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A commentary on *Lophostica* et *Pseudemathis*, two jumping spider genera from the Mascarene Islands (Araneae: Salticidae)

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ABSTRACT. The authors found that the labels in vials with type specimens of *Lophostica mauriciana* and *Pseudemathis trifida* had been exchanged. This mistake has been corrected. Redescriptions of both genera and the first description of the male of *L. mauriciana* are given.

Key words: arachnology, taxonomy, Araneae, Salticidae, *Lophostica mauriciana*, *Pseudemathis trifida*, redescriptions, Mascarene Islands.

Only a few salticid species are known from the Mascarene Archipelago. SIMON (1902) described two fisidentate salticids from the Mauritius island: *Lophostica mauriciana* and *Pseudemathis trifida*. Though in the later paper he (SIMON 1903) added a few more characters, the descriptions of both species remained very brief, making it difficult to identify them. The two species, representing monotypic genera, sunk into oblivion, until WESOŁOWSKA (2000) redescribed *L. mauriciana* on the base of the type specimens kept in Muséum national d'Histoire naturelle in Paris (vial # 19 343). She treated the SIMON's specimens as syntypes, but erroneously deciphered the vial number as # 19 040 (SIMON's handwritten labels are hardly legible).

When working on the redescription of *P. trifida*, the second species described by SIMON (1902) from Mauritius, after a detailed analysis of the scanty informa-

tion given by SIMON, W. WESOŁOWSKA came to a conclusion that the labels of the two species in the Paris Museum had been exchanged.

When working in parallel, but completely independently, J.-C. LEDOUX tentatively identified the salticids collected on the Reunion as *P. trifida*. To confirm the identification, he asked B. DUHEM to loan the type material from the SIMON's collection. B. DUHEM found that the vial labelled *P. trifida* (# 19 344) contained two females completely different from the Reunion spiders, but spiders in another vial (# 19 343), labelled *L. mauriciana*, looked identical to the ones identified by J.-C. LEDOUX. B. DUHEM and J.-C. LEDOUX came also to the same conclusion, that the labels had been exchanged between the vials.

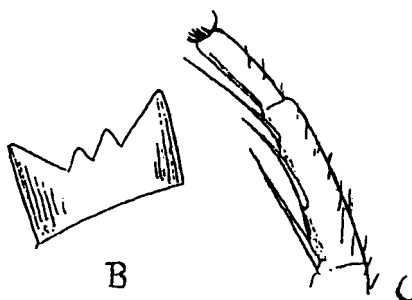
After some exchange of correspondence we have decided to present our arguments jointly. There were several lines of evidence indicating that the labels in the vials had been replaced. These were:

– SIMON (1902, 1903) described both sexes of *Pseudemathis trifida* but only the female of *Lophostica mauriciana*. However, males and females were in vial # 19 343, whereas # 19 344 contained only females.

– *P. trifida* should possess a triple tooth on retromargin of chelicera ("chelarum margine inferiore carinula emarginata tridentata" – SIMON 1903, p. 810), whereas the chelicera of *L. mauriciana* should have tooth with four tips (see Fig. 1 B, reproduced from SIMON 1903). However, spiders with triple tooth chelicera were in vial # 19 343, whereas # 19 344 contained the ones with four-tip cheliceral tooth.

– spiders with spination of first leg metatarsi characteristic of *L. mauriciana* (see Fig. 1C, reproduced from SIMON 1903) were found in vial # 19 344.

Taking all these observations into account, we think that the only explanation which could remove the observed discrepancies between SIMON's own descriptions and the materials in the vials, is that the labels have been exchanged. It is impossible to tell when this change occurred, whether it was made by SIMON himself, who described both species simultaneously, or by other students at some later time (both vials contain remarks of M. GALIANO).



1. Reproduction of original SIMON's drawing of *L. mauriciana* (1903: p. 805): B - chelicera. C - distal part of first leg

To end this confusion, we have exchanged the labels once again, so now vial # 19 343 in the SIMON's collection contains *P. trifida*, whereas vial # 19 344 contains *L. mauriciana*.

Below we redescribe *L. mauriciana* and *P. trifida*, using both the old SIMON's materials and spiders recently collected on the Reunion island. We give the first description of *L. mauriciana* male, as well.

The systematic position of both - probably endemic - genera remains unknown.

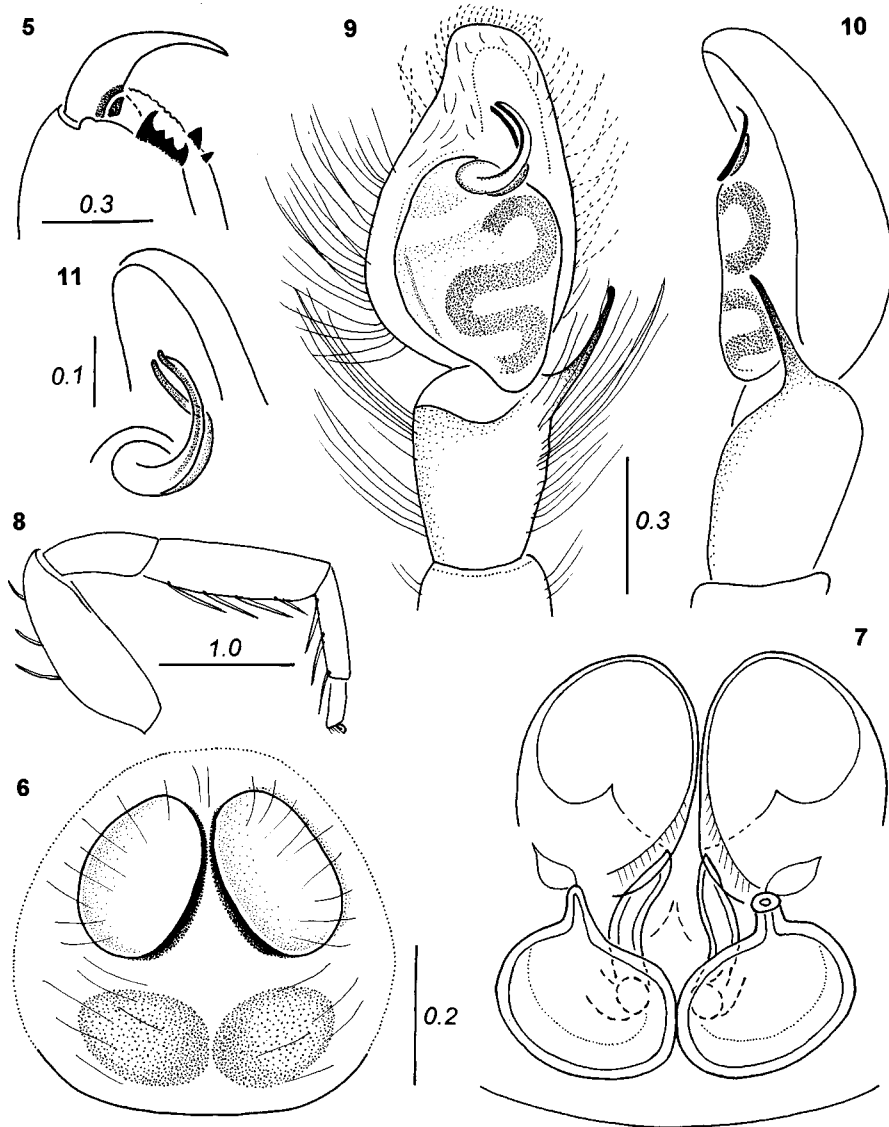
The type material and newly collected specimens are deposited in the Muséum national d'Histoire naturelle, Paris, France. All measurements are given in millimetres. The figures were made by W. WESOŁOWSKA.



2-4. *Lophostica mauriciana* SIM.: 2 - female (syntype) from Mauritius, dorsal view (specimen very bleached), 3-4 - male from Reunion, dorsal and frontolateral views

***Lophostica mauriciana* SIMON, 1902**

(Figs 1-11)

Lophostica mauriciana SIMON 1902: 390; 1903: 805, 810.

5-11. *Lophostica mauriciana* SIM.: 5 - cheliceral dentition of female, 6 - epigyne, 7 - internal structure of epigyne, 8 - first leg of male, retrolateral view, 9-10 - palpal organ ventral and lateral view, 11 - embolic division

MATERIAL

Mauritius: 2 females (syntypes), leg. C. All. [C. ALLUAUD] (Muséum national d'Histoire naturelle, Paris, 19344); Reunion: Sainte-Suzanne, Plaine des Fougères, Dugain forest, 750-950 m a.s.l., in traps, 3 males, 4 females, 1 subadult. male, 5.IV.2001-6.II.2002, leg. M. ATTIE.

DESCRIPTION

Measurements (female/male). Cephalothorax: length 2.2-2.3/2.3-2.8, width 1.8-1.9/1.8-2.3, height 0.8-0.9/0.8-1.0. Abdomen: length 2.5-3.0/2.2-2.9, width 1.8-2.0/1.8-2.3. Eye field: length 1.1-1.2/1.0-1.3, anterior width 1.7-1.8/1.8-2.2, posterior width 1.6-1.7/1.7-2.2.

Female. Medium sized spider. General appearance as in Fig. 2. Cephalothorax broad, moderately high in cephalic part, sloping posteriorly. Eye field large (occupying about half of cephalothorax length), shiny, with punctured microsculpture. Distance between anterior lateral eyes little larger than between posterior lateral ones. Fovea clearly visible, short striae radiating from fovea. Carapace uniformly dark brown or reddish brown, surrounds of lateral eyes blackish. Thoracic part almost bald, only slopes with colourless, short, prostrate hairs. Few bristles in vicinity of anterior eyes. Clypeus very low, dark, clothed in light hairs. Chelicerae dark brown. Retromarginal tooth usually with four tips (Fig. 5), sometimes variable, with three tips. Maxillae brown, labium dark brown. Sternum brownish. Abdomen ovoid, dorsally greyish brown with longitudinal median light streak, posteriorly reduced to upside down chevron pattern. In some specimens abdomen bleached, beige yellowish with traces of chevron patches in posterior part (Fig. 2). Lateral surfaces of abdomen and venter dark, fawn. Light dots form four longitudinal lines on venter. Abdomen covered with delicate hairs of background colour. Book-lung covers dark brown. Spinnerets brown. Legs light brown to yellow, last pair longest. Legs III and IV with darker tibiae and basal part of metatarsi. Spines long. First tibia with four pairs and metatarsus with three pairs of very long spines on ventral surface. Leg hairs brown. Palps yellowish brown, covered with long, dense, brownish hairs. Epigyne big, with two large ovoid depressions anteriorly, close to each other (Fig. 6). Seminal ducts rather short, membranous, weakly sclerotized. Receptacles large, oval (Fig. 7).

Male. Generally like female, slightly larger, darker coloured and more hairy (Figs 3, 4). Carapace very dark, thoracic part dark brown, eye field almost black, metallic shiny, punctured reticulate. Dark setae near eyes, short delicate hairs on carapace. Fovea formed by distinct hollow. Clypeus very low, dark brown. Mouth parts dark brown or blackish. Chelicerae as in female. Pedicel short. Abdomen with dark streak on anterior edge extending to sides. Dorsal pattern as in female, but with more contrast (Fig. 3). Coloration of dorsum generally lighter than sides and venter (Fig. 4). Abdomen covered with short hairs. Anterior spinnerets beige, posterior brown. Coxae and trochanters yellowish brown. First pair of legs larger than remaining (Fig. 4), blackish, only tarsi light brown. Their tibiae long, clothed

in very long, dense, dark hairs, especially long on ventral surface. Similar hairs on metatarsi, some also on patellae. Spination of leg I as in Fig. 8. Legs II and III lighter coloured; femora dark brown, patellae and tibiae light brown, metatarsi and tarsi yellow. Last pair of legs with brown femora and brown basal two third section of tibiae, remaining segments yellow. Leg hairs dense, brownish. Pedipalps brown, clothed in very dense brown hairs. Basal third of cymbium brown, rest white yellowish (Fig. 4). Whole cymbium clothed in very dense, long hairs of background colour. Longer hairs on prolateral margin. Tibial apophysis straight, long, spiniform (Figs 9, 10). Bulb rounded with small lobe at base, sperm duct meandering. Embolus placed on bulbus tip, coiled basally, with accompanying terminal apophysis (Figs 9, 11).

HABITAT

The species was collected on the Reunion island in warm and mild rain forest, most often on the ground, sometimes also on bark of trees. Not observed in the cultivated zone.

REMARKS

The relationships of the genus remain uncertain. The genitalia structure of *Lophostica* slightly resembles that of an African genus *Thyenula* SIMON, 1902, but the latter genus is the unidentate salticid.

***Pseudemathis trifida* SIMON, 1902**

(Figs 12-24)

Pseudemathis trifida SIMON 1902: 392; 1903: 806, 810.

Lophostica mauriciana WESOŁOWSKA 2000: 95, not SIMON, 1902.

MATERIAL

Mauritius: 2 males, 5 females (syntypes), leg. C. All. [C. ALLUAUD] (Muséum national d'Histoire naturelle, Paris, 19343); Reunion: Saint-Philippe, Mare Longue, in trap, 1 male, 1 female, 3.IV-21.VII.2001, leg. M. ATTIE.

DESCRIPTION

Measurements (female/male). Cephalothorax: length 3.2-3.7/2.7-3.6, width 2.6-3.2/2.1-2.5, height 1.5-2.0/1.6-1.9. Abdomen: length 3.5-6.1/3.3-3.7, width 2.3-3.9/1.9-2.3. Eye field: length 1.6-1.9/1.5-1.7, anterior and posterior width 2.2-2.5/2.1-2.4.

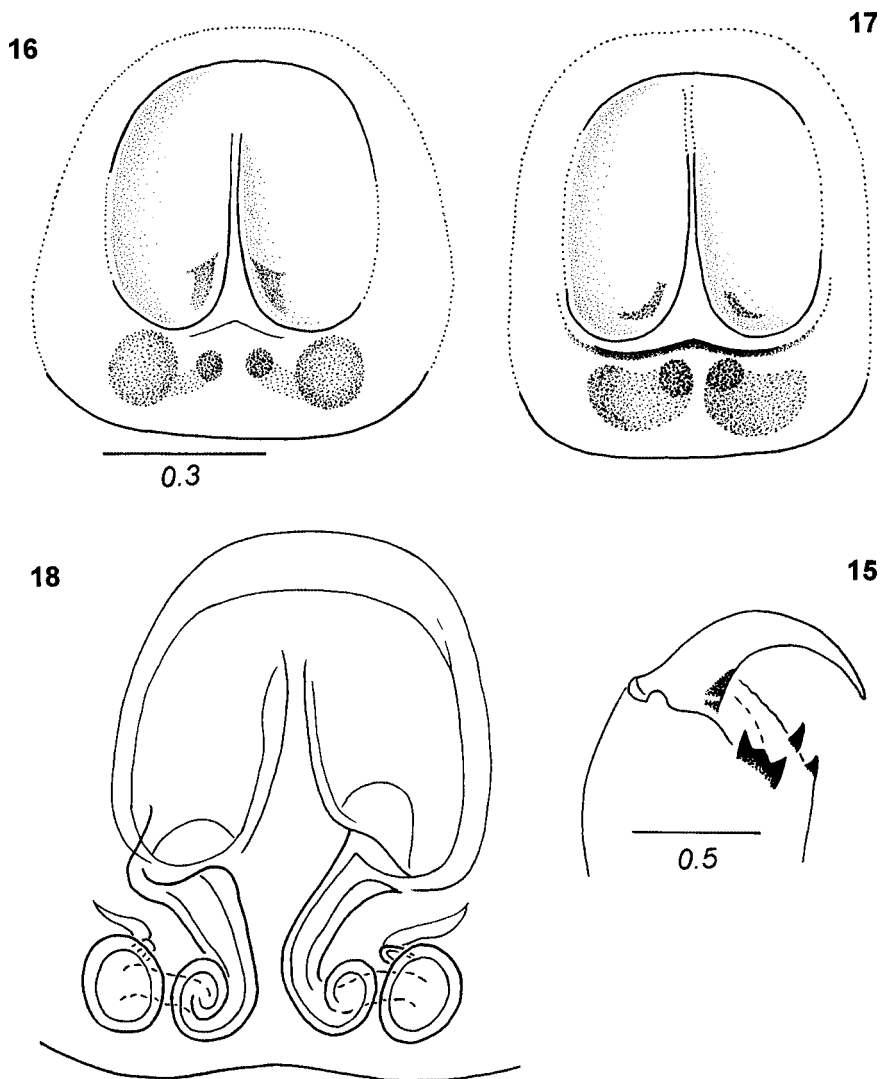
Female. Big spider. General appearance as in Fig. 12. Cephalothorax pear-shaped, widest at two thirds of its length, moderately high, with highest point at posterior lateral eyes. Eye field reddish brown with black rings surrounding eyes, thoracic part lighter, light brown with wide median yellowish streak. Thin light line along lateral margins of carapace. Scarce short hairs on carapace, near eyes longer setae. Fovea distinct, but thoracic striae poorly visible. Clypeus low, dark,

with few light hairs. Chelicerae large, dark brown, on promargin two teeth, on retromargin one large tooth with three tips (Fig. 15), exceptionally with four tips. Shape of retromarginal tooth variable; even in the same specimen number of tips on left and right chelicera could differ. Maxillae dark yellow, labium yellow with darker base. Dense dark hairs on tips of mouth parts. Sternum yellow, its edge tinged with brown. Abdomen oval, slightly swollen, greyish brown with longitudinal median serrate light streak. Small irregular light patches on abdominal sides. Venter yellowish with wide longitudinal grey stripe. Dorsum of abdomen covered with short hairs, among them sparse longer brown setae. Spinnerets yellow, tinged with grey. Legs yellow or light brown, leg hairs brown. Spines numerous, brown. Femur of first leg with two dorsal spines and five (or four) spines placed on dorsum apically, patella with single spines on pro- and retrolateral surfaces, tibia with three ventral pairs and with three on both sides (or 3 prolateral and 2



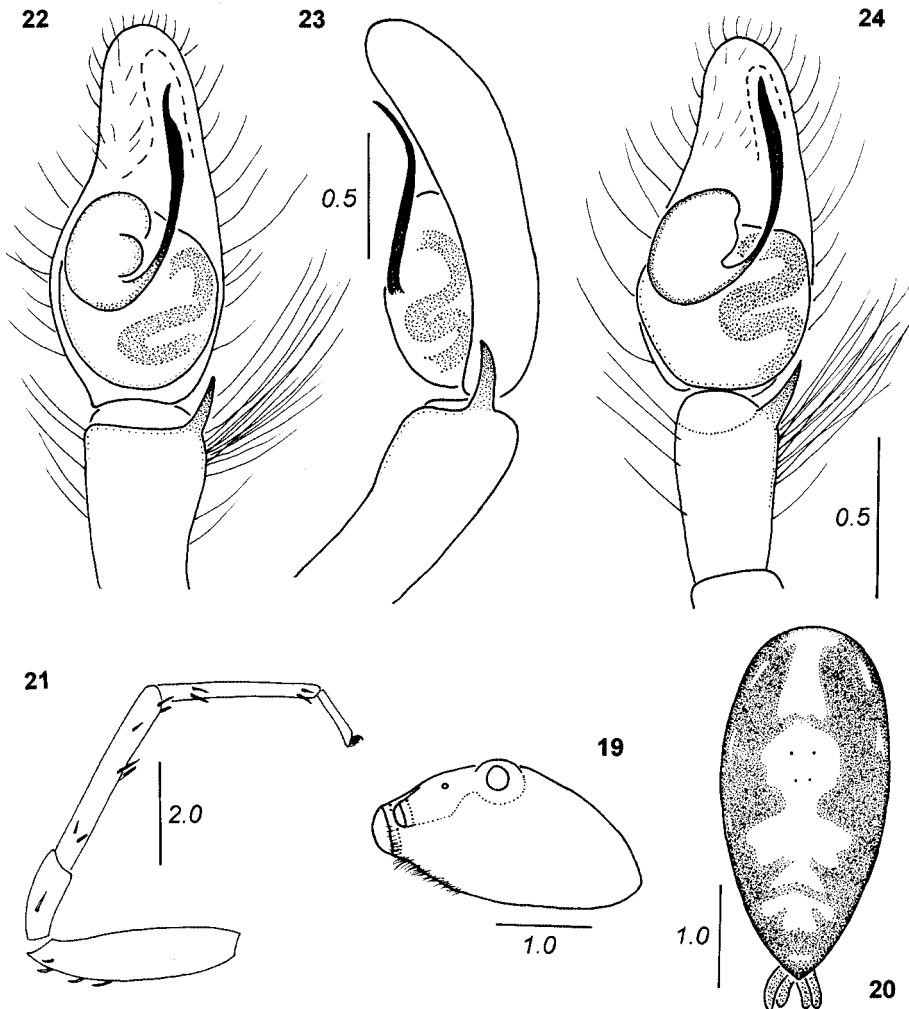
12-14. *Pseudemathis trifida* SIM. (syntypes) from Mauritius: 12 - female, dorsal view (specimen slightly bleached), 13 - male, frontal view, 14 - male, ventral view of the chelicerae

retrolateral spines), metatarsus with two pairs of spines ventrally and two spines on each side. Palps yellow, clothed in light hairs. Epigyne big, with very large quadrangular central depression, separated by narrow ridge (Figs 16, 17). Seminal ducts weakly sclerotized in initial part, receptacles spherical, rather small (Fig. 18).



15-18. *Pseudemathis trifida* SIM., female: 15 - cheliceral dentition of female, 16-17 - epigynes, 18 - internal structure of epigyne (17 - specimen from Reunion, remaining - syntype from Mauritius)

Male. Slightly smaller and darker coloured than female. Carapace slightly higher than in female (Fig. 19). Anterior eyes surrounded by yellowish orange hairs and small scales. Clypeus dark brown with band formed by dense white hairs (Fig. 13), overlapping on lateral margins of carapace. Chelicerae bigger than in female, swollen. Promargin with two teeth, retromarginal tooth variable, most often threefidous. In one specimen left chelicera with tripartite retromarginal tooth whereas right with bipartite tooth only (Figs 13, 14). Maxillae and labium brown with lighter tips, sternum brown. Abdomen elongate ovoid, narrower than



19-24. *Pseudemathis trifida* SIM., male: 19 - carapace, lateral view, 20 - abdominal pattern of male, 21 - first leg of male, retrolateral view, 22-24 - palpal organ ventral and lateral view (19, 20, 24 - specimen from Reunion, remaining - syntype from Mauritius)

in female, with the same pattern (Fig. 20). Spinnerets greyish brown. First pair of legs a little larger than others, brown, with dense dark hairs on ventral surface of tibiae. Spination of leg I as in Fig. 21. Remaining legs lighter, only femora and tibiae brown. Pedipalps light brown, clothed in long hairs. Palpal tibia rather long, with single short apophysis (Figs 22-24). Cymbium long and narrow, bulb rounded, sperm duct meandering. Distal haematodocha clearly separated from remaining part of bulb. Embolus rather long, ribbon-like (Figs 22, 24), its base in centre of bulb.

HABITAT

The species was collected on the Reunion island in warm rain forest and mild rain forest, most often on branches of trees. It also occurred in the cultivated zone.

REMARKS

In both sexes retromarginal tooth of chelicera polymorphic, with various number of tips (most often three). The palpal tibia in the male from Reunion is slightly shorter than in the type specimens.

The affinities of *Pseudemathis* are unclear.

ACKNOWLEDGEMENTS

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