

Two new erigonine spiders from Nepal (Aranei: Linyphiidae)

Два новых вида пауков-эригонин из Непала (Aranei: Linyphiidae)

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КЛЮЧЕВЫЕ СЛОВА: таксономия, Arachnida, Erigoninae, Гималаи, горная фауна.

ABSTRACT. Two new linyphiid spiders from the subfamily Erigoninae, *Erigone acuta* sp.n. (♂) and *Gongyliidiellum koshi* sp.n. (♂ & ♀), are described from the Nepal Himalayas. *Erigone acuta* sp.n. somewhat resembles *E. autumnalis* Emerton, 1882, while *G. koshi* sp.n. is similar to *G. nepalense* Wunderlich, 1983. Both new species can easily be distinguished from their congeners mainly by certain details of the genital structure.

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РЕЗЮМЕ. Из непальских Гималаев описаны два новых вида линифид подсемейства Erigoninae: *Erigone acuta* sp.n. (♂) и *Gongyliidiellum koshi* sp.n. (♂ и ♀). *Erigone acuta* sp.n. отчасти напоминает *E. autumnalis* Emerton, 1882, *G. koshi* sp.n. наиболее близок к *G. nepalense* Wunderlich, 1983. Оба вида легко отличимы от ближайших деталями строения гениталий.

Introduction

The spider fauna of the Himalayas presently includes seven species of the genus *Erigone* Audouin, 1826, three of them from Nepal. *Erigone atra* Blackwall, 1833 has been reported from the highlands of Nepal (5030–5100 m a.s.l.), *E. prominens* Bösenberg et Strand, 1906 from medium elevations (2400–3200 m a.s.l.), while *E. nepalensis* Wunderlich, 1983 has been described from 3300 m a.s.l. [Wunderlich, 1983].

The genus *Gongyliidiellum* Simon, 1884 is currently represented in the Himalayas by four species, two of which are known from Nepal: *G. kathmanduense* Wunderlich, 1983, described from 2100–2700 m a.s.l., and *G. nepalense* Wunderlich, 1983, from 2500–3400 m a.s.l. [Wunderlich, 1983].

A recent study of material from the Himalayas, kept at the Muséum d'histoire naturelle de Genève, Switzerland (MHNG), has revealed a couple of new species,

one each in *Erigone* and *Gongyliidiellum*. Their descriptions are the subject of the present paper.

Material and methods

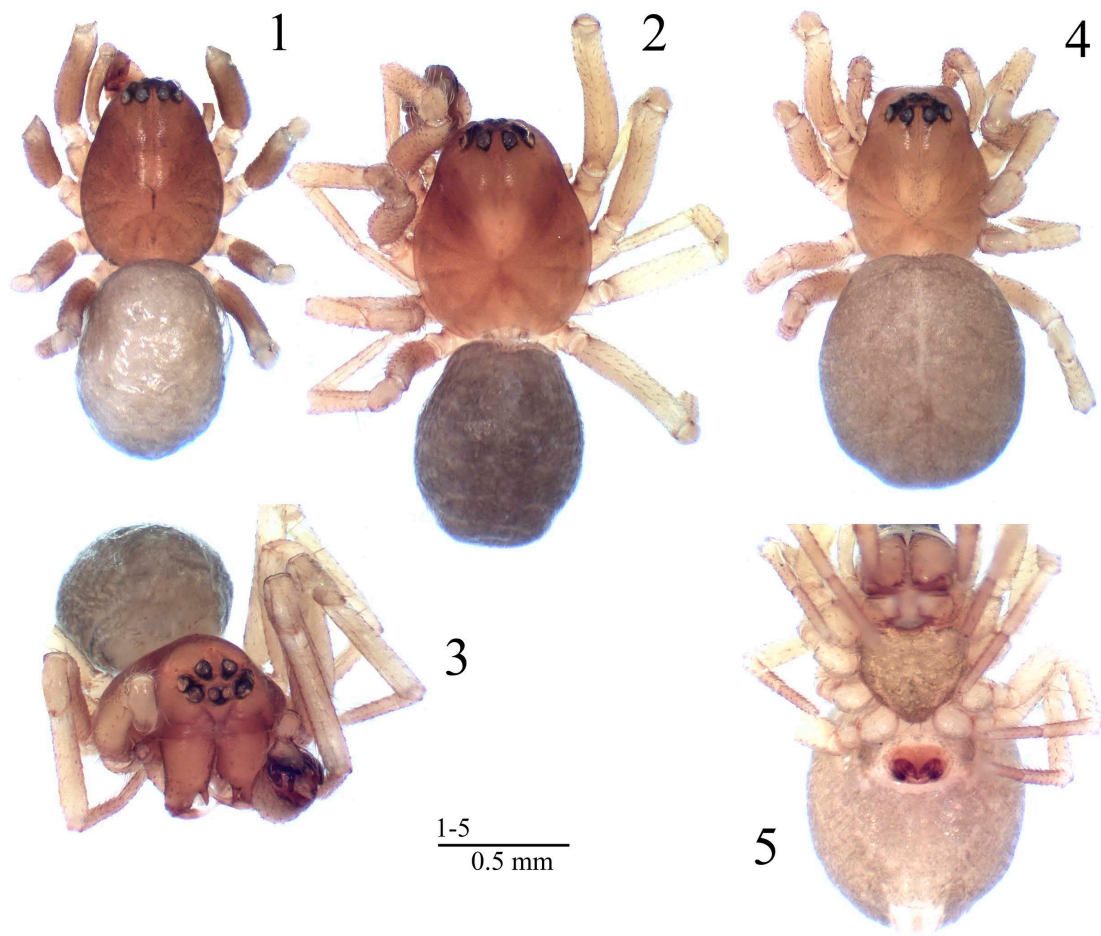
This paper is fully based on material kept at the MHNG. Sample numbers are given in square brackets. Specimens preserved in 70% ethanol were studied using a MBS-9 stereomicroscope. A Levenhuk C-800 digital camera was used for photos. Leg chaetotaxy is presented in a formula, e.g., 1.1.1.1 or 2.2.1.1, which refers to the number of dorsal spines on tibiae I–IV. The sequence of leg segment measurements is as follows: femur + patella + tibia + metatarsus + tarsus. All measurements are given in mm. Scale lines in the figures correspond to 0.1 mm unless indicated otherwise. Figure numbers are given above the scale lines, the alternative distance below them.

The terminology of copulatory organs mainly follows that of Merrett [1963] and those of the authors mentioned in the Abbreviations section below.

The following abbreviations are used in the text and figures: a.s.l. — above sea level; DSA — distal suprategular apophysis sensu Hormiga [2000]; E — embolus; ED — embolic division; EM — embolic membrane sensu Tanasevitch [2017], not sensu van Helsdingen [1986] and Hormiga [1994]; EP — embolus proper sensu Saaristo [1971]; MeRT — mesal radical tooth of embolic division (= mesal tooth sensu Crosby & Bishop [1928]); MM — median membrane sensu Helsdingen [1965] (= embolic membrane sensu van Helsdingen [1986] and Hormiga [1994]); Mt — metatarsus; P — paracymbium; PMP — posterior median plate sensu Helsdingen et al. [1977] (= dorsal plate, median plate, central capsule, *auct.*); PRA — posterior radical apophysis (= posterior tooth sensu Crosby & Bishop [1928]); R — radix; TmI — position of trichobothrium on metatarsus I.

Descriptions

Order Aranei Clerck, 1758
Family Linyphiidae Blackwall, 1859
Subfamily Erigoninae Emerton, 1882



Figs 1–5. Photographs of *Erigone acuta* sp.n., ♂ holotype (1), *Gongylidiellum koshi* sp.n., ♂ holotype (2–3) and ♀ paratype (4–5). 1–5 — body, 1, 2, 4 — dorsal view, 3 — ventral view.

Рис. 1–5. Фотографии *Erigone acuta* sp.n., ♂ голотип (1), *Gongylidiellum koshi* sp.n., ♂ голотип (2–3) и ♀ паратип (4–5). 1–5 — внешний вид, 1, 2, 4 — вид сверху, 3 — вид спереди, 5 — вид снизу.

***Erigone acuta* sp.n.**

Figs 1, 6–10.

HOLOTYPE ♂ (MHNG), NEPAL, Kosi (= Koshi) Province, Sankhuwasawa (= Sankhuwasabha) District, east side of Goru Dzire Dara, 3350 m a.s.l., sifting mosses, ferns and herbs, 9.IV.1984, leg. I. Löbl & A. Smetana [12].

NAME. The specific epithet is a Latin adjective, meaning “sharpened, pointed”, referring to the spike-shaped embolic membrane.

DESCRIPTION. Male holotype. Total length 1.43. Carapace unmodified (Fig. 1), 0.70 long, 0.53 wide, pale brown. Lateral edges of carapace toothless, its cephalic part not elevated. Chelicerae 0.30 long, a mastidion absent. Legs pale brown. Leg I, 1.77 long ($0.48 + 0.18 + 0.40 + 0.38 + 0.33$), IV, 1.87 long ($0.53 + 0.18 + 0.48 + 0.38 + 0.30$). Chaetotaxy 1.1.1.1, spines 1–1.5 diameters of corresponding leg segment. Metatarsus IV without trichobothrium. TmI 0.43. Palp (Figs 6–10): Patella small, rounded, a typical distal ventro-apical apophysis absent. Tibia slightly elongated, ending sharp. Paracymbium U-shaped. Distal suprategular apophysis elongated, well-sclerotized, rounded distally. Embolic membrane sclerotized, widened proximally, with a serrate edge, its distal part spike-shaped. Posterior radical apophysis relatively long, slightly curved, not widening dis-

tally, serrate apically. Embolus proper very short, knob-shaped. Abdomen 0.78 long, 0.55 wide, pale grey.

Female unknown.

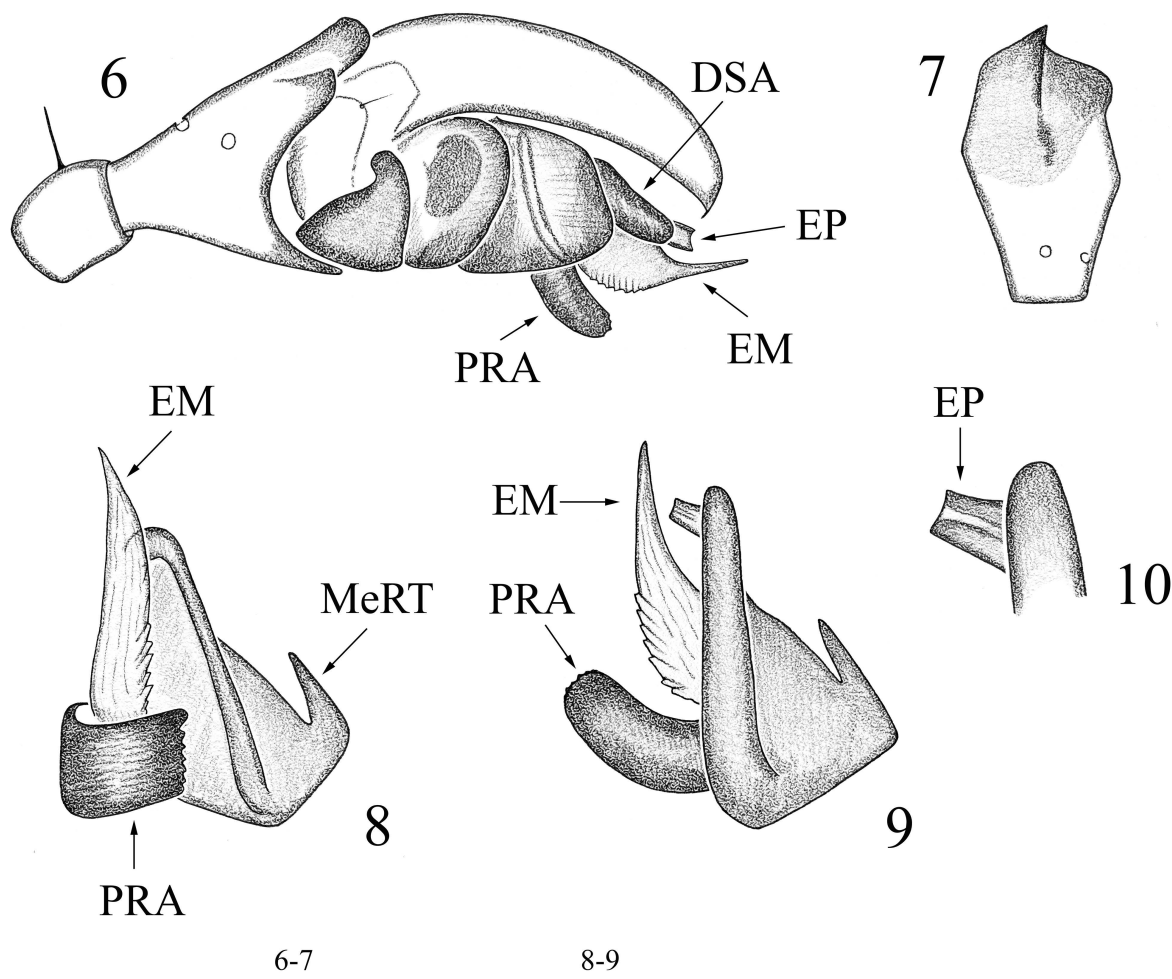
TAXONOMIC REMARKS. The new species somewhat resembles *E. autumnalis* Emerton, 1882, originally known from North and Central America, introduced to the Azores, Europe, the United Arab Emirates, and New Caledonia [Word Spider Catalog, 2020]. *Erigone acuta* sp.n. can easily be distinguished by the absence of a distal ventro-apical apophysis on the palpal patella, by a missing terminal knob on the posterior radical apophysis, as well as by the untypical chaetotaxy formula, 1.1.1.1 *versus* 2.2.2.1 in *Erigone*. This case is not unique, as another non-typical chaetotaxy formula, i.e. 2.2.1.1, is also known to occur in some Oriental congeners, i.e. *E. bifurca* Locket, 1982, *E. apophysalis* Tanasevitch, 2017 and *E. sumatrana* Tanasevitch, 2017 (see Tanasevitch [2017]).

DISTRIBUTION. Known from the type locality only.

***Gongylidiellum koshi* sp.n.**

Figs 2–5, 11–17.

HOLOTYPE ♂ (MHNG), NEPAL, Kosi (= Koshi) Province, Sankhuwasawa (= Sankhuwasabha) District, Induwa Kola Valley,



Figs 6–10. Details of male palpal structure of *Erigone acuta* sp.n., ♂ holotype. 6 — right palp, retrolateral view; 7 — palpal tibia, dorsal view; 8–9 — embolic division, different aspects; 10 — embolus proper. Fig. 10, not to scale.

Рис. 6–10. Детали строения пальпы самца *Erigone acuta* sp.n., ♂ голотип. 6 — правая пальпа, ретролатерально; 7 — голень пальпы, вид сверху; 8–9 — эмболюсный отдел, различные аспекты; 10 — собственно эмболюс. Рис. 10 не в масштабе.

2800 m a.s.l., sifting dead leaves of *Rhododendrons* and *Bamboo* at foot of rocks, 15.IV.1984, leg. I. Löbl & A. Smetana [22].

PARATYPE. 1 ♀ (MHNG), collected together with the holotype.

NAME. The specific epithet is a name in apposition referring to the territory of origin, Koshi Province, Nepal.

DESCRIPTION. Male holotype. Total length 1.63. Carapace unmodified (Fig. 2), 0.83 long, 0.68 wide, pale brown. Chelicerae 0.33 long, mastidion as a sharp tooth in distal part of chelicera (Fig. 3). Legs pale brown. Leg I, 2.26 long ($0.63 + 0.20 + 0.55 + 0.50 + 0.38$), IV, 2.29 long ($0.55 + 0.20 + 0.53 + 0.48 + 0.53$). Chaetotaxy 2.2.1.1, spines 1–1.5 diameters of corresponding leg segment or spines lost. Metatarsus IV without trichobothrium. TmI 0.34. Palp (Figs 11–15): Tibia short and wide, with a dark, prolateral, slightly curved process. Paracymbium L-shaped. Median membrane small, swollen. Distal supratégular apophysis well-sclerotized, almost black. Radix large, flat, darkened distally. Embolus relatively short and wide. Abdomen 1.00 long, 0.65 wide, pale grey.

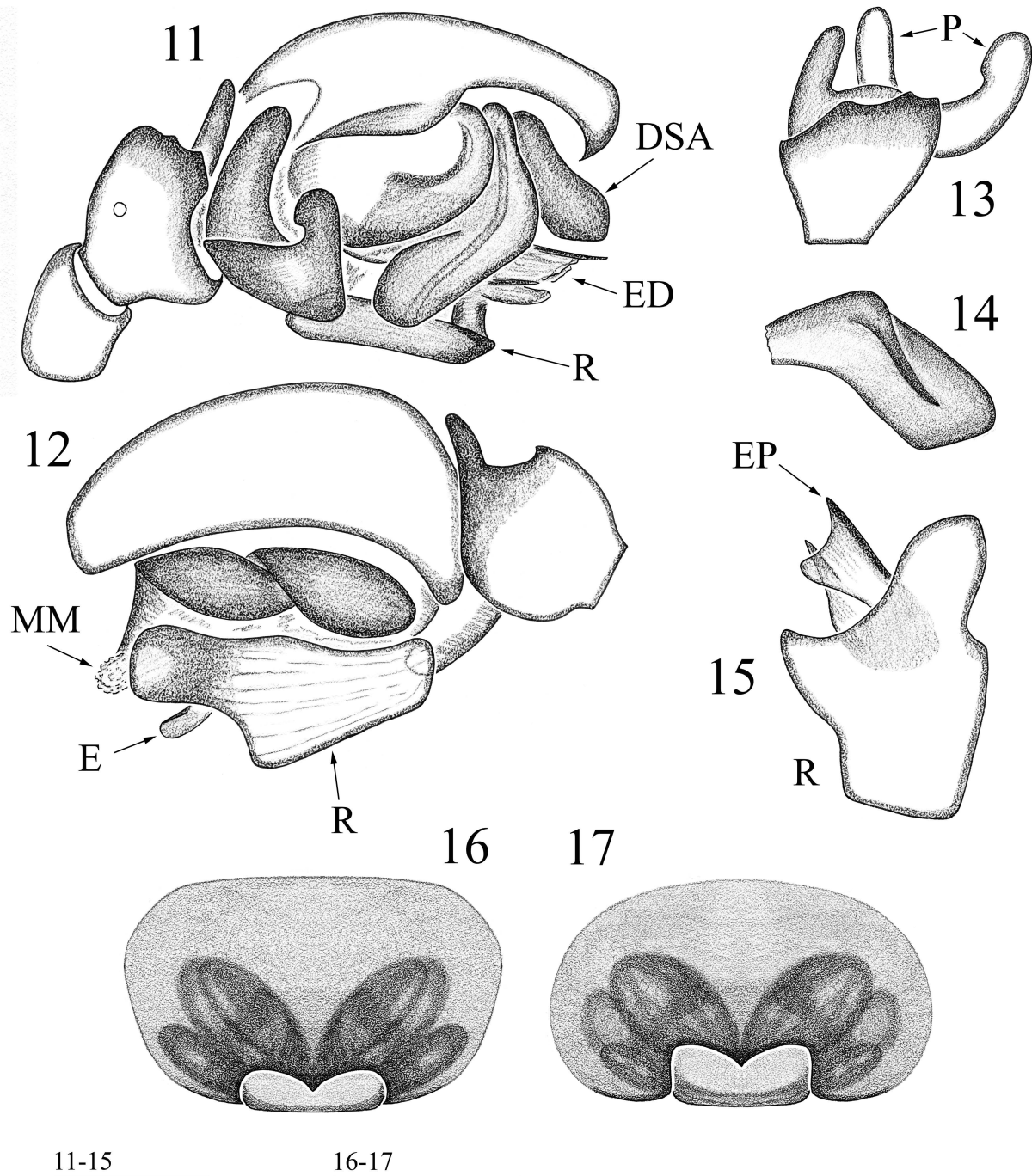
Female. Total length 1.60. Carapace unmodified (Fig. 4), 0.70 long, 0.55 wide, yellow to pale brown. Chelicerae

0.30 long, a mastidion absent. Legs yellow to pale brown. Leg I, 1.85 long ($0.48 + 0.23 + 0.43 + 0.38 + 0.33$), IV, 1.76 long ($0.50 + 0.30 + 0.43 + 0.35 + 0.28$). Chaetotaxy as in male. TmI 0.32. Abdomen 0.95 long, 0.80 wide, pale grey. Epigyne as in Figs 5, 16–17. Epigynal cavity a subrectangular box. Anterior wall with a small, pointed projection, somewhat overhanging the cavity. Receptacles narrow, oblong.

TAXONOMIC REMARKS. The new species seems to be especially similar to *G. nepalense* Wunderlich, 1983, widespread in the Nepal Himalayas [Wunderlich, 1983], but the male is distinctly distinguished by the shape of the radix and embolus (Fig. 15 cf. Wunderlich, 1983: figs 55–56). The female differs by a twice as wide anterior wall of the epigyne.

DISTRIBUTION. Known from the type locality only.

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Figs 11–17. Details of male palpal structure and female epigyne of *Gongylidiellum koshi* sp.n., ♂ holotype (11–15), and ♀ paratype (16–17). 11–12 — right palp, retrolateral and prolateral views, respectively; 13 — palpal tibia and paracymbium, dorsal view; 14 — distal suprategular apophysis; 15 — embolic division; 16–17 — epigyne, ventral view, different aspects.

Рис. 11–17. Детали строения пальпы самца и эпигины самки *Gongylidiellum koshi* sp.n., ♂ голотип (11–15) и ♀ паратип (16–17). 11–12 — правая пальпа, ретролатерально и пролатерально, соответственно; 13 — голень пальпы и парацимбиум, вид сверху; 14 — дистальная супратегулярная апофиза; 15 — эмболюсный отдел; 16–17 — эпигина, вид снизу, различные аспекты.

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