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A new, remarkable species of *Neriene* Blackwall, 1859 from northern Vietnam (Araneae: Linyphiidae)

Andrei V. Tanasevitch
A.N. Severtsov Institute of Ecology and Evolution,
Russian Academy of Sciences,
Leninsky Prospekt 33,
Moscow 119071, Russia
email: tanasevitch@gmail.com; and-tan@mail.ru

Abstract

Neriene clivosa **sp. n.** is described, based on a single male from northern Vietnam. The new species is characterized by a unique shape of the male carapace furnished with six conical projections at its edges. Based on the palp structure, *N. clivosa* sp. n. seems to be especially similar to *N. longipedella* (Bösenberg & Strand, 1906) and *N. marginella* (Oi, 1960), both southeastern Palaearctic, as well as to the Oriental *N. strandia* (Blauvelt, 1936). The new species can easily be distinguished from all known congeners by the shape of the carapace, in addition from the most similar species by some details of palpal structure.

Keywords: dwarf-spiders • Linyphiinae • Oriental Region • taxonomy

Introduction

The genus *Neriene* Blackwall, 1859 presently includes 61 species (World Spider Catalog 2023), largely Palaearctic (38 species). The Oriental Realm supports only 14 species of *Neriene*, whereas the Nearctic and Afrotropical realms even fewer: 9 species each. The fauna of *Neriene* of the Palaearctic is concentrated in its southeastern parts, being especially rich in China and with at least 30 species involved (e.g. Li, Liu & Chen 2018). Only two *Neriene* species are known from Vietnam: *N. cavaleriei* (Schenkel, 1963) and *N. oxycera* Tu & Li, 2006, both reported from the northern part of the country (Tu & Li 2006).

A new, highly peculiar species of *Neriene* has recently been revealed in a small linyphiid spider collection taken in Vietnam by Alexei Abramov (St Petersburg, Russia) and partly already published (Tanasevitch 2022). The present note is devoted to the description of that remarkable species, again from northern Vietnam, based on a male holotype.

Material and methods

The holotype is kept at the collection of the Zoological Museum of the Moscow State University, Moscow, Russia (ZMMU). It is preserved in 75% ethanol and was studied using an MBS-9 stereo microscope. Drawings were executed with a drawing tube. A Levenhuk C-800 digital camera was used for taking pictures. The sequence of leg segment measurements is as follows: femur + patella + tibia + metatarsus + tarsus. All measurements are given in mm. The terminology of copulatory organs mainly follows that of Merrett (1963), as well as that of the authors mentioned in the abbreviations below.

Abbreviations: C = cymbium; D = duct; DP = distal part of terminal apophysis; DSA = distal suprategular apophysis *sensu* Hormiga (2000), = median apophysis *sensu* Merrett (1963) and van Helsdingen (1969), = suprategular apophysis *sensu* Millidge (1977); E = embolus; EP = embolic plate *sensu* Saaristo (1995), = lamella *sensu* Merrett (1963), van Helsdingen (1969), Millidge (1977), Li, Liu & Chen (2018), and others, see below in NB; LP = lateral projection of EP *sensu* van Helsdingen (1969); MM = median membrane *sensu* van Helsdingen (1965); N = notch of MM; P = paracymbium; PP = proximal part of terminal apophysis; R = radix; TA = terminal apophysis *sensu* Merrett (1963), van Helsdingen (1969), Millidge (1977), and others.

NB. The term "lamella" is used in various families of spiders to designate a sclerite of the male palp whose homology in different taxa has not been proven. In Linyphiidae, the lamella is mainly used for an additional sclerite in the embolic division which is devoid of a duct, but present in many fairly distant genera in various subfamilies, e.g. *Linyphia* Latreille, 1804, *Neriene* Blackwall, 1833, *Bathyphantes* Menge, 1866, *Hilaira* Simon, 1884, *Oedothorax* Bertkau, 1883, *Gongylidium* Menge, 1868, *Hybocoptus* Simon, 1884, and others. I apply the term "embolic plate", first introduced by Saaristo (1995) instead of a "lamella" in *Bathyphantes*.

Linyphiidae Blackwall, 1859

Linyphiinae Blackwall, 1859

Neriene Blackwall, 1833

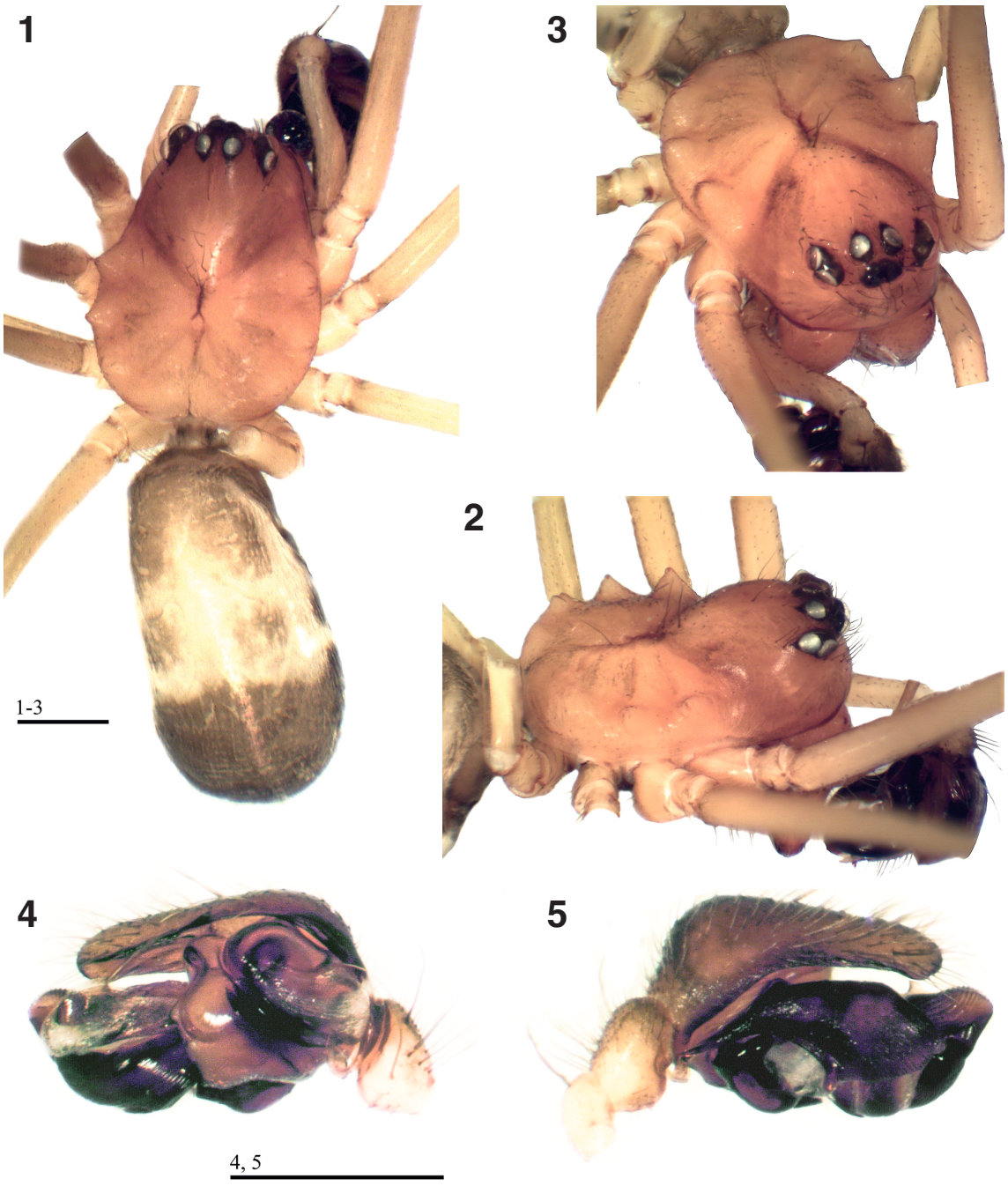
Type species: *Neriene clathrata* (Sundevall, 1830).

Neriene clivosa sp. n. (Figs. 1–14)

Type material: Holotype ♂ (ZMMU), northern VIETNAM: Lao Cai Province, Van Ban District, Nam Xay Commune, 21.973889°N 104.041111°E, 900–1200 m, 19 March–15 April 2005, leg. A. V. Abramov.

Etymology: The species epithet is a Latin adjective (*clivosus*, *-a*, *um*) meaning "bumpy", referring to the shape of the male carapace which is furnished with six conical projections at its edges.

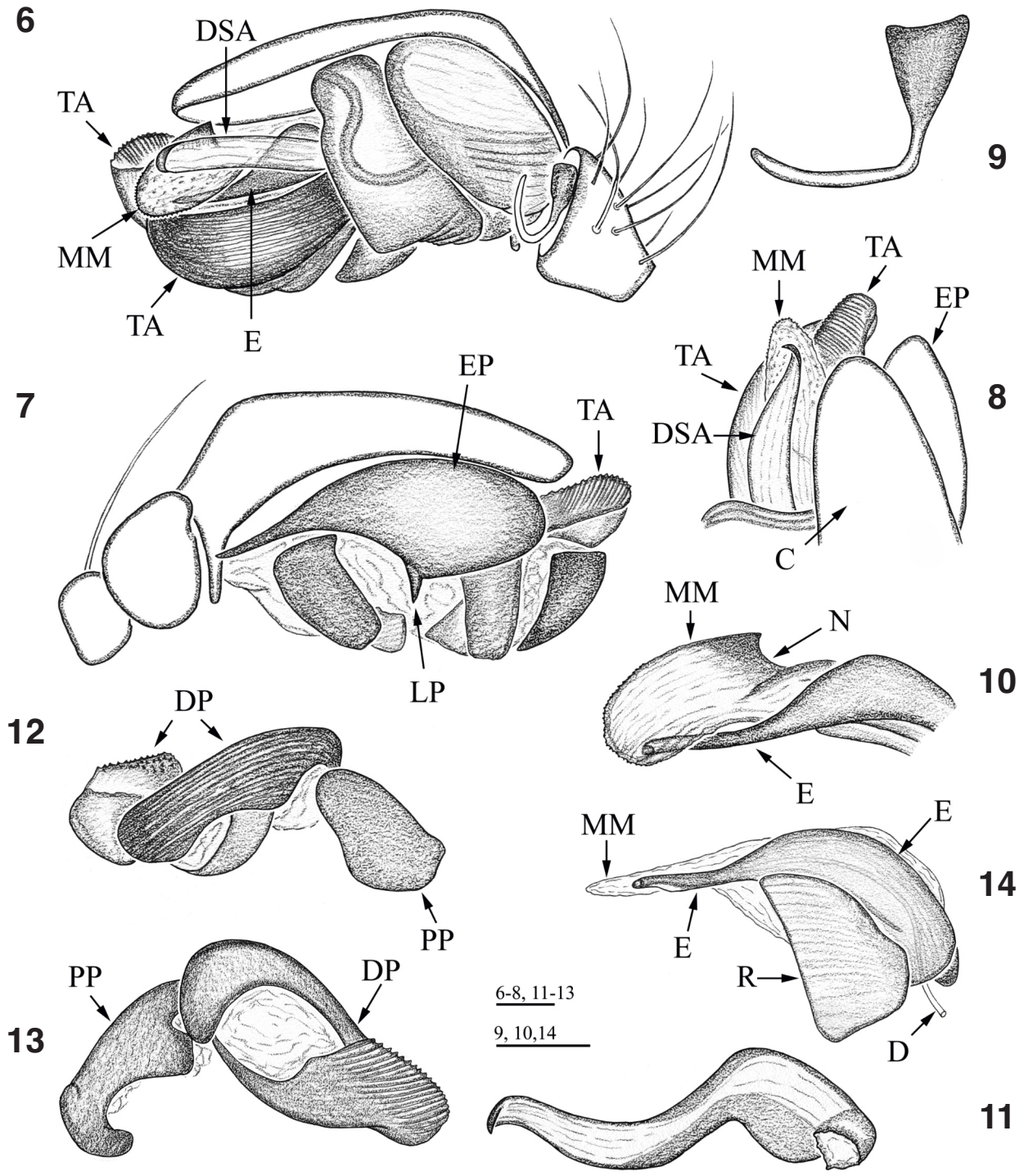
Diagnosis: The new species is diagnosed by the peculiar shape of the male carapace which seems to be unique among other congeners; namely, the presence of conical projections at its edges, as shown in Figs. 1–3. Based on the palpal structure, the new species seems to be especially similar to *N. longipedella* (Bösenberg & Strand, 1906) and *N. marginella* (Oi, 1960), both south-eastern Palaearctic, as well as to the Oriental *N. strandia* (Blauvelt, 1936); for details see World Spider Catalog (2023). Besides the shape of the carapace, *N. clivosa* sp. n. can easily be distinguished from *N. longipedella* by the non-bifurcated distal suprategular apophysis (Fig. 11; cf. Li, Liu & Chen 2018: fig. 39A, sub "suprategulum"), and a thinner and longer embolus



Figs. 1–5: *Neriene clivosa* sp. n., male holotype. **1** body, dorsal view; **2** prosoma, antero-dorsal view; **3** same, prolateral view; **4** palp, retrolateral view; **5** same, prolateral view. Scale bars = 0.5 mm.

(Figs. 10, 14; cf. Li, Liu & Chen 2018: fig. 39E); from *N. strandia* by the slightly curved and fragmented terminal apophysis (*v.* almost straight and entire) (Figs. 12–13; cf. Li, Liu & Chen 2018: fig. 62E); and from *N. marginella* by the much longer and undulate distal suprategular apophysis (Fig. 11; cf. van Helsdingen 1969: fig. 342).

Description of holotype male: Total length 4.05. Carapace 1.75 long, 0.35 wide, pale brown to brown, supplied with six conical outgrowths at its edges, three on each side, as shown in Figs. 1–3. Chelicera 1.80 long, mastidion absent, stridulatory furrows tiny, almost invisible. Legs yellow to pale brown, mostly detached and lost. Leg I 12.90 long (3.50 + 0.50 + 3.25 + 3.80 + 1.85). Femora II–IV: 2.75, 1.95, 2.65, respectively. Palp (Figs. 4–14): patella small, spherical, with long, straight spine dorsally; tibia short, furnished with long, curved spines; paracymbium small, its proximal part conical, distal one like a narrow ribbon; distal suprategular apophysis long, undulate, its apex somewhat curved; median membrane long, with notch distally (N in Fig. 10); embolic plate with small, pointed, lateral projection, posterior projection relatively long and narrow; terminal apophysis divided into two parts connected through membranous tissue: proximal one (PP in Figs. 12–13) smaller, smooth, distal portion (DP in Figs. 12–13) slightly



Figs. 6–14: *Neriene clivosa* sp. n., male holotype, palp structures. **6** left palp, retrolateral view; **7** same, prolateral view; **8** distal part of palp, dorsal view; **9** paracymbium; **10** median membrane and distal part of embolus, retrolateral view; **11** distal suprategular apophysis, lateral view; **12** terminal apophysis, prolateral view; **13** same, retrolateral view; **14** embolic division, lateral view. Scale bars = 0.1 mm.

curved, with its surface covered with tiny, longitudinal furrows; embolus curved, its distal part narrow, radix flat. Abdomen 2.20 long, 1.10 wide, dorsal pattern as in Fig. 1.

Female unknown.

Distribution: Known only from the type locality in northern Vietnam.

Discussion

The new species described above is only the third species of *Neriene* known from the fauna of Vietnam. Two other congeners, *N. cavaleriei* and *N. oxycera*, have also been reported from the northern part of the country (Tu & Li 2006), the territory of classic interpenetrations of Palaearctic and Oriental biotas shared also with Laos and Myanmar

(e.g. Wulff 1944). Surprisingly, the *Neriene* faunas of these neighbouring zoogeographical realms virtually fail to mix. Thus, there are only three congeners known shared by both realms, more precisely their edge parts. The Oriental *N. birmanica* (Thorell, 1887) and *N. macella* (Thorell, 1898) appear to penetrate into the Palaearctic only as far north as Sichuan and Hunan provinces of China, respectively (Li, Liu & Chen 2018). The third common species, the south-eastern Palaearctic *N. cavaleriei*, is restricted to northern Vietnam within the Oriental Region.

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