



<http://dx.doi.org/10.11646/zootaxa.3646.5.8>

<http://zoobank.org/urn:lsid:zoobank.org:pub:50C87148-49F6-4BB2-BBF3-B5E6DD52B282>

Redescription of *Lystrocteisa* Simon, 1884 (Araneae: Salticidae) from New Caledonia

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Abstract

The monotypic jumping spider genus *Lystrocteisa* Simon, 1884 is redescribed. A new generic diagnosis is provided, based on both sexes, together with redescription of the male and description and illustration of the hitherto unknown female of the type species.

Key words: *Lystrocteisa myrmex*, jumping spiders, Pacific Islands

Introduction

The monotypic genus *Lystrocteisa* was erected by Simon in 1884 for *L. myrmex*, known only from the male specimen from Nouméa, New Caledonia. Żabka (1988) re-described the type species of the genus, giving the illustrations of the body form and palpal organ of the male holotype.

Until now *L. myrmex* has been known only by one sex only. The position of the genus within Salticidae has been discussed by Simon (1901), who placed *Lystrocteisa* into the group Diolenieae, together with *Diolenius* Thorell, 1870, *Discocnemius* Thorell, 1881, *Chalcolecta* Simon, 1884 and *Tarodes* Pocock, 1890, referring to the body form, elongated first trochanter and location of posterior eyes on tubercles. However, taxonomic revision of the group Diolenieae *sensu lato*, pointed *Diolenius*, *Ohilimia* Strand, 1911 and *Chalcolecta* as the closest relatives with the following synapomorphies: legs I of mantid-like appearance, with elongate trochanters, PME and PLE on marked tubercles, embolus partly hidden behind tegulum, epigyne with strongly sclerotized wing-shaped lateral margins, insemination ducts with terminal chambers, accompanied by accessory glands and connected with spermathecae via narrow channels (Gardzińska 2004, 2006; Gardzińska & Żabka 2005, 2006).

New morphology data presented here, particularly concerning structure of the female epigyne, as well as the structure of the male palp (with the embolus fixed to the tegulum), suggest close relationship to *Rogmocrypta* Simon, 1885. According to Maddison *et al.* (2008) *Lystrocteisa* belongs to the Australasian Astioida clade.

The aim of this study is to redefine the genus and describe the female for the first time, providing diagnostic drawings and photos.

Material and methods

The work is part of a long-term project aimed to study salticids of SW Pacific region. *Lystrocteisa* specimens were chosen from the material gathered by professionals (hand collecting, fogging, light and pitfall trapping, sieving) in different periods and areas, from collections of Queensland Museum, Brisbane (QM); Museum National d'Histoire Naturelle, Paris (MNHN); American Museum of Natural History, New York (AMNH). The drawings were made using a grid system. A Canon PowerShoot A620 digital camera, attached to the stereomicroscope and Helicon

Focus software were used for photographing specimens. Measurements are given in millimeters and were taken using MultiScan software.

Abbreviations used: AEW—anterior eye width, ag—accessory glands, AME—anterior medial eyes, AL—abdomen length, cd—copulatory ducts, CH—cephalothorax height, CL—cephalothorax length, clyp—clypeus, ClypH—clypeus height, co—copulatory openings, const—constriction, cs—cheek swelling, CW—cephalothorax width, DAM—diameter of anterior medial eyes, e—embolus, EFL—eye field length, F—female, ho—hook-shaped outgrowths, L—leg, M—male, n—notch, PEW—posterior eye width, rta—retrolateral tibial apophysis, s—spermathecae, sp—spermophore, ta—tibial apophysis, tl—tegular lobe.

Genus *Lystrocteisa* SIMON, 1884

Lystrocteisa Simon 1884, p. 228; Peckham & Peckham 1885, pp. 272–273; Simon 1901, pp. 478–481.

Type species: *Lystrocteisa myrmex* Simon 1884, by monotypy.

Diagnosis. Cephalothorax moderately low, with posterior lateral eyes located on protuberances. Legs I longer and more robust than others, armed with 3 and 2 pairs of ventral spines on tibiae and metatarsi respectively. Palpal organ with embolus fixed to the tegulum. Epigyne with posterior notch.

Description. Myrmecomorph spiders, 3.5–4 mm long. Sexes similar in appearance, though males with more distinct transverse constriction of the cephalothorax, cheek swelling (Fig. 21 “cs”), and raptor-like development of first legs, with strongly swollen tibiae and relatively longer trochanters I (Figs 12, 18). Female carapace with granulated integument on the dorsum. Cephalothorax low and relatively narrow (CW < 70% of CL) in both sexes, with distinct posterior slope and constriction between posterior medial and lateral eyes (Fig. 22). Eye field trapezoid, long (about 60% of CL), PME considerably more distant from PLE than from ALE, the last ones situated on protuberances. Fovea short, located behind PLE. Clypeus very narrow (about 10% of AME diameter). Chelicerae of fissident pattern, with frontal surfaces flattened and rugose (Figs 10, 17). Endites slightly divergent, lateral modifications possible (Fig. 24 “ho”). Sternum scutiform (Figs 3, 25). Abdomen elongate ovoid, slightly constricted in anterior third, pedicel moderately long, visible in dorsal view (Fig. 22). Legs I the longest and more robust than others. Trochanters I elongate (but shorter than tibiae I: about 50% of tibiae I length). Ventral spination of first legs: tibia 2-2-2, metatarsus 2-2. Legs formula: I–IV–III=II or I–IV–II–III. Palpal organ: cymbium unmodified, tegulum triangular in ventral view (Figs 11, 19), embolus thin, anteriorly set (at 10 o’clock position), tibial apophysis short and slender (Fig. 20 “rta”). Epigyne: copulatory openings widely separated, insemination ducts and spermathecae elongate and curved, the last ones accompanied with accessory glands (Fig. 7).

Lystrocteisa myrmex

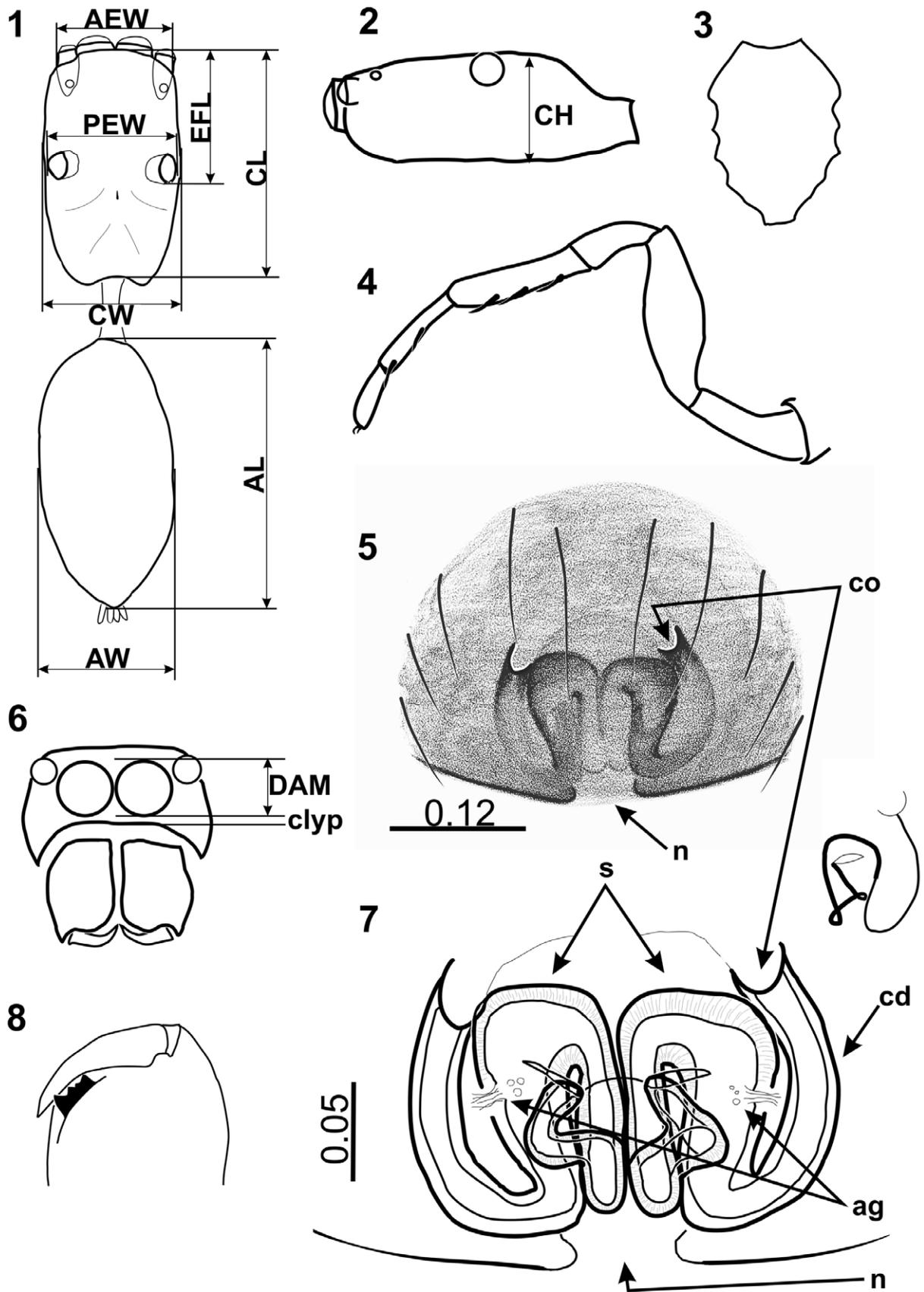
(Figs 1–26)

L. myrmex Simon, 1884 p. 229, Simon 1901, pp. 478–481, Žabka 1988 p. 460.

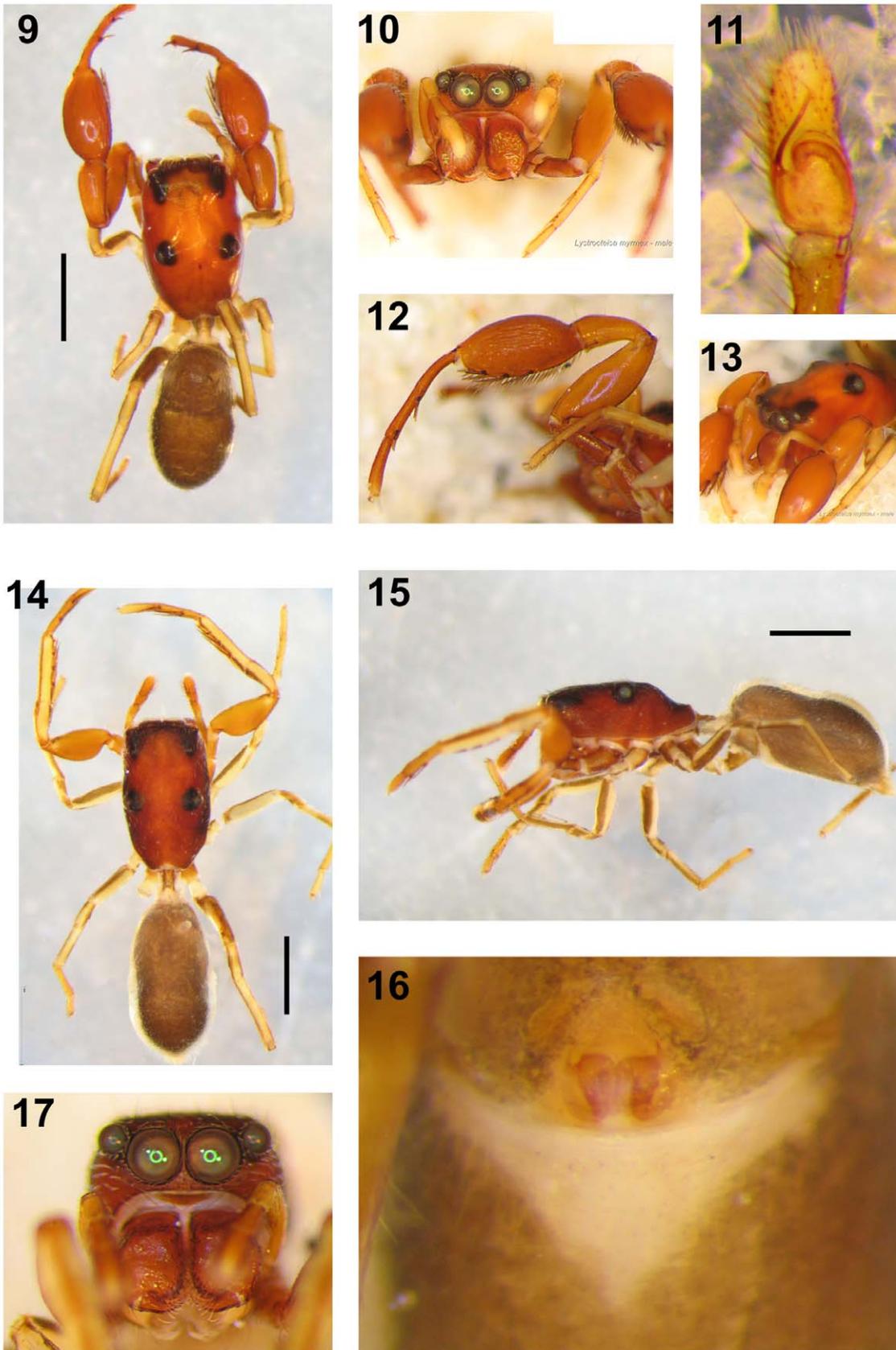
Type material examined. Holotype, 1M (MNHN, 3235), New Caledonia, Nouméa, Simon. **Other material examined.** New Caledonia: 1M, 1F (QM, S35741), Mt. Mou, 380–440m, 20° 04' S, 166° 21' E, Rf by creek, 24 February 1993, R. Raven. 1 M (AMNH) Col des Roussettes, 490m, Berlese, litter, dry forest, 29 May 1987, N. I. Platnick, R. J. Raven.

Diagnosis. Spiders with ant-like appearance. Cephalothorax and abdomen with transverse constrictions. External margins of endites with lateral hook-shaped outgrowths (Fig. 24). Legs I with trochanters longer than coxae. Palpal tegulum with retrolateral lobe (Fig. 19 “tl”), embolus rather thin, arising anteriorly, sperm ducts C-shaped, tibial apophysis conical (Figs 19–20). Epigyne with copulatory openings located anteriorly (Fig. 5 “co”), insemination ducts long, spermathecae duct-like (Fig. 7).

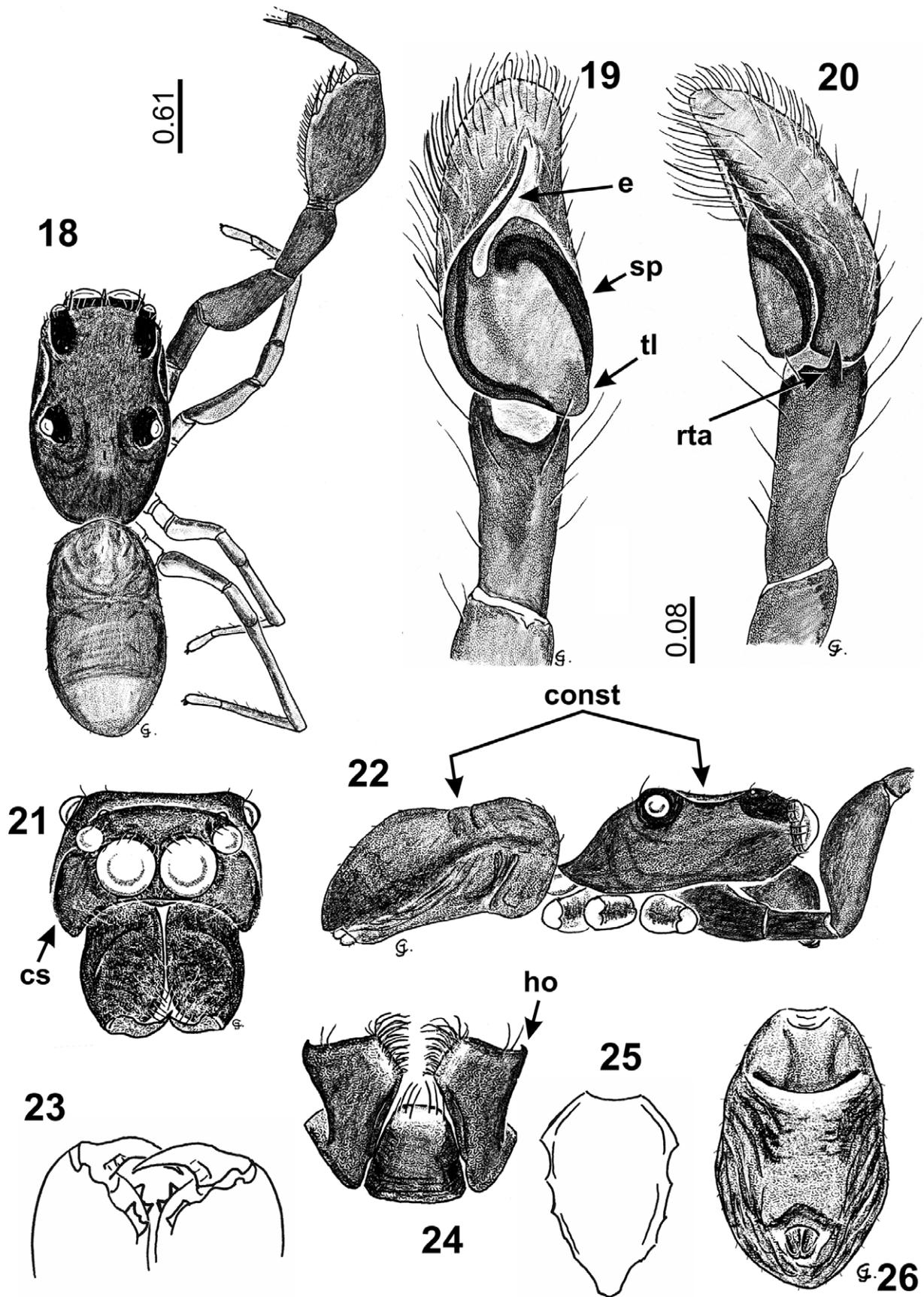
Description. *Male.* (Figs 9–13, 18–26). Carapace brown, somewhat paler in eye field; whole surface with scattered, fine, brownish hairs. Eyes surrounded in black. Clypeus and chelicerae brown, endites and labium of the similar colour, with lighter chewing margins. Sternum brown. Abdomen greyish-brown, sparsely covered with fine, pallid hairs, more numerous anteriorly. Venter grey, with paler transverse belt below the epigastric furrow



FIGURES 1–8. *Lystrocteisa myrmex*, female. 1 general appearance; 2 cephalothorax, lateral view; 3 sternum; 4 first leg; 5 epigyne; 6 anterior view; 7 vulva; 8 cheliceral teeth.



FIGURES 9–17. *Lystrocteis myrmex*. 9 male, dorsal view; 10 male, anterior view; 11 palpal organ; 12 male, first leg; 13 male, antero-lateral view; 14 female, dorsal view; 15 female, lateral view; 16 female, ventral view of the anterior part of abdomen; 17 female, anterior view. Scale 1.00 mm.



FIGURES 18–26. *Lystrocteisa myrmex*, holotype. 18 dorsal view; 19 palpal organ, ventral view; 20 palpal organ, retrolateral view; 21 anterior view; 22 lateral view; 23 cheliceral dentition; 24 endites and labium; 25 sternum; 26. abdomen, ventral view.

(Fig. 26). Spinnerets greyish. Legs I with robust femora, patellae and strongly swollen tibiae, armed and fringed as in generic description (Figs 12, 18). Legs I brown, others yellow, with brown markings. Legs formula: I–IV–III \geq II. Pedipalps light brown. Palpal organ as in Figures 11, 19–20.

Dimensions: CL 1.72, CW 1.13, CH 0.73, AL 1.82, AW 0.99, EFL 1.07, AEW 0.88, PEW 0.98, DAM 0.29, ClypH 0.03, LI 5.92, LII 3.47, LIII 3.20, LIV 4.39.

Female. (Figs 1–7, 14–17). Similar to the male in general appearance and the colour pattern. Dorsal surface of carapace granulated and covered with sparse whitish hairs. Clypeus, chelicerae, endites and labium brown, chewing margins yellowish. Sternum brown. Abdomen greyish-brown, with pattern rather indistinct. Venter grey-brown with pallid triangle belt behind the epigastric furrow (Fig. 16). Spinnerets yellowish. Legs I strong and more robust than others however, compared to the male, the all segments unmodified and rather slender, besides somewhat swollen femora (Figs 4, 14–15). Legs yellow-brown, with formula: I–IV–III–II. Epigyne as in Figs 5, 7 and 16.

Dimensions: CL 1.67, CW 1.08, CH 0.66, EFL 0.94, AEW 0.88, PEW 0.97, DAM 0.30, AL 2.09, AW 1.11, ClypH 0.03, LI 4.59, LII 3.05, LIII 3.12, LIV 4.22.

Acknowledgments

We wish to thank Prof. Norman Platnick (American Museum of Natural History, New York), Dr. Christine Rollard (Museum National d'Histoire Naturelle, Paris) and Dr. Robert Raven (Queensland Museum, Brisbane) for providing specimens for study. This work was supported by Polish Ministry of Science and Higher Education under grant N N303 416437.

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