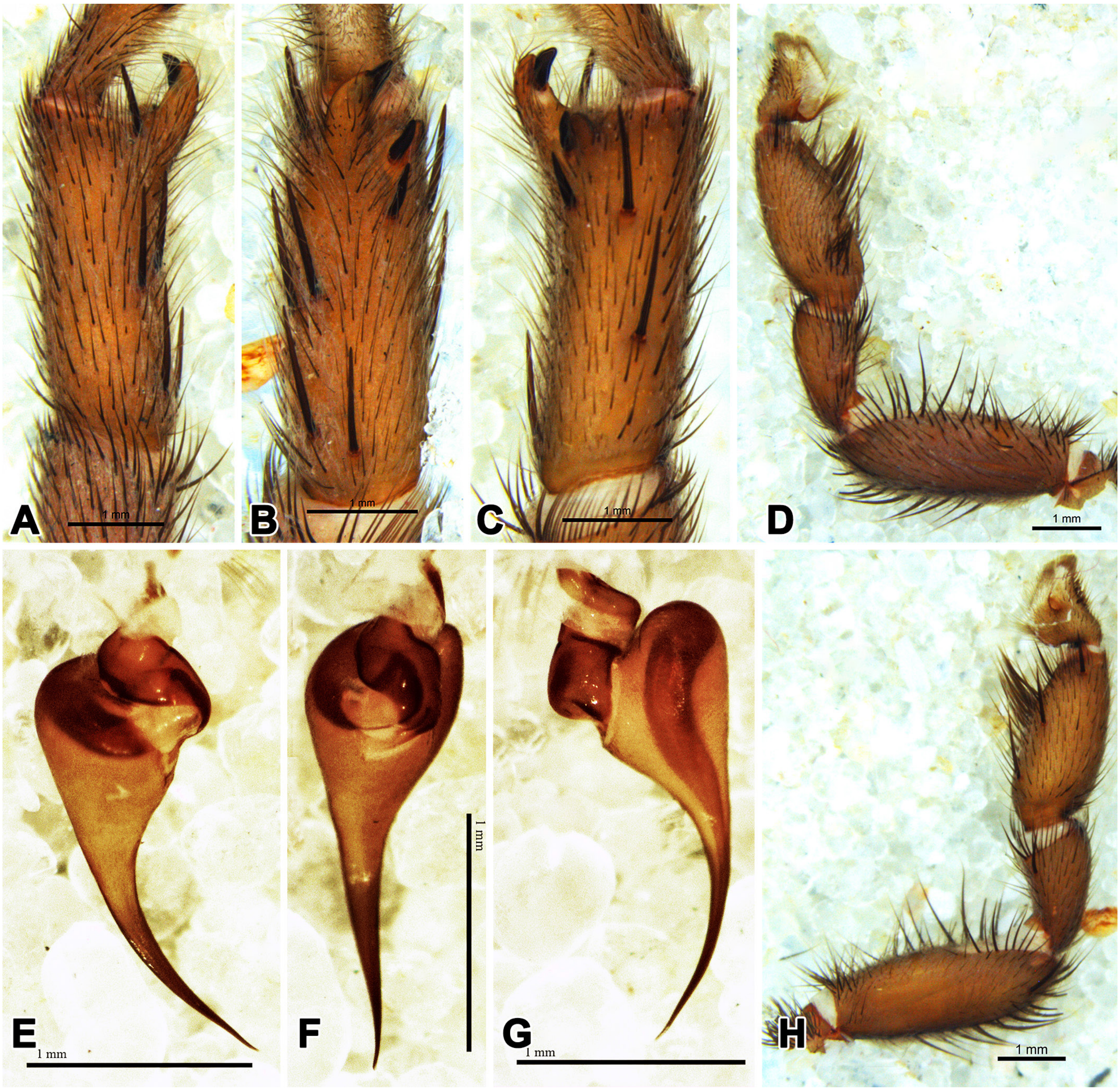

Figure 17. *Trichopelma rudloffi* **sp. nov.**, male holotype (ZMB 50608). **A–C**, Right tibia I: **A.** Retrolateral view; **B.** Ventral view; **C.** Prolateral view; **D., H.** Right pedipalp: **D.** Retrolateral view; **H.** Prolateral view; **E–G.**, Bulb: **E.** Retrolateral view; **F.** Ventral view; **G.** Prolateral view.

Scopulae: apical on cymbium. Legs: I: Me-Ta complete throughout the segment. II: Me complete throughout the segment (more abundant prolaterally), Ta complete throughout the segment, divided by a fine band of setae. III: Me 3:4 A, divided by a band of setae, Ta complete throughout the segment, divided by a band of setae. IV: legs missing. *Trichobothria*: (Filiform): Pedipalp: Met 7/7, 7/7 on tarsus (separated by a wide band of small rigid setae). Legs: I Ti 8/5, Me 9, Ta 7/7; II, Ti 7/6, Me 10, Ta 9/9; III Ti 7/6, Me 11, Ta 8/8. Clavate trichobothria in two rows on distal half (separated by a wide band of small rigid setae): 10/10 on pedipalp; 8/9 on tarsus I; 9/10 on tarsus II; 8/8 on tarsus III. STC two rows: I 5/4, 5/4; II 6/4, 4/6; III 4/2, 4/4; VI missing. *Colour in alcohol*: Chelicerae brown, carapace and legs orange-brown.

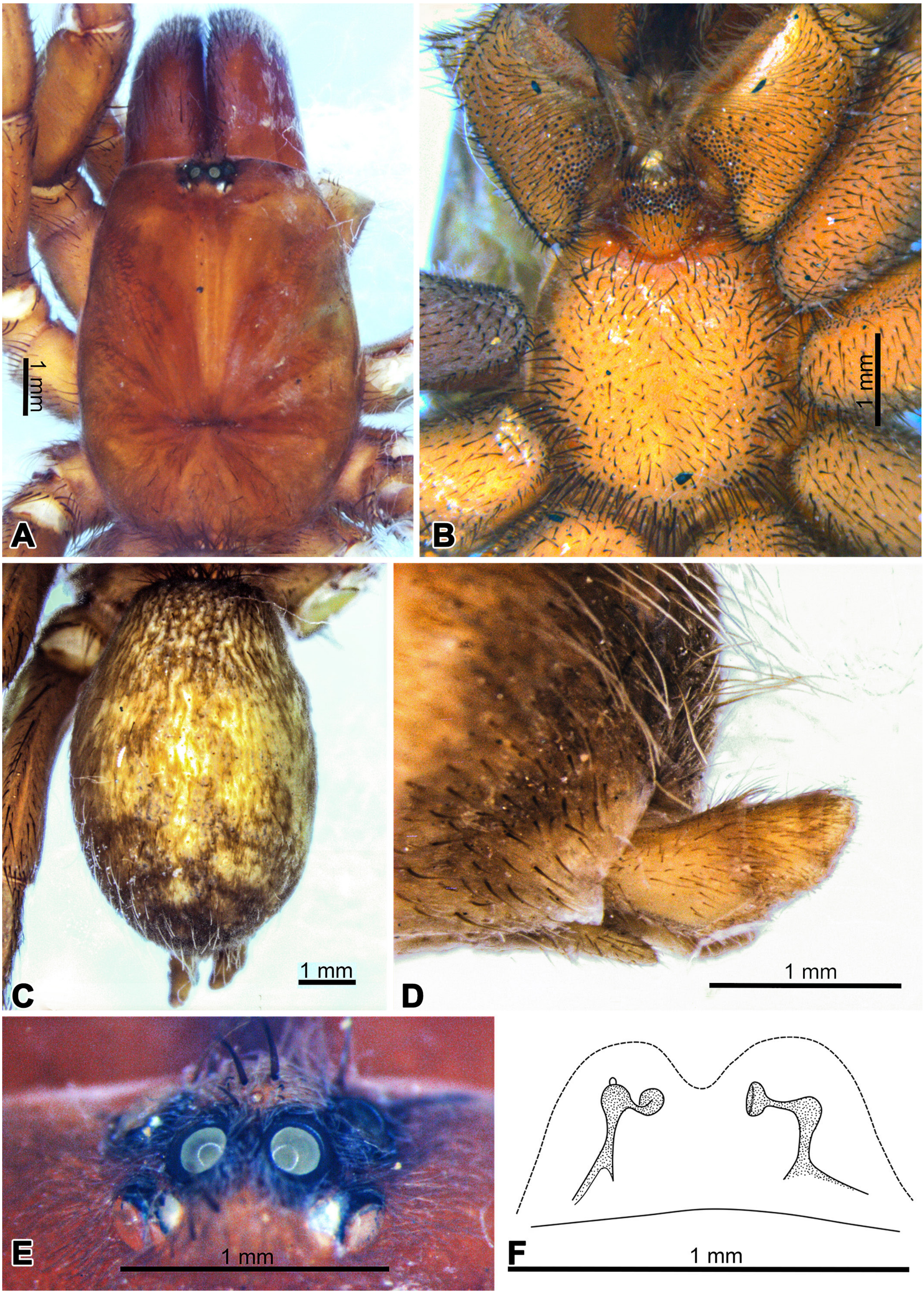

Figure 18. *Trichopelma rudloffi* **sp. nov.**, female paratype (ZMB 50609). **A.** Cephalothorax, dorsal view; **B.** Sternum, labium, maxillae, ventral view; **C.** Abdomen, dorsal view; **D.** Spinnerets, prolateral view; **E.** Ocular region, dorsal view; **F.** Spermathecae.

Female (paratype, ZMB 50609, Fig. 18): Total length: 16.17. Carapace (Fig. 18A): 7.04 long, 5.12 wide. Cephalic region 4.80 long, thoracic striae shallow; caput slightly raised, almost flat. Fovea straight and deep, 1.05 wide. Ocular region (Fig. 18E) slightly raised, 0.64 long, 1.03 wide. Anterior ocular row procurved with seven anterior setae; posterior slightly recurved with five posterior setae.

Ocular measurements: AME 0.19, ALE 0.35, PME 0.15, PLE 0.22; AME–ALE 0.16, PME–PLE 0.04, AME–PME 0.11, ALE–PLE 0.22, AME–AME 0.17, PME–PME 0.46. Chelicerae: elongate and slender, 4.37 long; 2.61 wide. Furrow promargin with 15 teeth, retromargin with 10 tiny teeth on outer edge and 15 denticles near the apex. Rastellum composed of thick long setae. Labium (Fig. 18B): 0.82 long; 1.17 wide; with 78 rounded cuspules and abundant apical bristles. Labio-sternal suture wide with two lateral sigilla well separated. Maxillae (Fig. 18B): promargin 1.99 long, retromargin 2.65 long, 1.20 wide, with 98/95 cuspules in inner angle, developed angular heel. Sternum (Fig. 18B): 3.37 long, 2.84 wide; all sigilla small and marginal, oval. Abdomen, dorsal (Fig. 18C): 6.66 long, anterior edge of the booklung opening with combs present. Spinnerets (Fig. 18D): Posterior median: 0.46 long; posterior lateral with basal: medial: apical lengths 0.79:0.42:0.22, apical segment domed. Spermathecae (Fig. 18F): two, with a long base, curved and a concave apical lobe.

Lengths of legs and pedipalp (femur, patella, tibia, metatarsus, tarsus, total): I: 4.55, 3.17, 3.23, 2.82, 1.46, 15.23. II: 4.21, 2.86, 2.93, 2.59, 1.72, 14.32. III: 3.76, 2.27, 2.24, 2.99, 1.85, 13.09. IV: 4.88, 2.76, 3.71, 4.77, 2.42, 18.55. pedipalp: 3.35, 2.23, 2.11, —, 1.96, 9.66. *Chaetotaxy:* Legs: I: fe d0-0-1, pa 0, ti 0, me v1-0-1ap, ta 0; II: fe d0-0-1, pa 0, ti v1 spiniform setae, me v1-1ap, ta 0; III: fe d1ap, pa p0-2, ti p2-1 v2-1-3ap r1-0-1, me d2-2-2 v2-2-3ap, ta 0; IV: fe d0-0-1ap, pa p1, ti v3-2-3ap r1-0-1, me d2-1-2-2 v2-1-1-2-3ap, ta 0; Pedipalp: fe d1ap, pa 0, ti p2 v1-3ap, ta 0.

Scopulae: Pedipalp: complete and divided by a wide band of setae. Legs: I: Me complete throughout the segment, Ta complete throughout the segments, divided by a band of setae. II: Me-Ta complete throughout the segment, divided by a band of setae. III: Me 2:3 A, divided by a wide band of rigid setae, Ta complete scopulate throughout the segment, divided by a wide band of setae and a line of bristles on each side of the central band. IV: Me 1:3 A, scarce, divided by a band of rigid setae, Ta complete throughout the segment, divided by a wide central band of setae (more abundant apically), delimited by a line of bristles on each side. *Trichobothria*: (Filiform): Pedipalp: Tib 6/5, 8/9 on tarsus (separated by a wide band of small rigid setae). Legs: I Ti 8/7, Me 9, Ta 7/7; II, Ti 7/5, Me 9, Ta 7/8; III Ti 4/5, Me 10, Ta 8/8; IV Ti 5/6, Me 12, Ta 7/8. Clavate trichobothria in two rows on distal half (separated by a wide band of small rigid setae): 8/10 on pedipalp tarsus; 11/10 on tarsus I; 9/10 on tarsus II; 7/8 on tarsus III; 8/6 on tarsus IV. STC one row: pedipalp claw bare; Legs: I, 4/4; II, 4/3; III, 3/3; IV 2/2. Tarsus IV cracked. *Colour in alcohol*: Chelicerae, carapace and legs brown-orange. Abdomen dorsal pattern faint, symmetrical, with 6 spots in the middle, and on the side of each spot a lateral line.

Distribution. **Cuba**, Holguín province, Moa municipality (Fig. 26).

Comments. The male specimen lacks the abdomen and leg IV but all other important characters such as the bulb, pedipalp tibiae and tibiae I are present. These missing parts do not prevent accurate recognition of this species.

***Trichopelma soroense* sp. nov.** (Figs 19A–G, 20A–I, 21A–F, 26)
https://zoobank.org/urn:lsid:zoobank.org:act:DBECED30-AA73-441A-9010-572C62D75E4E

Type Material. **Holotype ♂, Cuba**, *Artemisa Province,* Sierra de Candelaria, Soroa, El Mirador [22°47'N 83°0'W], 28.IV.1997, coll. J. Rudloff (ZMB 50611); **Paratype** 1♀, **Cuba**, Artemisa province, same data as holotype.

Etymology. The specific epithet refers to the locality of Soroa in the province of Artemisa where the species is distributed. It is a natural landscape of great beauty and abundant biodiversity.

Diagnosis. Males of *T. soroense* **sp. nov.** can be differentiated from all known congeners by the tibia I apophysis with a proventral branch with an apical long and acuminate megaspine and the contiguous spine of the prolateral branch 1/2 longer than the branch (Fig. 20A–D), and further by their robust bulb (Fig. 20F–H) with an apical keel (Fig. 20G). They resemble those of *T. granmense* **sp. nov.** and *T.*

cubanum by their bulb with a thick and rounded tegulum (Fig. 20F–H) but differs from *T. granmense* **sp. nov.**, by the short and retrolateral curved embolus in ventral view (Fig. 20G) and from *T. cubanum* by the long apical megaspine on the proventral branch of the tibia I apophysis (Fig. 20D) and by the procurved posterior ocular row (Fig. 20C). Females can be distinguished from all other species by the shape of their spermathecae (Fig. 21F), similar to *T. cubanum* and *T. goloboffi*. They differ from females of *T. cubanum* by the spermathecae lacking an apical receptacle and from *T. goloboffi* by their wide base, and STC with a row of teeth in all legs.

Description. — **Male** (holotype, ZMB 50611, Figs 19, 20): Total length: 17.33. Carapace (Fig. 19A): 7.64 long, 6.45 wide. Cephalic region 4.69 long, thoracic striae shallow; caput raised. Fovea straight and deep, 0.87 wide. Ocular region (Fig. 19C) slightly raised, 0.69 long, 1.29 wide. Anterior ocular row procurved; posterior slightly recurved, almost straight.

Ocular measurements: AME 0.22, ALE 0.20, PME 0.26, PLE 0.30; AME–ALE 0.15, PME–PLE 0.05, AME–PME 0.09, ALE–PLE 0.20, AME–AME 0.19, PME–PME 0.62. Chelicerae (Fig. 19E): elongate and slender, hirsute, 3.92 long; 2.05 wide. Furrow promargin with 11 teeth, retromargin with 6 tiny teeth on outer edge and seven denticles near the apex. Intercheliceral tumescence basal, pallid with small bristles. Rastellum composed of thick long setae. Labium (Fig. 19D): 0.82 long; 1.07 wide; with five rounded cuspules and abundant apical bristles. Labio-sternal suture a narrow groove with two lateral sigilla well defined, almost joined. Maxillae (Fig. 19D): promargin 2.00 long, retromargin 2.60 long, 1.21 wide, with ~101/97 cuspules in inner angle, developed angular heel. Sternum (Fig. 19B): 3.60 long, 3.12 wide; sigilla small and marginal, oval. Abdomen, dorsal (Fig. 19F): 7.23 long, anterior edge of the booklung opening with combs present. Spinnerets (Fig. 19G): posterior median: 0.63 long; posterior lateral with basal: medial: apical lengths 1.39:0.73:0.42.

Lengths of legs and pedipalp (femur, patella, tibia, metatarsus, tarsus, total): I: 6.51, 3.91, 4.38, 4.71, 2.82, 22.33. II: 6.26, 3.39, 4.51, 4.78, 2.66, 21.60. III: 5.40, 2.73, 3.63, 5.34, 2.68, 19.77. IV: 7.16, 3.06, 5.97, 7.71, 3.12, 27.00. pedipalp: 4.01, 2.12, 3.39, —, 1.66, 11.20. *Chaetotaxy:* Leg I: fe d0-0-2ap, pa p0-1-0, ti p0-1-1 v2-1-2-1, me 0, when folded it touches the outer side of the megaspine of the ventral branch, tar 0. Leg II: fe d0-0-2, pa p0-0-1, ti p1-1-0 v2-3-3ap, me v1-0-0, ta 0. Leg III: fe d0-2-2, pa p0-1-2, ti p0-1-1 v3-2-3ap r 0-1-1, me d1-2-2ap v2-2-3ap, ta 0. Leg IV: fe d0-0-5, pa 0, ti p1-1-1-1 v3-2-1-3ap r1-0-1, me d2-1-2-2ap v2-2-2-1-3ap, ta 0. Pedipalp: fe d0-0-1, pa 0, ti p0-1-1 v0-1-1ap (with rigid setae, more abundant in the prolateral apical side), ta 0. Metatarsi and tarsi I and II ventrally discoloured; tarsi IV cracked. Tibia I with twin apophysis (Fig. 20A–D): positioned proventrally, ventral branch curved, long, with a long apical megaspine with the same length of the ventral branch; prolateral branch small with a contiguous spine (1:2 longer than the branch), prolateral and ventral branches well separated. Pedipalp (Fig. 20E, I); cymbium triangular, elongate, with deep incision. Bulb (Fig. 20F–H), 1.80 length, bulb rounded and thick with duct tapering. Embolus short 1.05 long, curved; apical portion with an apical keel (Fig. 20G).

Scopulae: apical on cymbium. Legs: I: Me 3:4 A, Ta complete throughout the segment. II: Me 1:2 A, Ta complete throughout the segment. III: Me 1:2 A, Ta complete throughout the segment, divided by a clear very visible band of setae, delimited by a line of bristles on each side. IV: Me 3:4 A, divided by strong setae, Ta complete throughout the segment, divided by two central rows of setae and a line of bristles on each side. *Trichobothria*: (Filiform): Pedipalp: 7/8 on tarsus (separated by a wide band of small rigid setae). Legs: I Ti 4/4, Me 10, Ta 7/8; II, Ti 5/5, Me 8, Ta 6/5; III Ti 4/4, Me 8, Ta 9/8; IV Ti 4/5, Me 9, Ta 10/12. Clavate trichobothria in two rows on distal half (separated by a wide band of small rigid setae): 9/9 on tarsus I; 6/5 on tarsus II; 8/9 on tarsus III; 8/8 on tarsus IV; 9/8 on pedipalp tarsus. STC one row: I–II: 2/0; III–IV bare. *Colour in alcohol*: chelicerae and dorsal legs covered by whitish setae. Chelicerae brown, carapace and legs brown. Abdomen dorsal pattern faint, symmetrical, with 5 spots in the middle, and on the side of each spot a lateral line.

Female (paratype, ZMB 50611, Fig. 21): Total length: 17.05. Carapace (Fig. 21A): 6.69 long, 5.36 wide. Cephalic region 4.27 long, thoracic striae shallow; caput raised. Fovea a slightly recurved and deep, 0.64 wide. Ocular region (Fig. 21E) slightly raised, 0.69 long, 1.13 wide. Anterior ocular row procurved; posterior slightly recurved.

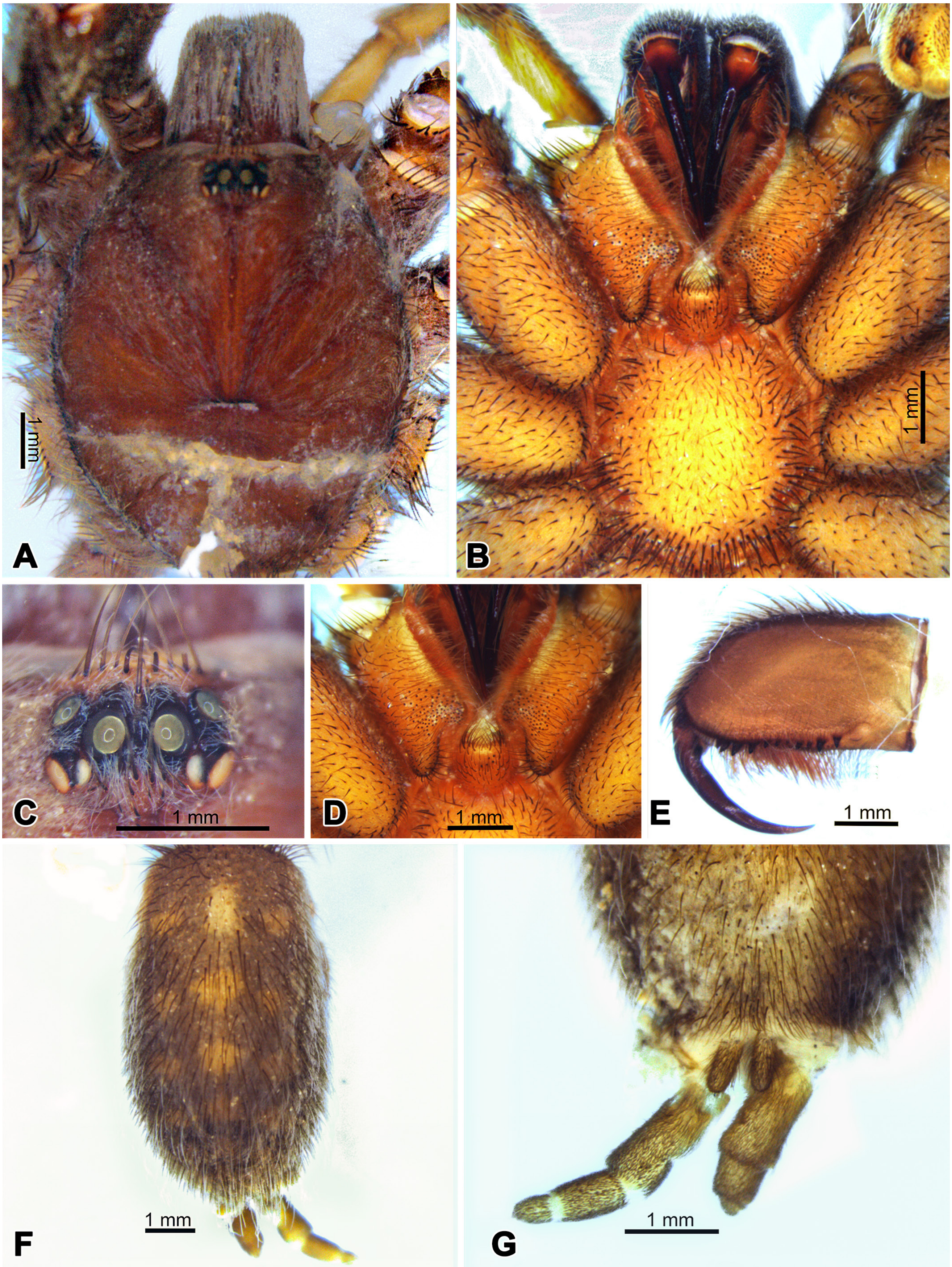

Figure 19. *Trichopelma soroense* **sp. nov.**, male holotype (ZMB 50611). **A.** Cephalothorax, dorsal view; **B.** Sternum, labium, maxillae, ventral view; **C.** Ocular region, dorsal view; **D.** Labium and maxillae, ventral view; **E.** Chelicera, prolateral view; **F.** Abdomen, dorsal view; **G.** Spinnerets, ventral view.

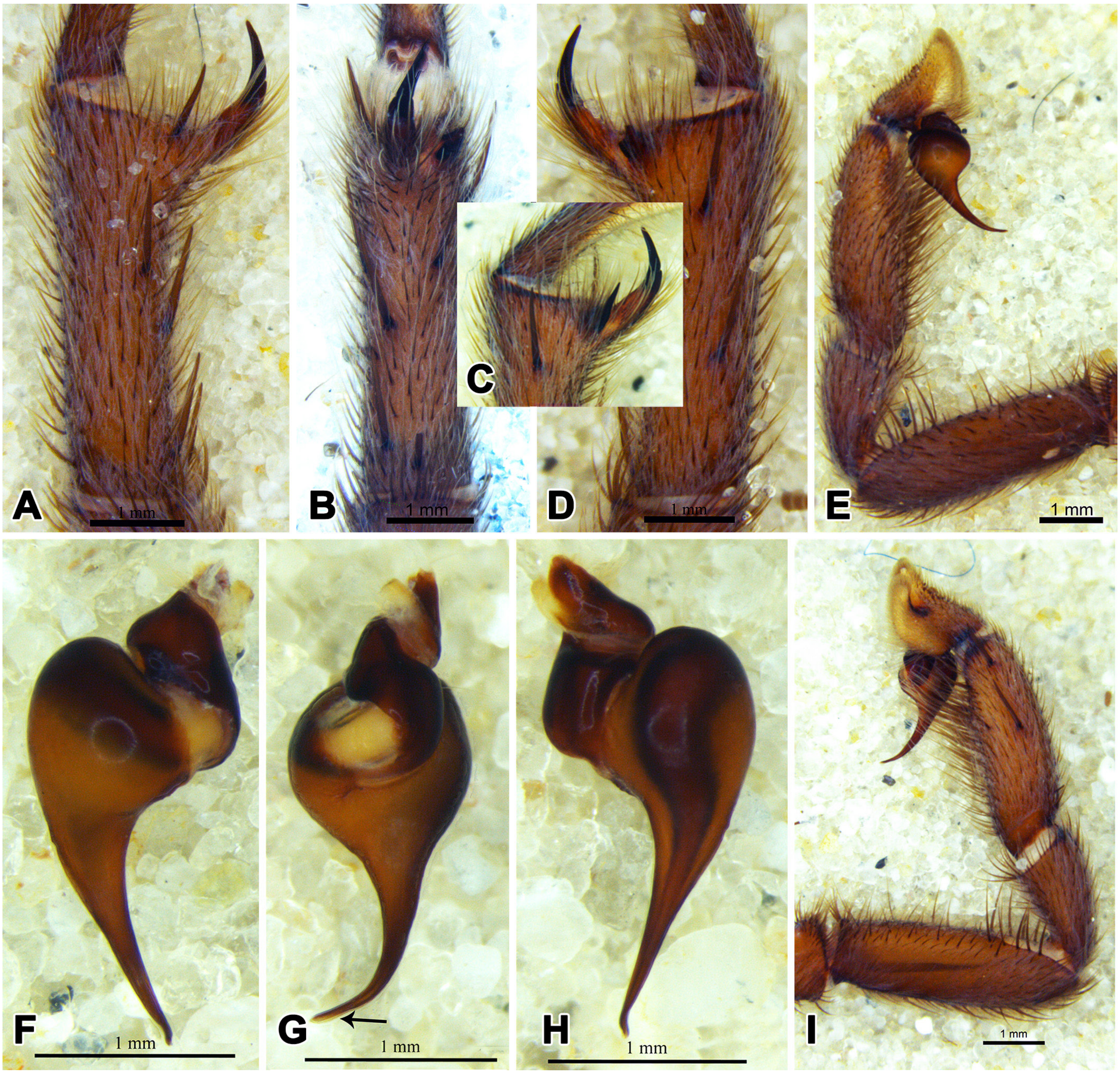

Figure 20. *Trichopelma soroense* **sp. nov.**, male holotype (ZMB 50611). **A–D.**, Right tibia I: **A.** Retrolateral view; **B.** Ventral view; **C.** Left tibia I, prolateral branch close up, megaspine complete, prolateral view; **D.** Right tibia, prolateral branch with megaspine broken, prolateral view; **E., I.** Right pedipalp: **E.** Retrolateral view; **I.** Prolateral view; **F–H.**, Bulb: **F.** Retrolateral view; **G.** Ventral view; **H.** prolateral view.

Ocular measurements: AME 0.20, ALE 0.34, PME 0.19, PLE 0.25; AME–ALE 0.14, PME–PLE 0.04, AME–PME 0.10, ALE–PLE 0.21, AME–AME 0.17, PME–PME 0.51. Chelicerae: elongate and slender, 4.46 long; 2.49 wide. Furrow promargin with 10 teeth, retromargin with six tiny teeth on outer edge and seven denticles near the apex. Rastellum composed of thick long setae. Labium (Fig. 21B): 0.95 long; 1.07 wide; with 11 rounded cuspules and abundant apical bristles. Labio-sternal suture a narrow groove with two lateral sigilla well defined, almost joined. Maxillae (Fig. 21B): promargin 2.00 long, retromargin 2.23 long, 1.23 wide, with 62/66 cuspules in inner angle, developed angular heel. Sternum (Fig. 21B): 3.31 long, 2.89 wide; all sigilla small and marginal, oval. Abdomen, dorsal (Fig. 21C): 7.29 long, anterior edge of the booklung opening with combs present. Spinnerets (Fig. 21D): Posterior median: 0.64 long; posterior lateral with basal: medial: apical lengths 1.43:0.60:0.40, apical segment domed. Spermathecae (Fig. 21F): two, small and rounded.

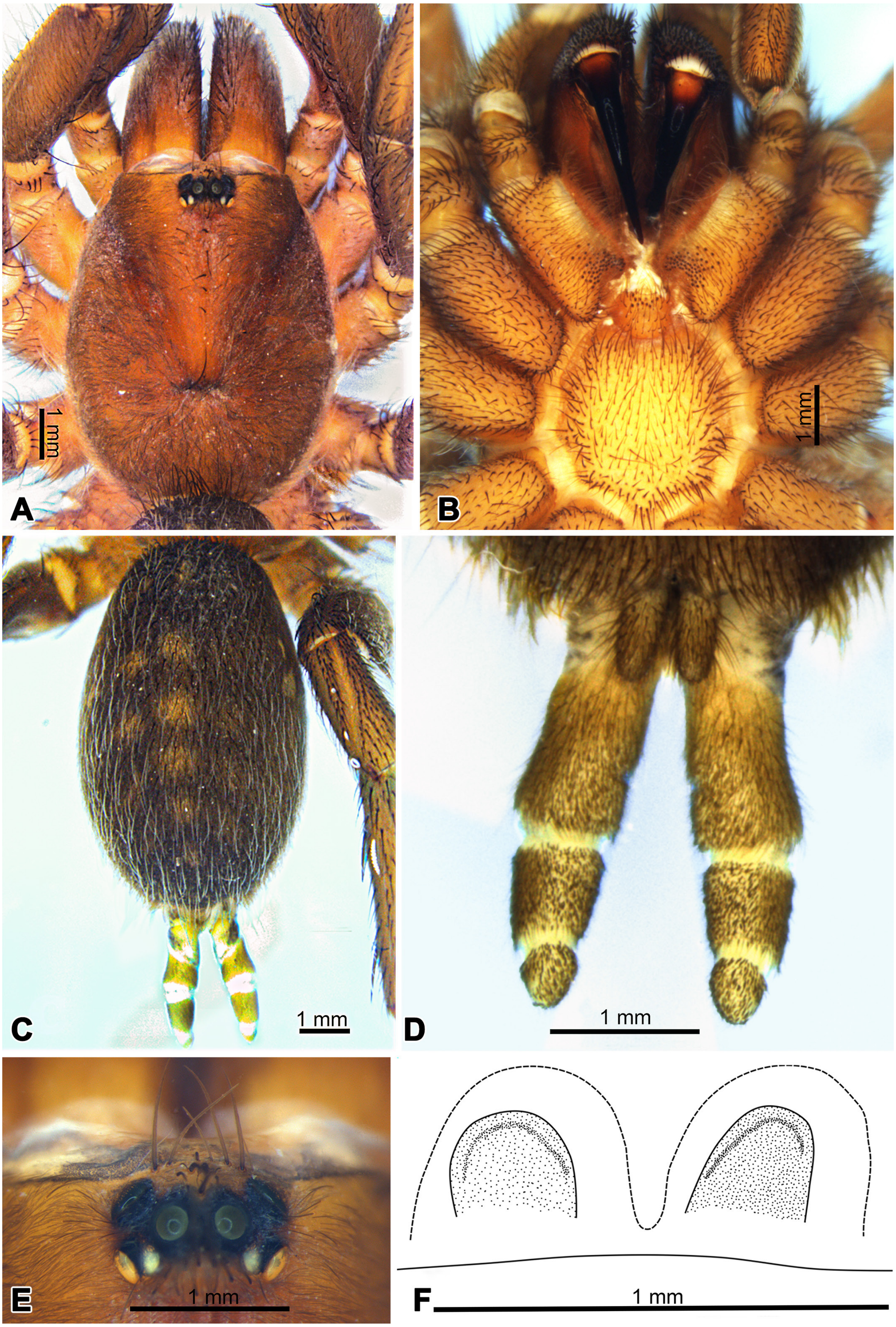

Figure 21. *Trichopelma soroense* **sp. nov.**, female paratype (ZMB 50611). **A.** Cephalothorax, dorsal view; **B.** Sternum, labium, maxillae, ventral view; **C.** Abdomen, dorsal view; **D.** Spinnerets, ventral view; **E.** Ocular region, dorsal view; **F.** Spermathecae.

Lengths of legs and pedipalp (femur, patella, tibia, metatarsus, tarsus, total): I: 5.08, 3.34, 3.46, 3.02, 1.87, 16.76. II: 4.62, 3.00, 3.06, 2.85, 1.87, 15.40. III: 4.19, 2.40, 2.38, 3.54, 1.90, 14.41. IV: 5.76, 2.81, 4.65, 5.66, 2.35, 21.22. pedipalp: 3.71, 2.17, 2.31, —, 2.33, 10.50. *Chaetotaxy:* Legs: I–II: fe d0-0-1, pa 0, ti v0-1 spiniform setae-0, me v1-0-1ap, ta 0; III: fe d0-0-1ap, pa p0-1-0, ti p0-3-0 v2-1-3ap r0-0-1, me d2-2-2 v1-2-3ap, ta 0; IV: fe d0-0-1ap, pa 0, ti v1-2-3ap r1-0-1, me d1-2-2ap v2-1-2-3, ta 0; Pedipalp: fe d0-0-1, pa 0, ti v0-0-3ap p0-2-0, ta 0.

Scopulae: Pedipalp: complete and divided by a band of setae. Legs: I–II: Me-Ta complete throughout the segment. III: Me 3:4 A, divided by a band of long setae, Ta complete throughout the segment, divided by two bands of setae. IV: Me 1:2 A (more abundant apically), divided by a band of strong setae, Ta complete throughout the segment, divided by a wide central band of setae and a line of bristles on each side. *Trichobothria*: (Filiform): Pedipalp: Ti 5/5, 8/8 on tarsus (separated by a wide band of small rigid setae). Legs: I Ti 5/6, Me 6, Ta 6/8; II, Ti 6/5, Me 8, Ta 6/6; III Ti 5/5, Me 10, Ta 7/7; IV Ti 6/5, Me 10, Ta 10/9. Clavate trichobothria in two rows on distal half (separated by a wide band of small rigid setae): 7/8 on tarsus I; 8/8 on tarsus II; 8/9 on tarsus III; 10/10 on tarsus IV; 9/8 on pedipalp tarsus. STC one row: pedipalp claw bare; Legs: I, 5/1; II, 5/2; III 3/0; IV bare. Tarsus IV cracked. *Colour in alcohol*: Chelicerae, carapace and legs light brown. Abdomen dorsally brown, dorsal pattern symmetrical, with 5 spots in the middle, and on the side of the first four spots a lateral line.

Distribution. **Cuba**, *Artemisa Province,* Soroa, Sierra de Candelaria (Fig. 26).

Genus *Thalerommata* Ausserer, 1875

***Thalerommata anae* sp. nov.** (Figs 22A–F, 23A–H, 24A–D, 25A–D, 26)
https://zoobank.org/urn:lsid:zoobank.org:act:2CF16D0A-98D7-4680-B9B0-6556555A9A72

Type Material. **Holotype** ♂, **Cuba**, *Sancti Spíritus Province,* Pico Potrerillo (90 m.a.s.l) [21°53'N 80°0'W], 6.VI.1992, coll. N. Navarro (ZMB 50603).

Etymology. The specific name honours Ana Tamayo Espinosa, mother of the author, for her support all these years.

Diagnosis. Males of *Thalerommata annae* **n. sp.** can be distinguished from those of all other species (except *T. gertschi* Bertani & Raven, 2023) by lacking spines on the cymbium. It differs from *T. gertschi* by the bulb with the tegulum well defined, (pyriform and not defined in *T. gertschi*) (Fig. 23 E–G); by the presence of spines on the pedipalp tibia (Fig. 23D, H) and by the higher number of maxillary cuspules (50 *vs* 28).

Description. — **Male** (holotype, ZMB 50603, Figs 22–25): Total length: 6.68. Carapace (Fig. 22A, B): 3.80 long, 3.01 wide. Cephalic region 2.55 long, slightly raised, almost flat. Fovea straight (Fig. 22B), 0.48 long. Ocular region (Fig. 22D) on a slightly prominence, 0.34 long, 0.68 wide. Anterior ocular row procurved with five anterior setae; posterior row recurved.

Ocular measurements: AME 0.08, ALE 0.20, PME 0.15, PLE 0.18; AME–ALE 0.04, PME–PLE 0.03, AME–PME 0.07, ALE–PLE 0.06, AME–AME 0.08, PME–PME 0.24. Chelicerae: elongate and slender, hirsute. Furrow promargin with 10 teeth, with 23 denticles near the apex. Intercheliceral tumescence absent and some setae as rastellum. Labium (Fig. 22E): 0.41 long; 0.53 wide; with 10 rounded cuspules and abundant apical bristles. Labio-sternal suture narrow with two lateral sigilla well separated. Maxillae (Fig. 22E): promargin 1.04 long, retromargin 1.35 long, 0.66 wide, with 53/50 cuspules in inner angle, developed angular heel. Sternum (Fig. 22C): 1.89 long, 1.61 wide; all sigilla small and marginal, oval. Abdomen, dorsal (Fig. 22A): ~2.88 length, with scales on the dorsal and lateral sides. Booklung combs hardly visible. Spinnerets (Fig. 22F): posterior median:0.24 long; posterior lateral with basal: medial: apical lengths 0.42:0.27:0.22.

Lengths of legs and pedipalp (femur, patella, tibia, metatarsus, tarsus, total): I: 2.89, 1.94, 2.15, 2.09, 1.24, 10.31. II: 2.48, 1.63, 1.69, 1.82, 1.13, 8.75. III: 2.35, 1.44, 1.58, 2.38, 1.17, 8.91. IV: 3.30, 1.77, 2.64, 3.82, 1.31, 12.84. pedipalp: 1.81, 1.21, 1.52, —, 0.54, 5.08. *Chaetotaxy:* Leg I: fe d0-0-1ap, pa 0, ti p0-0-1 v2-2-1ap, me v1-2-2, ta 0. Leg II: fe d0-0-1, pa 0, ti p0-1-1-0 v2-1-3ap, me p1 v2-3-2ap, ta 0. Leg III: fe d2-2ap, pa p0-2-0 r1, ti p2-2 v2-2-3ap r1-2, me d1-2-2 p1-1 v2-1-1-3 r1-1, ta 0. Leg IV: fe d0-0-2-2, pa p1 r1, ti p2-2 v2-2-3ap r2-1-2, me d2-2-2 p1-1-1 v2-1-1-3ap r1, ta 0. Tibia I with twin apophysis (Fig. 23A–C): positioned completely prolaterally, apical branch conical, small with an apical small megaspine, inferior branch small with an apical long megaspine (3 times longer than the branch), apical and inferior branches well separated.

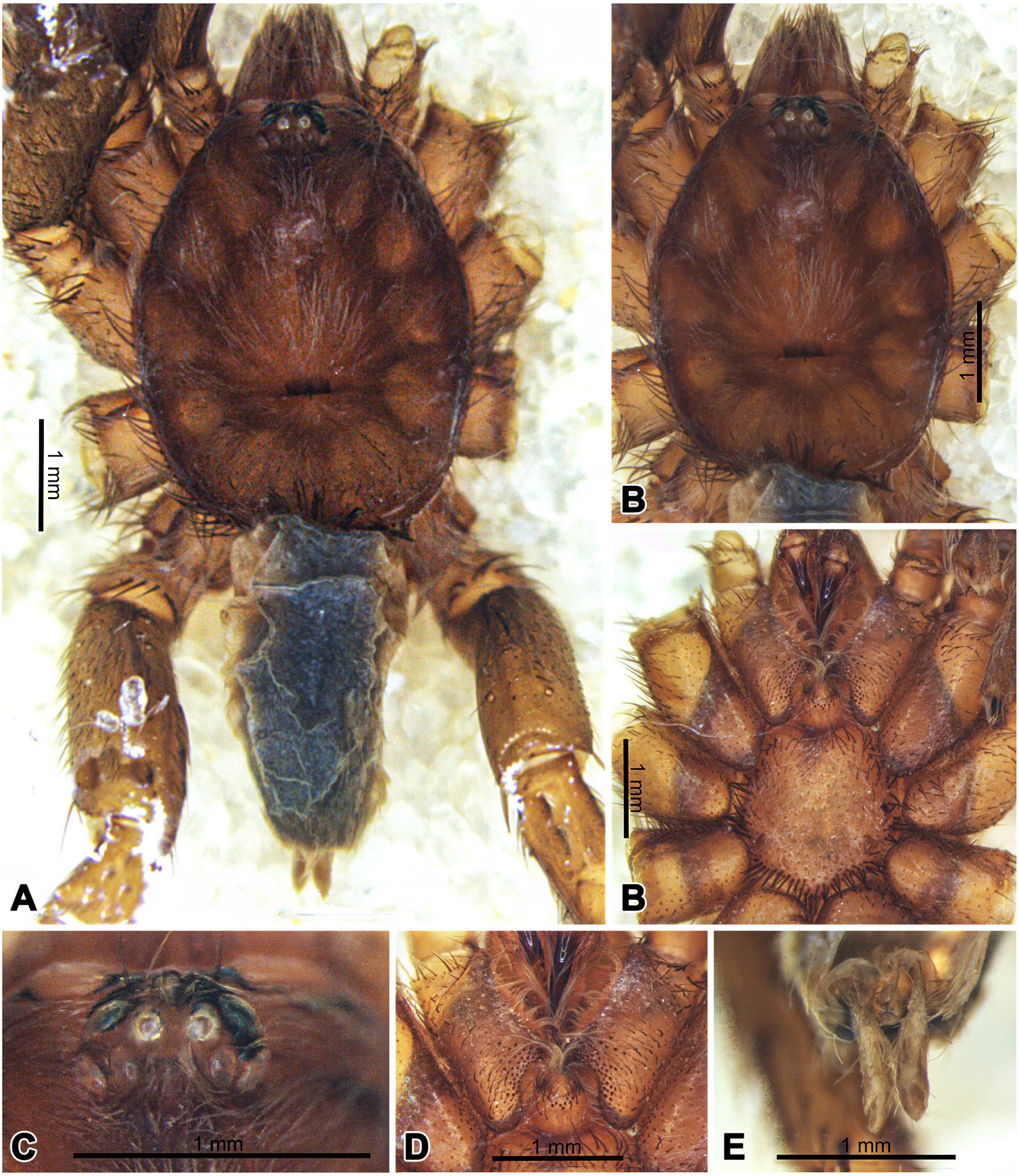

Figure 22. *Thalerommata anae* **sp. nov.**, male holotype (ZMB 50603). **A.** Overall, dorsal view; **B.** Cephalothorax, dorsal view; **C.** Sternum, labium, maxillae, ventral view; **D.** Ocular region, dorsal view; **E.** Labium and maxillae, ventral view; **F.** Spinnerets, ventral view.

Pedipalp: fe d0-0-1, pa 0, ti p1 (with rigid setae, on the sides of the groove, where the bulb rests), ta 0. Tarsi I ventrally discoloured, tarsi IV not cracked. Pedipalp (Fig. 23D, H); cymbium small, with a small incision. Bulb (Fig. 23E–G): 1.53 length, piriform with a very long embolus 1.25 long.

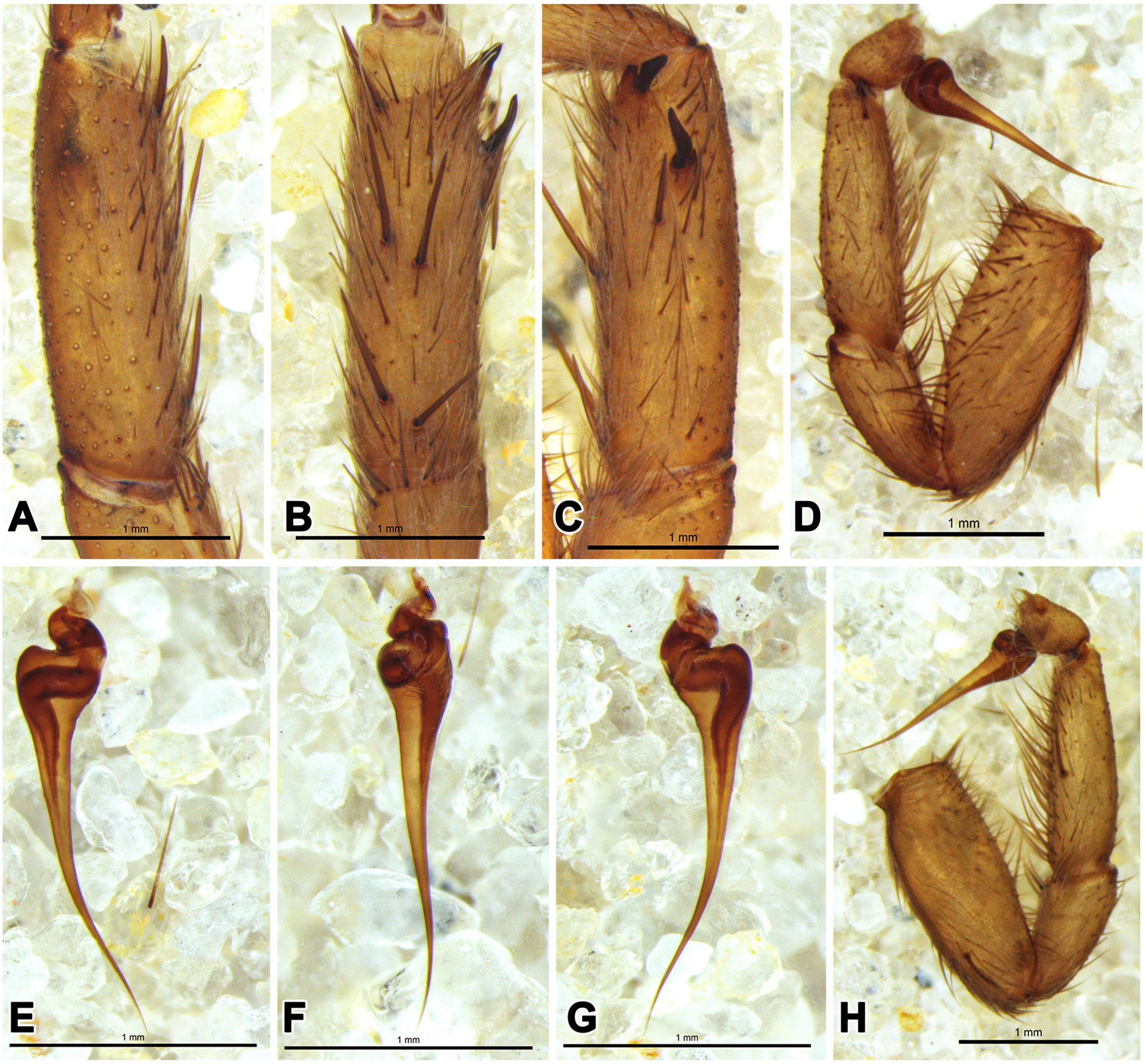

Figure 23. *Thalerommata anae* **sp. nov.**, male holotype (ZMB 50603). **A–C.** Right tibia I: **A.** Retrolateral view; **B.** Ventral view; **C.** Prolateral view; **D., H.** Right pedipalp: **D.** Retrolateral view; **H.** Prolateral view; **E–G.**, Bulb: **E.** Retrolateral view; **F.** Ventral view; **G.** Prolateral view.

Scopulae: apical on cymbium. Legs: I: Me 1:2 A, Ta complete throughout the segment. II: Me 1:2 A, scarce, Ta complete throughout the segment. III: Me bare, Ta complete throughout the segment, divided by a band of setae. IV: Me bare, Ta complete throughout the segment, divided by two central rows of setae and a line of bristles on each side. *Trichobothria*: (Filiform): Pedipalp: cannot be distinguished. Legs: I Ti 5/5, Me 6, Ta 5/5; II, Ti 5/6, Me 6, Ta 6/6; III Ti 6/5, Me 8, Ta 5/5; IV Ti 6/7, Me 8, Ta 7/7. Clavate trichobothria in two rows on distal half (separated by a band of small rigid setae): [cannot be distinguished on pedipalp]; 5/5 on tarsus I; 5/5 on tarsus II; cannot be distinguished on tarsus III; 5/5 on tarsus IV. STC two rows (double on each side of the paired claws): I 4/1, 4/4; II 4/3, 4/3; III 3/0, absent; VI 3/2, 4/2.

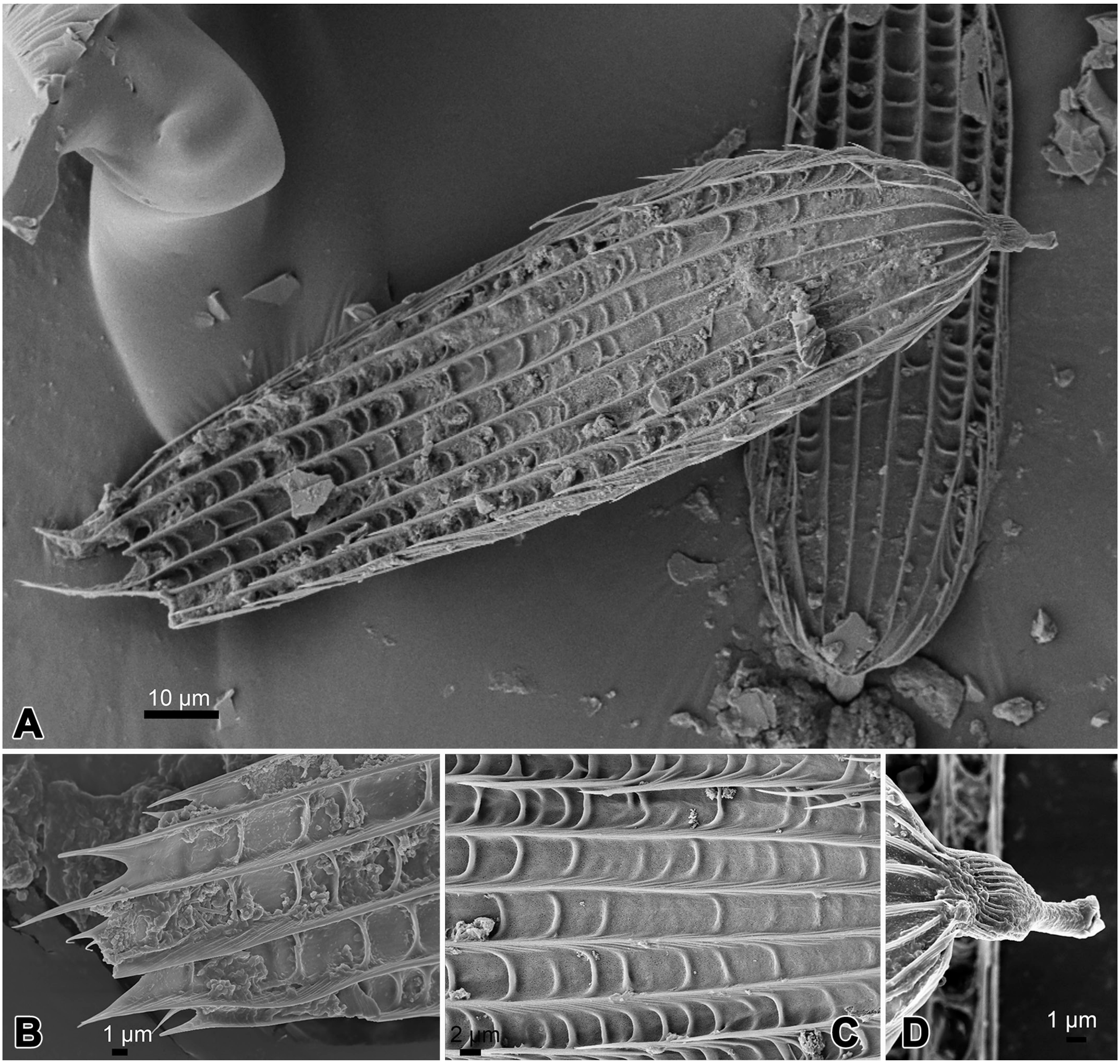

Figure 24. *Thalerommata anae* **sp. nov.**, male holotype (ZMB 50603). Type I scale: **A.** Overall view; **B.** Apical portion; **C.** Middle portion; **D.** Basal portion.

Scales (Figs 24, 25): Two types with pointed apex and margins. Type I, wide, ornamented with longitudinal ridges joined between them by small, curved, plicae (Fig. 24A–D), the internal rachis are bare while the nearest to the edge and the margin present pointed projections (Fig. 24A). Type II is slender with numerous longitudinal keels from the base to the apex and the margin present pointed projections (Fig. 25A–D). The base is wide with different ornamentations on it, while the pedicel is bent, hollow and with small ornamentations (Figs 24D, 25D). *Colour in alcohol*: Chelicerae brown, carapace and legs orange-brown. Abdomen cannot be distinguished.

Female. Unknown.

Distribution. **Cuba**, Sancti Spíritus province, Trinidad municipality (Fig. 26).

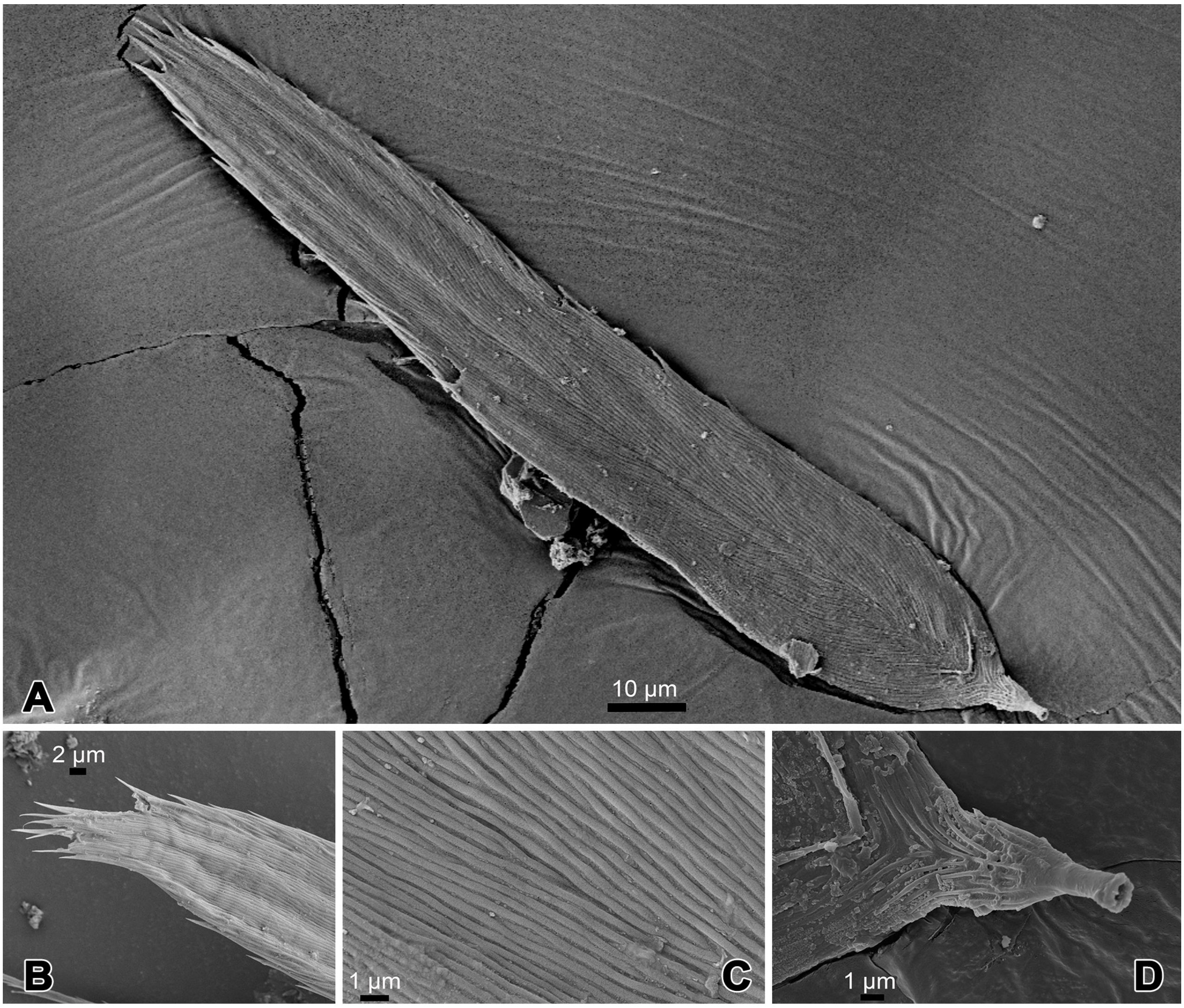

Figure 25. *Thalerommata anae* **sp. nov.**, male holotype (ZMB 50603). Type II scale: **A.** Overall view; **B.** Apical portion; **C.** Middle portion; **D.** Basal portion.

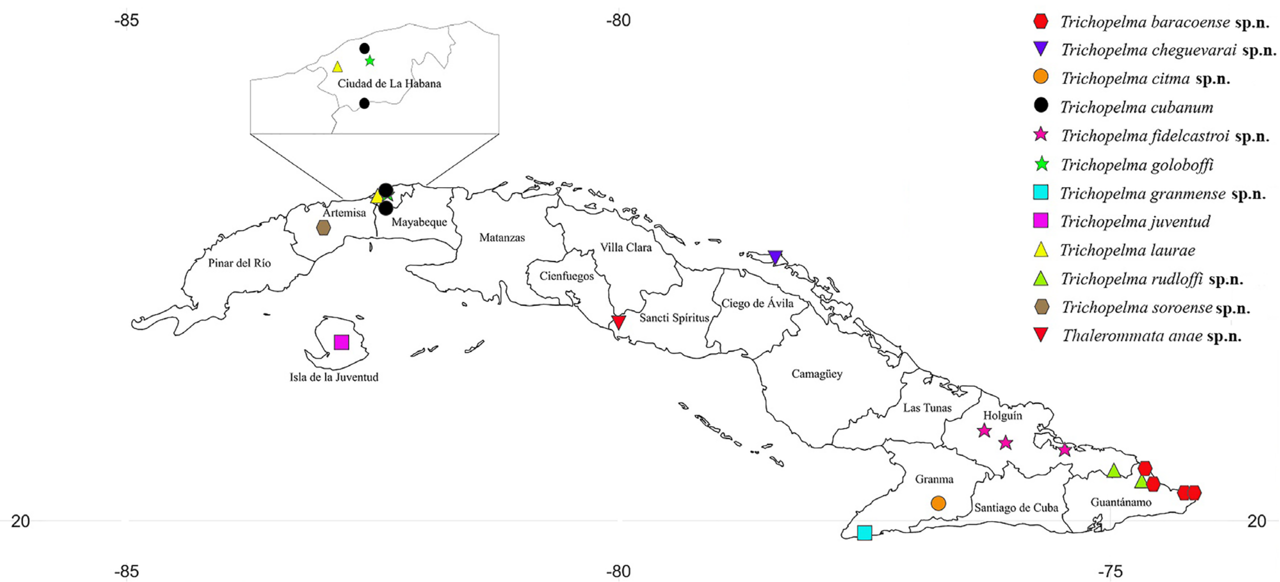

Figure 26. Distribution of *Trichopelma* spp. and *Thalerommata anae* **sp. nov.** in Cuba.

DISCUSSION

Historically, the description of new species is based on a set of specimens that hypothetically are a population. But, in some cases, some new species are described based on only one or few specimens that present interesting and new characters. This practice is not the norm of the taxonomic process but, sometimes, it is the only option for groups that are very rare or difficult to collect. In Mygalomorphae this type of practice, even though it is not the most recommended, has been done by different authors in different taxa (e.g. Griswold, 1987; Raven, 1994; Griswold & Ledford, 2001; Bond, 2012; Engelbrecht & Prendini, 2012; Ríos-Tamayo & Goloboff, 2018; Sherwood & Gabriel, 2020, 2022, 2023). A primary function of museum collections has been as a record of biological diversity and as references for taxonomists. In addition, collections frequently hold a large volume of unsorted material and today the majority of newly described species are discovered within existing collections (Meineke et al., 2019). One measure of the taxonomic impediment is the lag time (the gap between when a new species is first collected and when it is identified); currently, the average lag time is 21 years (Kemp, 2015). In this case, the specimens described here are deposited in the Collections of Arachnida and Myriapoda at the Museum für Naturkunde, Berlin, Germany (ZMB) with a gap of 25–30 years. Due to the structures and characters found in the new species proposed here, it is important to describe new taxa so that they are not lost or forgotten for years to come, which could take another 20 years for a researcher to rediscover. In regards to the genus *Trichopelma* from Cuba, in Havana, near *T. cubanum*, two other species were described based on a single sex: *T. goloboffi* and *T. laurae*, based on female and male respectively. The type localities of both species are only a distance of 10 km apart and very near to *T. cubanum*. Since the description of the older species of *Trichopelma*, Havana city and its surroundings have undergone great changes, with all its urbanized surroundings; it is probable that the type localities of these species have been lost to development. Given the near distribution and the few characters shared between both sexes on this genus, these species are prone to be confused with each other. In the future, if more specimens from these three species are collected and more characters are observed, *T. goloboffi* and *T. laurae* might be found to be synonymous for the time being, I leave these species in their current status, tentatively.

Trichopelma soroense **sp. nov.** is described from Sierra de Candelaria (Artemisa province, old Pinar del Río province), around 80 km from the type locality of *Trichopelma eucubanum* (Valle de Viñales, Pinar del Río province). Franganillo (1930) cited the presence of a small clypeus and that the STC was bare in *T. eucubanum*. Since the genus *Trichopelma* do not present a clypeus (Mori & Bertani, 2020) and the type specimen of *T. eucubanum* was declared lost (Alayón, 2000), this species was cited as *nomen dubium* by Mori & Bertani (2020). Given the short description published by Franganillo, *T. soroense* **sp. nov.** differs from *T. eucubanum* by their STC with teeth.

The cuticle of mygalomorph spiders presents many distinct structures, e.g.; sensitive, urticating, adherent, and covering setae, bristles, scales, spines, claws, stridulatory ridges, and lyra, among many others, although configurations vary exactly between different families (Pérez-Miles et al., 2017; Bertani & Guadanucci, 2013; Galleti-Lima & Guadanucci, 2018; Guadanucci et al., 2020). These structures present great taxonomic importance inside of the family Theraphosidae (Sherwood, 2020), defining some of the subfamily-level features. In the subfamily Theraphosinae Thorell, 1869, the presence of stridulatory setae and their different types is a very useful character at a generic level. Urticating setae are present only in Theraphosinae and Aviculariinae of New World and their morphology is an important character in several genera, even between subfamilies (Guadanucci et al., 2020). Other cuticular structures that have been found in mygalomorph spiders are trichobothria (Guadanucci, 2012), adhesive tarsal setae (Pérez-Miles et al., 2017), labial and maxillary cuspules (Pérez-Miles & Montes de Oca, 2005), epiandrous glands (Ferretti et al., 2017) and chemosensory setae (Pérez-Miles et al., 2017). Scales in spiders comprise a specific type of setae because they lack innervation (Townsend & Felgenhauer, 1999) and are defined as setae inserted in small sockets and bent immediately after their insertion (Townsend & Felgenhauer, 1998; Ramírez, 2014). The presence of scales is more common in araneomorphs than mygalomorphs and is responsible, in many cases, for the characteristic colour of many spiders (Foelix et al., 2013; Guadanucci et al., 2020). In many genera of the family Theraphosidae, scales are present and reflect light, sometimes being responsible for the characteristic blue colour in many taxa (e.g. *Dolichothele diamantinensis* (Bertani et al., 2009)). Scales in *Thalerommata* spp. are unique and different in morphology to others present in other genera (J. Guadanucci, pers. comm.), and able to be seen under a stereomicroscope. At the moment, two types of ultramorphology (Figs 24, 25) have been found. The new species presented here suggest that the diversity of this hotspot might be significantly higher than thought at present. It is crucial that further taxonomic works are performed to understand the real biodiversity of the island.

AUTHOR'S CONTRIBUTION

The author confirms his contribution to the whole processing steps in the research, preparation and revising of the manuscript. He read and approved the final version of the manuscript.

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AVAILABILITY OF DATA AND MATERIAL

The specimens listed in this study are deposited in the Museum für Naturkunde, Berlin, Germany (ZMB) and the National Museum of Natural History, Paris, France (MNHN) and are available from the curator upon request.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Not applicable.

CONSENT FOR PUBLICATION

Not applicable.

CONFLICT OF INTERESTS

The authors declare that there is no conflict of interest regarding the publication of this paper.

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Supplementary material 1. List of characters used in the cladistic analysis. Those characters and character states were taken from Mori & Bertani (2020). For any explanation in some character see the original description.

Continuous characters. **0)** Maxillary cuspule number: minimum value: 3 cuspules; maximum value: 259. Characters 0 and 1 are herein analysed as continuous characters. **1)** Labial cuspule number: minimum value: 0 cuspules; maximum value: 367.

Discrete characters. **2)** Fovea shape: (0) straight, slightly procurved or slightly recurved; (1) procurved; (2) recurved; (3) pit-like. **3)** Clypeus: (0) present, wide; (1) absent or narrow. **4)** Tubercle height in females: (0) absent or low; (1) high; (2) very high. **5)** Anterior eye row: (0) straight or slightly procurved; (1) procurved; (2) strongly procurved. **6)** Cheliceral teeth rows: (0) single; (1) double. **7)** Rastellum: (0) slender setae; (1) with thick long setae; (2) with short stout setae. **8)** Scopula on retrolateral face of chelicerae: (0) absent; (1) present. **9)** Intercheliceral intumescence in males: (0) absent; (1) present. **10)** Lighter colour on the prolateral maxilla edge: (0) absent, (1) present. **11)** Spiniform setae on lower prolateral face of maxillae: (0) absent; (1) present. **12)** Lyra: (0) normal setae; (1) modified setae on maxilla; (2) modified setae on coxae I and II. **13)** Maxillary heel: (0) absent or nearly indistinct; (1) distinct. **14)** Frontal lobe: (0) absent or nearly indistinct; (1) distinct. **15)** Frontal lobe length: (0) less than half of maxillae width; (1) about half of maxillae width; (2) ¾ or more of maxillae width. **16)** Spiky cuspules on maxillae of females: (0) absent; (1) present. **17)** Maxillary cuspules: (0) limited to corner; (1) spread to the frontal lobe. **18)** Maxillary cuspules: (0) limited to anterior corner; (1) spread to heel. **19)** Coxae I and II: (0) lacking cuspules; (1) with cuspules. **20)** Sternum, shape: (0) width and length subequal; (1) wider than long; (2) longer than wide. **21)** Sigilla, posterior, position: (0) more than one diameter from sternum margin; (1) less or close to one diameter from sternum margin. **22)** Labium, shape: (0) quadrate; (1) trapezoid; (2) ellipsoid. **23)** Pattern: (0) uniform; (1) mottled; (2) striped; (3) 18-spot; (4) converging; (5) herringbone. **24)** 18-spot pattern: (0) unconnected; (1) partially connected; (2) connected; (3) merged. **25)** Abdominal structures: (0) absent; (1) tubercles; (2) scales. **26)** Book lung combs: (0) absent; (1) present. **27)** Urticating setae type II: (0) absent; (1) present. **28)** Urticating setae type III: (0) absent; present (1). **29)** PMS: (0) absent; (1) present. **30)** PLS, distal article: (0) short, triangular or domed; (1) digitiform. **31)** Apical PLS article: (0) lacking a band; (1) with a band. **32)** PLS, apical segment: (0) not incrassate; (1) incrassate. **33)** PLS size: (0) regular; (1) elongate. **34)** Setae on metatarsi and tibiae I–IV, length, males: (0) same length; (1) longer setae projecting laterally. **35)** Cuticle: (0) lacking encrusted soil particles; (1) encrusted with soil. **36)** Tibia I of females: (0) regular; (1) thickened. **37)** Spine density on metatarsi III and IV: (0) high; (1) reduced; (2) absent; (3) spines on pedipalp and legs I–II, absent on legs III and IV. **38)** Tarsi of legs, spines: (0) absent; (1) with spines. **39)** Female pedipalp, spines: (0) spines absent or not forming a pattern; (1) with symmetrical v2–2–2 pattern of long and curved spines. **40)** Male pedipalp tibia, spines: (0) lacking retrolateral megaspine comb; (1) with retrolateral megaspine comb. **41)** Metatarsi I and II in females, spines: (0) lacking long curved spines; (1) with curved long spines. **42)** Male tibia I, spine club: (0) lacking spine club; (1) with spine club. **43)** Female tibia III, spines: (0) lacking spine brush; (1) with spine brush. **44)** Legs I and II of females, preening combs: (0) absent; (1) present. **45)** Legs III of females, preening combs: (0) absent; (1) present. **46)** Leg IV of females, preening combs: (0) absent; (1) present. **47)** Tarsi, clavate trichobothria: (0) absent; (1) present. **48)** Tarsal clavate trichobothria, distribution: (0) concentrated in middle; (1) distributed in two lines along tarsus; (2) in short median line. **49)** IRC on tarsus I, male and female: (0) absent; (1) present. **50)** IRC on tarsus IV, male and female: (0) absent; (1) present. **51)** STC on female pedipalp, teeth: (0) bare; (1) with one tooth; (2) with several teeth. **52)** STC on female legs, teeth: (0) bare; (1) with one tooth; (2) with two or more teeth; (3) with double row of several teeth; (4) with more than 2 teeth laterally on outer edge; (5) with large tooth with very tiny teeth on it. **53)** STC on male legs, teeth: (0) bare; (1) with one tooth; (2) with two or more teeth; (3) with double row of several teeth; (4) with more than 2 teeth laterally on outer edge; (5) with more than 2 teeth laterally on inner edge. **54)** Female pedipalp, tufts: (0) absent; (1) present. **55)** Legs, claw tufts: (0) absent; (1) present. **56)** Pedipalp, legs I and II of females, scopula: (0) absent; (1) sparse; (2) dense; (3) spatulate. **57)** Scopula, shape on tarsus of pedipalp of females: (0) full; (1) divided by row of setae. **58)** Scopula, distribution on female Pedipalp: (0) only on tarsus; (1) on tarsus and tibia. **59)** Scopula shape on female tarsi I: (0) full; (1) divided by a row of setae. **60)** Scopula, distribution on female leg I: (0) on tarsus and part of metatarsus; (1) on tarsus and metatarsus; (2) on tarsus, metatarsus and tibia. **61)** Scopula area, shape on female leg IV: (0) full; (1) divided by a row of setae. **62)** Scopula, distribution on female leg IV: (0) on tarsus; (1) on tarsus and metatarsus. In the new species if the scopula in the Met IV is present in ½ of the segment was codified as state 2. **63)** Pedipalp, legs I and II on male, scopula: (0) absent; (1) sparse; (2) dense; (3) spatulate; see character 56. As we consider this character states are superfluous and depend on the researcher point of view, we codded as (?) in the new species. **64)** Scopula area, shape on male leg I: (0) full; (1) divided by a row of setae; see character 57. **65)** Scopula, distribution on male leg I: (0) on tarsus; (1) on tarsus and part of metatarsus; (2) on tarsus and metatarsus. In the new species if the scopula in the Met IV is present in ½ of the segment was codified as state 2. **66)** Scopula, shape on male leg IV: (0) full; (1) divided by a row of setae; see character 57. **67)** Scopula, distribution on male leg IV: (0) on tarsus; (1) on tarsus and part of metatarsus. **68)** Metatarsi and tarsi I of males: (0) regular; (1) discolored. **69)** Tarsi I of males: (0) integral; (1) cracked; (2) pseudosegmented. **70)** Tarsus III of females: (0) integral; (1) cracked; (2) pseudosegmented. **71)** Tarsus III of males: (0) integral; (1) cracked; (2) pseudosegmented. **72)** Tarsus IV of females: (0) integral; (1) cracked; (2) pseudosegmented. **73)** Tarsus IV of males: (0) integral; (1) cracked; (2) pseudosegmented. **74)** Leg, color: (0) uniform; (1) banded. **75)** Spermathecae: (0) one; (1) two; (2) 2 + 2. **76)** Spermathecae, main stalk: (0) thin; (1) thick tapering; (2) thick. **77)** Spermathecae, lobes: (0) lacking lobes; (1) one lobe; (2) two lobes; (3) several lobes. **78)** Spermathecae lobes, shape: (0) no constriction; (1) one rounded lobe; (2) two subequal rounded lobes; (3) two distinct rounded lobes; (4) more than two rounded lobes only on the tip of the main stalk; (5) more than two rounded lobes laterally throughout the main stalk. **79)** Spermathecae, colour: (0) uniformly slightly chitinized, pale; (1) stalk heavily chitinized, dark; (2) lobes heavily chitinized, dark; (3) all spermathecae heavily chitinized, uniformly dark; (4) base weakly chitinized, distal area and lobes strongly chitinized. **80)** Male tibial apophysis: (0) absent; (1) single thin; (2) single thick with spine on its tip; (3) with two lobes. (4) single with spiniform setae on its tip. **81)** Tibial apophysis, placement: (0) prolateral; (1) proventral; (2) ventral, In this case, I codded the genus *Trichopelma* as state (1). **82)** Dual tibial apophysis, distance between lobes: (0) close; (1) far. As I consider these character states superfluous and depending on the researcher point of view, I codded the genus *Trichopelma* as state (0). **83)** Dual tibial apophysis, direction: (0) convergent; (1) straight. **84)** Dual tibial apophysis base, fusion of lobes: (0) not fused; (1) fused. **85)** Tibial apophysis apex, spine row: (0) absent; (1) present. **86)** Metatarsus I of male, apophysis: (0) lacking apophysis; (1) bearing a ventral apophysis. **87)** Metatarsus I of male, bulge: (0) absent; (1) present. **88)** Cymbium shape: (0) rounded; (1) triangular; (2) quadrate. **89)** Triangular cymbium apex: (0) not elongate; (1) elongate, conical in dorsal view. **90)** Cymbium, incision: (0) lacking an incision; (0) with weak incision; (1) with strong, long incision. This character present three states (0,1,2) but in the original article were codded only two of them (0, 1). In the first state (0) were included the states 0 and 1, respectively. Taking into consideration the original article, I re-codded the three states of the character. **91)** Cymbium, spines: (0) absent; (1) present. **92)** Embolus, length: (0) very short; (1) short; (2) long; (3) very long. **93)** Embolus, thickness: (0) thin; (1) thick; (2) very thick. **94)** Embolus, keels: (0) lacking keels; (1) with keels; (2) with ridges or vanes.

Supplementary material 2. Data matrix showing the distribution of character states in cladistic analysis. (?=unknown, treated as missing data).

Xread 'Data saved from TNT'

95 73

&[cont]

Stenoterommata_sp	0.563	0.011
Prorachias_sp	0.047	0.000
Diplura_sp	0.047	0.000
Paratropis_sp_1	0.188	0.163
Paratropis_sp_2	0.176	0.155
Melloina_santuario	0.270	0.221
Cyphonisia_obesa	0.012	0.005
Stropheus_austeni	0.000	0.000
Barychelus_badius	0.000	0.000
Rhianodes_atratus	0.035	0.005
Monodontium_bukittimah	0.023	0.003
Zophorame_gallonae	0.379	0.109
Trittame_gracilis	0.379	0.000
Barycheloides_alluviophilus	0.012	0.000
Sason_robustum	0.008	0.022
Neodiplothele_fluminensis	0.000	0.000
Cosmopelma_ceplac	0.105	0.000
Psalmopoeus_cambridgei	0.836	0.414
Tapinauchenius_plumipes	0.563	0.330
Avicularia_avicularia	0.566	0.275
Lasiodora_sp	1.000	0.401
Heteroscodra_maculata	0.551	0.147
Pelinobius_muticus	0.777	0.902
Poecilotheria_sp	0.758	0.886
Cyriopagopus_minax	0.496	0.275
Pterinochilus_sp	0.934	0.098
Coremiocnemis_obscura	0.910	0.850
Guyruita_atlantica	0.348	0.490
Guyruita_cerrado	0.820	1.000
Sickius_longibulbi	0.531	0.346
Dolichothele_mottai	0.066	0.008
Dolichothele_exillis	0.043	0.016
Ischnocolus_valentinus	0.398	0.098
Schismatothele_benedettii	0.363	0.755
Catumiri_parvum	0.113	0.000
Catumiri_chicaoi	0.102	0.000
Holothele_longipes	0.844	0.455
Chaetopaelma_olivaceum	0.379	0.153
Nesiergus_insulanus	0.262	0.136
Euthycaelus_colonicus	0.883	0.700
Neoholothele_incei	0.859	0.738
Reichlingia_annae	0.332	0.210
Psalistops_melanopygius	0.309	0.079
Psalistops_colombianus	0.223	0.049
Cyrtogrammomma_monticola	0.113	0.008
Cyrtogrammomma_raveni	0.223	0.041
Cyrtogrammomma_sp	0.223	0.082
Trichopelma_nitidum	?	?
Trichopelma_coenobita	0.156	0.060
Trichopelma_steini	0.199	0.044
Trichopelma_affine	0.344	0.128
Trichopelma_cubanum	?	?
Trichopelma_maculatum	0.383	0.125
Trichopelma_insulanum	0.336	0.095
Trichopelma_fulvus	0.195	0.065
Trichopelma_laselva	0.367	0.120
Trichopelma_huffi	0.438	0.120
Trichopelma_gabrieli	0.316	0.087
Trichopelma_tostoi	?	?
Trichopelma_goloboffi	0.285	0.063
Trichopelma_juventud	0.535	0.090
Trichopelma_laurae	?	?
Trichopelma_bimini	0.355	0.104

Trichopelma_loui	0.293	0.063
Trichopelma_platnick	0.262	0.131
*Trichopelma_baracoense*_sp_n	?	?
*Trichopelma_cheguevarai*_sp_n	?	?
*Trichopelma_citma*_sp_n	?	?
*Trichopelma_fidelcastroi*_sp_n	?	?
*Trichopelma_granmense*_sp_n	?	?
*Trichopelma_rudloffi*_sp_n	?	?
*Trichopelma_soroense*_sp_n	?	?
*Thalerommata_anae*_sp_n	?	?

&[num]

```
Stenoterommata_sp            0010010100 000?000021 21?0000100 0000000000 000110?012 330010000? ?201101202 020121201? ????002?00 112
Prorachias_sp                0011020100 0110000020 11?0000100 0000000000 000110?112 330020102? ?111100101 010100100? ????002?00 000
Diplura_sp                   0010000000 100?000001 12?0000110 0100000000 000000?112 3300110101 0101010222 2201024321 ????102?00 200
Paratropis_sp_1              1120100000 011201001? 00?1000010 0001101000 000000?101 11000????? ?110100000 000110100? ????002?00 200
Paratropis_sp_2              1120100000 0112010011 00?1000110 0001101000 000000?101 11000????? ?110100000 000110100? ????002?01 200
Melloina_santuario           0111000000 0111000001 10?0000110 0000001000 0000011000 22110????? ?110??1001 1101000031 01??002?11 300
Cyphonisia_obesa             0112010000 010?000021 21?0100100 0000000000 000010?002 0501200011 0102111000 001100000? ????002?00 200
Stropheus_austeni            1112020000 010?000021 11?0100100 0000000000 010110?000 4401200011 0112111000 0001213230 0100002?00 110
Barychelus_badius            1112020??0 0100000021 21?0?00000 0000000?0 ??0000?000 0?112?0011 0???????0? 0?012010?? ?????????? ???
Rhianodes_atratus            11120100?0 010?000021 21?0100100 0000000000 0000010002 23012?0011 021111?000 0001200031 0000002?00 111
Monodontium_bukittimah       01110100?0 010?000001 21?0?00000 0000000000 000000?002 330111011? ?0?????000 0000????31 0000002?00 101
Zophorame_gallonae           11120200?0 0110010001 20?0100000 0000000000 000110?002 24111?0101 ?10111?000 0001001031 000002?00 121
Trittame_gracilis            11120200?0 000?000001 21?0100100 0000000000 001110?000 00?11?0111 020100?000 00020??031 0000002?00 100
Barycheloides_alluviophilus  11120200?0 010?000021 21?0100100 0000000000 000010?000 24?12?0011 020211?000 001211021 ??00002?00 121
Sason_robustum               0102000110 000?000021 14?0100101 0000030100 0000010002 1101200011 0102111000 0011024021 ????002?00 100
Neodiplothele_fluminensis    0011020110 000?000021 21?0000000 0000000101 0000010000 0011101021 0101000202 0211213001 ????002?00 002
Cosmopelma_ceplac            0000020110 000?101101 24?0000101 0000000101 0000010000 0011101020 0101101000 0011213101 ????002?00 002
Psalmopoeus_cambridgei       0110000000 1011000021 12?0000110 0010010000 0000011000 2211300010 0302010000 0001112231 0000001000 300
Tapinauchenius_plumipes      0110000000 0011000021 10?0000110 0010010000 0000011000 2211300011 0302110000 0001101231 0000001000 300
Avicularia_avicularia        0111000000 0011000021 10?0010110 0000020000 0000011000 0011300010 0302010000 0001200041 ????001000 300
Lasiodora_sp                 0011000000 2011000021 10?0001110 0000000000 0000011000 2211200010 0202010000 0001200332 0010000?00 011
Heteroscodra_maculata        3110000000 0011000021 11?0000110 0010020000 0000011000 0211300010 0302010000 000120000? ????001000 110
Pelinobius_muticus           1011000000 2011000000 10?0000110 0000010000 0000011000 0011200010 0202010000 000121200? ????001000 200
Poecilotheria_sp             0011000001 1011000021 12?0000110 0000020000 0000011000 5011300010 0302010000 0000???30? ????001000 021
Cyriopagopus_minax           0011001001 0011000020 10?0000110 0000000000 0000011000 0011200011 0202010000 0000???340 ????000?00 121
Pterinochilus_sp             0011001000 0011000021 15?0000110 0000000000 0000011000 0011200010 0202010000 0001200321 ????001000 200
Coremiocnemis_obscura        1110000100 1111000000 10?0000110 0000010000 0000011010 00?1200011 0202110000 110121220? ????001000 100
Guyruita_atlantica           0110000000 0111000001 10?0000110 0000000000 0000011000 0011200011 0101110000 0001225232 0110001010 200
Guyruita_cerrado             0110000000 0111000001 12?0000110 0000000000 0000011000 0011200011 0201110000 0001225232 0110001010 200
Sickius_longibulbi           0011000010 0111000001 10?0000110 0000000000 0000011000 0011200001 0201110000 000?????32 0110101010 310
Dolichothele_mottai          0011000000 0011000001 20?0000110 0000000000 0000011000 0011200010 0201010000 0001225030 0000001010 101
Dolichothele_exillis         0011000000 0011000001 20?0000110 0000000000 0000011000 0011200010 0202010000 0001024030 0000001010 300
Ischnocolus_valentinus       0010000110 0010000001 20?0000110 0000000000 1000012000 0311210111 1211110000 100122500? ????001000 200
Schismatothele_benedettii    0110000000 0110000001 12?0000110 0000000010 0000011000 0011200101 0201110001 0101???331 0000001000 021
Catumiri_parvum              0011000000 0110000021 20?0000110 0000000000 0000012000 0411210111 0101111000 0001001031 0100001000 300
Catumiri_chicaoi             0011000000 0110000001 22?0000110 0000000000 0000012000 0411110111 0102111000 0001201031 0100001000 300
Holothele_longipes           0111000100 0111000001 10?0000110 0000000000 0000011000 2211200111 0212111001 1101013031 0000002?10 200
Chaetopaelma_olivaceum       0011000000 0?10000020 10?0000110 0000000000 0000011000 00?12?0011 021211?000 0001112031 001100???0 300
Nesiergus_insulanus          0011000000 0?10000001 11?0000110 0000000000 0000011000 00?12?0111 020?1??000 0001200031 001100???0 200
Euthycaelus_colonicus        0110000000 0110000001 10?0000110 0000000010 0000011000 2211200011 020211?000 1101???331 01100010?0 021
Neoholothele_incei           0110000000 0110000001 12?0000110 0000000000 0000011000 2211200011 020211?000 1101000231 00?000???0 200
Reichlingia_annae            1110010010 0110000001 12?0000110 1000000000 0000011000 0011210111 0201111101 0100???331 0000002000 111
Psalistops_melanopygius      0111010010 0110000001 12?0000110 1000000000 0000011000 0311210111 0211??1000 0001124030 1000002?00 200
Psalistops_colombianus       0111010?10 0110000001 12?0000110 1000000?0 ?000011000 0?1111010? ????????0? 0?011000?? ?????????? ???
Cyrtogrammomma_monticola     0112010?10 0110000001 20?0?00100 0000000?0 ?000011000 4?11200011 0??1????0? 1?0?????0? ????0011?? 300
Cyrtogrammomma_raveni        0112010?10 0110000001 1??0000101 0000000?0 ?000011000 4?11201020 0???????0? 1?110240?? ?????????? ???
Cyrtogrammomma_sp            00100201?0 0110000001 12?0?00100 ?000000000 0000011000 43111?0101 ?111???000 0111200001 ????10??10 ?00
Trichopelma_nitidum          2111010110 0110000001 1310100100 0000000000 00???1100? ?3?1?????? ?111111?0 ?10????31 0010011120 200
Trichopelma_coenobita        0111010110 0110000001 1310100100 0000000000 0000011000 2211200011 0202111000 0101101031 0100001110 200
Trichopelma_steini           0111010?10 0110000001 1320100100 0000000?0 ?000011000 4?11200011 0???????0? 0?012120?? ?????????? ???
Trichopelma_affine           0111010?10 0110000001 1300100100 0000000?0 ?000011000 4?11200011 0???????0? 1?011250?? ?????????? ???
Trichopelma_cubanum          2111010110 0110000001 1310100100 0000000000 0000011000 001120001? 0202111000 ?101101431 000000???0 200
Trichopelma_maculatum        0111010110 0110000001 1310100100 0000000000 0000011000 0011200011 0102111001 1101113431 0000001120 200
Trichopelma_insulanum        0111010110 0110000001 1320100100 0000000000 0000011000 4311210011 0101111000 1101101431 0010001120 200
Trichopelma_fulvus           0111010110 0110000001 1310100100 0000000000 0000011000 4311200011 0102111000 1101112431 0000001120 100
Trichopelma_laselva          0111010?10 0110000001 1310100100 ?000000?0 ?000011000 4?11200011 0???????0? 1?012000?? ?????????? ???
Trichopelma_huffi            0111010110 0110000001 1310100100 0000000000 0000011000 4311200011 0102111000 1101124431 0000001120 200
Trichopelma_gabrieli         0111010?10 0110000001 1??0100100 0000000?0 ?000011000 4?11200011 0???????1? 1?011014?? ?????????? ???
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Trichopelma_tostoi	0111010110	0110000001	1310100100	0000000000	000001100?	?3?1??????	?1021110?1	?10?????31	0000001120	200
Trichopelma_goloboffi	0111010?10	0110000001	1310100100	00000000?0	?000011000	0?11200011	0???????0?	1?012000??	??????????	???
Trichopelma_juventud	0111010110	0110000001	1310100100	0000000000	0000011000	0411201010	1102011011	1100???331	0000001110	011
Trichopelma_laurae	0111010110	0110000001	1310100100	0000000000	000001100?	?0?1??????	?202011?0	?10?????31	0000001120	100
Trichopelma_bimini	0111010?10	0110000001	1320100100	00000000?0	?000011000	0?11200021	0???????0?	0?00???3??	??????????	???
Trichopelma_loui	0111010110	0110000001	1330100100	0000000000	0000011000	0011200011	0102111000	1101125431	0000001120	200
Trichopelma_platnick	0111010?10	0110000001	1330100100	00000000?0	?000011000	0?11100011	0???????0?	1?012134??	??????????	???
*Trichopelma_baracoense*_sp_n	0111010110	0110000001	1310100100	0000000000	0000011000	431121010?	0?02111000	1101101431	0000001120	200
*Trichopelma_cheguevarai*_sp_n	0111010110	0110000001	1310100100	0000000000	00???1100?	?0?1?????1	??021110?0	?10?????31	0000001110	011
*Trichopelma_citma*_sp_n	0111010?10	0110000001	1??0100100	00000000?0	?000011000	4?11210011	1???????0?	1?011120??	??????????	???
*Trichopelma_fidelcastroi*_sp_n	2111010110	0110000001	1310100100	0000000000	0000011000	4311210011	1?02111000	1101113431	0000001120	200
*Trichopelma_granmense*_sp_n	2111010110	0110000001	1310100100	0000000000	0000011000	4311210111	0?02111000	1101124331	0000001120	200
*Trichopelma_rudloffi*_sp_n	2111010110	0110000001	1310100100	0000000000	0000011000	4311210111	0?02??1000	1?01111031	0000001120	200
*Trichopelma_soroense*_sp_n	0111010110	0110000001	1300100100	0000000000	0000011000	4011210011	1?02111000	1101200031	0000001120	200
*Thalerommata_anae*_sp_n	01?1000?00	0110000001	10?2?00100	000000000?	0????1100?	?3?1??????	?10210?0??	?00?????30	1000001010	300

تاکسونومی و فیلوژنی عنکبوت‌های جنس *Trichopelma* Simon, 1888 (Araneae: Theraphosidae: Trichopelmatinae) در کوبا همراه با توصیف هفت‌گونه جدید از این جنس و یک گونه جدید از جنس *Thalerommata* Ausserer, 1875

دونیسکی ریوس-تامایو

بنیاد میگل لیلو، مرکز مطالعات بی‌مهرگان، واحد اجرایی لیلو، میگل لیلو ۲۵۱، سان میگل د توکومان، آرژانتین

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چکیــده: در این تحقیق، عنکبوت‌های جنس *Trichopelma* Simon, 1888 در کوبا، بررسی شدند. در حال حاضر، جنس *Trichopelma* شامل ۲۲ گونه شناخته شده است که در منطقه کارائیب، و نواحی مرکزی و نیمه بالایی آمریکای جنوبی انتشار دارند. تاکنون وجود پنج گونه معتبر از این جنس در کوبا ثبت شده است و در این تحقیق، هفت گونهٔ جدید به شرح ذیل که در سراسر جزیره پخش شده‌اند توصیف شدند: *T. baracoense* **sp. nov.** (♂♀)، استان گوانتانامو، *T. cheguevarai* **sp. nov.** (♂)، استان سیگو د آویلا، *T. citma* **sp. nov.** (♀)، استان گرانما، *T. fidelcastroi* **sp. nov.** (♂♀)، استان هولگوئین، *T. granmense* **sp. nov.** (♂♀)، استان گرانما، *T. rudloffi* **sp. nov.** (♂♀)، استان هولگوئین و *T. soroense* **sp. nov.** (♂♀)، استان آرتمیسا. براساس ویژگی‌های مورفولوژیک، یک تحلیل کلادیست انجام شد که موقعیت فیلوژنتیک گونه‌های جدید را نسبت به گونه‌های قبلی توصیف شده نشان می‌دهد. بر اساس محاسبات فیلوژنتیک، ویژگی‌های مورفولوژیک و تشابه منطقه انتشار، گونهٔ *T. banksia* Özdikmen & Demir, 2012 **syn. n.** به عنوان مترادف کم‌سابقهٔ گونهٔ *T. cubanum* (Simon, 1903) پیشنهاد شد. جنس *Thalerommata* Ausserer, 1871، همراه با توصیف گونهٔ جدید *T. anae* **sp. nov.** (♂)، استان سانکتی اسپیریتوس، برای اولین بار از کوبا گزارش شد.

واژگـان کلیدی: رتیل‌ریختان، کاریبب، تارانتولا، فیلوژنی، تاکسونومی