

New fireflies from Puerto Rico (Coleoptera: Lampyridae)

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Two firefly species, *Cheguevaria montana* sp. n. and *Heterophotinus yuyinque* sp. n., are described from Puerto Rico. A checklist of Lampyridae of Puerto Rico is provided.

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Fourteen species of Lampyridae belonging to seven genera – *Aspisoma* Laporte, 1833, *Pyraclomena* Melsheimer, 1845, *Lychnacris* Motschulsky, 1853, *Robopus* Motschulsky, 1853, *Heterophotinus* E. Olivier, 1894, *Rufolychnia* Kazantsev, 2006 and *Cheguevaria* Kazantsev, 2006 – have so far been recorded from Puerto Rico (Santiago-Blay & Medina-Gaud, 1986; Kazantsev, 2006). Four genera (*Aspisoma*, *Lychnacris*, *Rufolychnia* and *Cheguevaria*) have so far been represented on the island by one species each.

Description of two new lampyrid species from Puerto Rico, one from the genus *Cheguevaria*, the other from *Heterophotinus*, is presented below.

The following abbreviation is used in this paper: ZMMU – Zoological Museum of Moscow University.

***Cheguevaria montana* sp. n.** (Figs 1-2)

Holotype. ♂, **Puerto Rico**, Cordillera Central, Toro Negro, Doña Juana R.A., ca. 950 m, 13-14.I.2008, S. Kazantsev leg. (author's collection).

Description. *Male*. Testaceous; head, antennae except antennomere 11, elytra except 1/20 distally, abdomen and legs black; antennomere 11 white.

Eyes small (interocular distance ca. 4.3 times greater than eye radius). Antennae attaining to elytral third, with antennomere 3 slightly longer than wide, about 2.3 times longer than antennomere 2 and ca. 1.4 times shorter than antennomere 4.

Pronotum transverse, almost twice as wide as long, bisinuate basally, glabrous, with pronounced anterior and minute acute posterior angles. Scutellum parallel-sided, rounded at apex.

Elytra moderately long, 2.4 times as long as wide at humeri, parallel-sided, densely alveolate, with noticeable first and second costae in proximal third.

Genital capsule with elongate sternite provided with relatively long median projection (Fig. 1). Aedeagus with relatively short parameres and straight median lobe, conspicuously widened at base (Fig. 2).

Length: 4.9 mm. Width (humeraly): 1.5 mm.

Female. Unknown.

Comparison. *Cheguevaria montana* sp. n., being undoubtedly closely related to *C. taino* Kazantsev, is easily distinguished from it by the uniformly black head and abdomen and reduced testaceous area on the elytra, as well as by the longer median projection of sternite 8 (Fig. 1) and broader parameres and more robust median lobe of the aedeagus (Fig. 2).

Etymology. The name *montana* is derived from the Latin for 'montane' alluding to the relatively high altitude the new species was taken at.

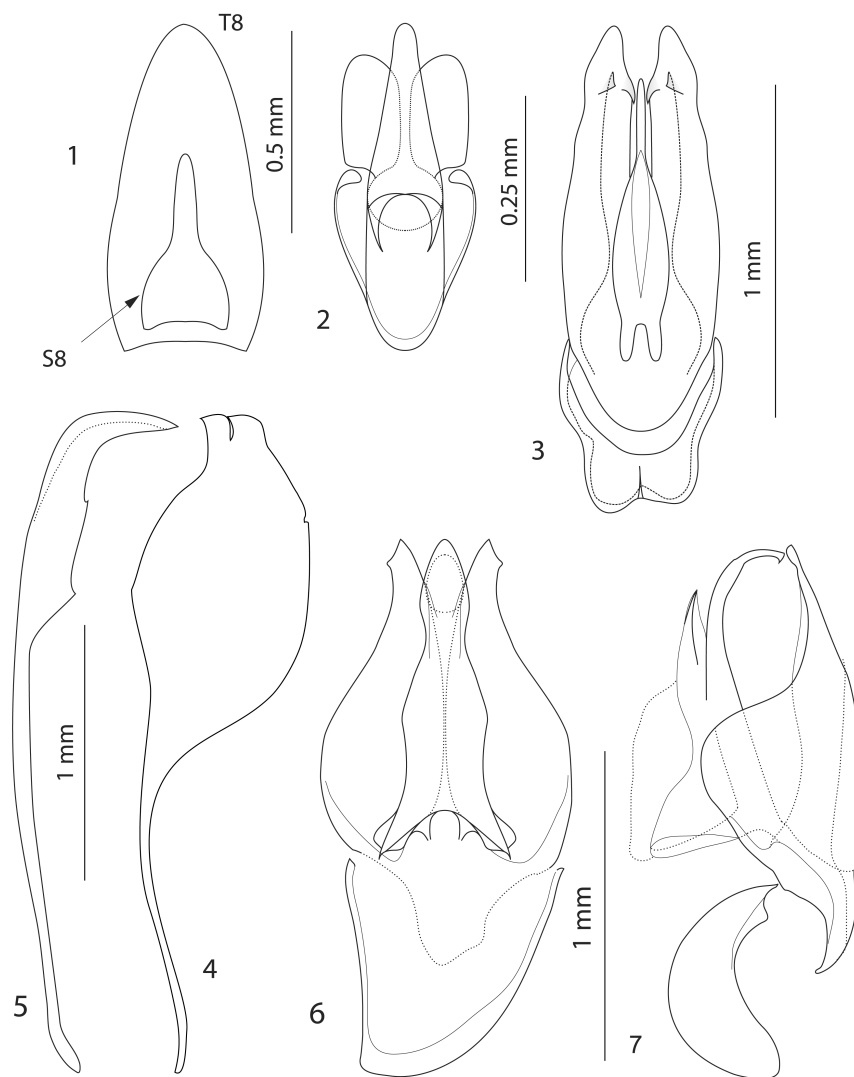
***Robopus cordilleraensis* sp. n.** (Fig. 3)

Holotype. ♂, **Puerto Rico**, Cordillera Central, Toro Negro, Doña Juana R.A., 800-850 m, 12-14.I.2008, S. Kazantsev leg. (author's collection).

Paratypes. 2 ♂♂ and 1 ♀, same label; 2 ♂♂, **Puerto Rico**, Cordillera Central, Monte Guilarte, ca. 1000 m, 11.I.2008, S. Kazantsev leg. (author's collection).

Description. *Male*. Dark brown; antennomere 1, palpomeres 1-3, pronotal sides and anterior third, elytral margins, narrower at suture, wider at sides, legs, except tibiae and tarsi, and ventrites 7 and 8 whitish yellow; proximal two thirds of pronotal disk and prothorax ventrally bright pink, with infuscated M-sign.

Eyes relatively small (interocular distance ca. 1.6 times greater than eye radius). Labrum transverse, slightly concave anteriorly. Antennae serrate, attaining to elytral three fourths, with



Figs 1-7. 1-2, *Cheguevaria montana* sp. n., holotype; genital abdominal segments (1), aedeagus ventrally (2); 3, *Robopus cordilleraensis* sp. n., holotype; aedeagus ventrally; 4-7, *Heterophotinus yuyinque* sp. n. ventrite 8 ventrally (4), ventrite 8 laterally (5), aedeagus ventrally (6), aedeagus laterally (7). Scale bars: Fig. 1 – 0.5 mm; Fig. 2 – 0.25 mm; Figs 3-7 – 1 mm.

antennomere 3 4 times longer than antennomere 2 and 1.25 times shorter than antennomere 4.

Pronotum transverse, 1.2 times wider than long, semicircular, with almost straight posterior angles. Scutellum elongate, triangular, rounded at apex.

Elytra long, 2.1 times as long as wide at humeri, almost parallel-sided, densely punctate, with obscure longitudinal costae.

Luminous areas on ventrite 7 (sternite 8) separated, occupying ca. half sternal length. Ventrite 8 (sternite 9) elongate, medially prolonged. Aedeagus elongate, with relatively short median lobe and bidentate parameral apices (Fig. 3).

Female. Similar to male, but eyes somewhat smaller, with interocular distance 2.5 times greater than eye radius, and antennae conspicuously narrower.

Length: 8.5-9.6 mm. Width: 3.2-3.7 mm.

Diagnosis. *Robopus cordilleraensis* sp. n. may be distinguished from the similarly coloured *R. marginipennis* (Leng et Mutchler) by the sparser and coarser punctuation of the pronotal disk and the structure of the aedeagus with shorter median lobe and bidentate parameral apices (Fig. 3).

Etymology. The new species is named after the Cordillera Central, the mountainous district in

Central Puerto Rico, where the type series was collected.

Heterophotinus yuyinque sp. n.
(Figs 4-7)

Holotype. ♂, **Puerto Rico**, Sierra de Luquillo, El-Yunque, Rd 191, km 13, 700-750 m, 15-17.I.2008, S. Kazantsev leg. (author's collection).

Paratypes. 2 ♂♂ and 13 ♀♀. Same label (author's collection and ZMMU).

Description. *Male*. Dark brown to black; antennomere 1, pronotal sides and anterior half, elytral margins, narrower at suture, wider at sides, legs, except tibiae distally and tarsomeres 3-5, whitish yellow; ventrites 7 and 8 white; proximal half of pronotal disk and prothorax ventrally, except at sides, pink.

Eyes relatively large (interocular distance subequal to eye radius). Labrum transverse, straight anteriorly. Antennae filiform, attaining to elytral proximal fourth, with antennomere 3 2.7 times longer than antennomere 2 and subequal in length to antennomere 4.

Pronotum transverse, 1.2 times wider than long, triangular, with almost straight posterior angles. Scutellum elongate, triangular, rounded at apex.

Elytra long, 2.6 times as long as wide at humeri, parallel-sided, densely punctuate, with two obscure longitudinal costae.

Luminous areas on ventrite 7 (sternite 8) large, contiguous, occupying all sternal surface. Ventrite 8 (sternite 9) long, with long spiculum gastrale and incised and inwardly bent apex (Figs 3-4). Aedeagus, with elongate, distally slightly bidentate parameres and curved distally median lobe, constricted before apex (Figs 5-6).

Female. Similar to male, but pronotum uniformly pink, except for narrow whitish yellow border, eyes smaller, with interocular distance 1.5 times greater than eye radius, and antennae longer, attaining to elytral middle. Ultimate ventrite elongate, triangular, medially deeply incised, with short spiculum ventrale.

Length: 8.0-10.9 mm. Width: 2.7-3.7 mm.

Comparison. *Heterophotinus yuyinque* sp. n. is readily distinguished from other *Heterophotinus* species by the coloration and the structure of ventrite 8 (Figs 3-4) and aedeagus (Figs 5-6).

Etymology. The new species is named after Taíno's protecting spirit said to live on top of the El-Yunque Mountain where the type series was collected.

Checklist of Lampyridae of Puerto Rico

CHEGUEVARIINI

Cheguevaria Kazantsev, 2006

Cheguevaria Kazantsev, 2006: 370

type species: *Cheguevaria taino* Kazantsev, 2006

- *taino* Kazantsev, 2006: 370
- *montana* sp. n.

CRATOMORPHINI

Aspisoma Laporte, 1833

Aspidosoma Lacordaire, 1857

Nyctophanes Dejean, 1833

type species: *Lampyris ignita* Linnaeus, 1767

- *ignitum* Linnaeus, 1767. Also occurring in Central America, Colombia, Venezuela, Cuba, Hispaniola.

Lampyris ignita Linnaeus, 1767: 645

Aspisoma polyzona Chevrolat, 1834: 9

Pyractomena Melsheimer, 1845

Pyractomena Melsheimer, 1845: 304

Pyrectomena Motschulsky, 1853: 37 (lapsus calami)

Lecontea E. Olivier, 1899: 371 (unjustified replacement)

type species: *Pyractomena lucifera* Melsheimer, 1845

- *galeata* E. Olivier, 1899

Pyractomena galeata E. Olivier, 1899: 91

Lecontea galeata (E. Olivier): E. Olivier, 1912: 23

- *heterodoxa* (Leng et Mutchler, 1922)

Photinus heterodoxus Leng et Mutchler, 1922: 457

Pyractomena heterodoxa (Leng et Mutchler, 1922): McDermott, 1964: 16

LAMPROCERINI

Lychnacris Motschulsky, 1853

Lychnacris Motschulsky, 1853: 33

type species: *Lychnacris triguttula* Motschulsky, 1853

- *emarginata* (Leng et Mutchler, 1922)

Callopsisma emarginata Leng et Mutchler, 1922: 443

PHOTININI

Rufolychnia Kazantsev, 2006

Rufolychnia Kazantsev, 2006: 378

type species: *Callopsisma borencona* Leng et Mutchler, 1922

- *borencona* (Leng et Mutchler, 1922)

Callopsisma borencona Leng et Mutchler, 1922: 440

Robopus Motschulsky, 1853

Robopus Motschulsky, 1853: 41

Rabopus Motschulsky, 1854: 42 [lapsus calami]

type species: *Robopus roseicollis* Motschulsky, 1853

- *cayeyensis* Kazantsev, 2006: 380
- *cordilleraensis* sp. n.
- *marginipennis* (Leng et Mutchler, 1922)

Lucidota marginipennis Leng et Mutchler, 1922: 438

- *niger* Kazantsev, 2006: 383

- *roseicollis* Motschulsky, 1853

Robopus roseicollis Motschulsky, 1853: 42

Photinus decorus Gemminger et Harold, 1869: 1642 [replacement name]

Pygolampis decorus (Gemminger et Harold): E. Olivier, 1907: 35

Lucidota decorus (Gemminger et Harold): Leng & Mutchler, 1922: 436

- *roseinotatus* Kazantsev, 2006: 383

Heterophotinus E. Olivier, 1894

Heterophotinus E. Olivier, 1894: 24 [replacement name]

Pygolampis Motschulsky, 1853: 48 [preoccupied by *Pygolampis* Germar, 1824]

Diphotus Barber, 1941: 4

type species: *Photinus limbipennis* Jacquelin-Duval, 1857

- *dubiosus* (Leng et Mutchler, 1922)

Photinus dubiosus Leng et Mutchler, 1922: 461

Diphotus dubiosus (Leng et Mutchler): McDermott, 1955: 50

- *triangularis* (E. Olivier, 1912)
- Photinus triangularis* E. Olivier, 1912: 25
- Diphotus triangularis* (E. Olivier): McDermott, 1955: 50
- *vittatus* (Olivier, 1790). Also occurring on Hispaniola.
- Lampyrus vittata* Olivier, 1790: 23
- Lampyrus suturalis* Schönherr, 1817: 65
- Photinus vittatus* (Olivier): Gorham, 1898: 320
- Pygolampis vittata* (Olivier): E. Olivier, 1912: 27
- Diphotus vittatus* (Olivier): McDermott, 1955: 50
- *yuyinque* **sp. n.**

References

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