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From a century ago: a new spartaeine species from the Eastern Himalayas (Aranei: Salticidae)

Из прошлого века: новый вид спратеины из восточных Гималаев (Aranei: Salticidae)

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КЛЮЧЕВЫЕ СЛОВА: Aranei, *Brettus*, описание, паук-скакунчик, новый вид, Дарджилинг, таксономия.

ABSTRACT. A new species of the genus *Brettus* Thorell, 1895, *B. gravelyi* sp.n., is diagnosed and described from Darjeeling district, West Bengal State of India.

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РЕЗЮМЕ. Описан и диагностирован новый вид рода *Brettus* Thorell, 1895, *B. gravelyi* sp.n., из района Дарджилинг, штат Западная Бенгалия, Индия.

Introduction

The spartaeine genus *Brettus* was erected by Thorell in 1895, with *Brettus cingulatus* Thorell, 1895 as its generotype. Currently, six valid species are known (five species from Asia and one from Madagascar) [WSC, 2018]. Of these, two species have been recorded from India; *B. cingulatus* Thorell, 1895 and *B. anchroum* Wanless, 1979 [Ahmed *et al*., 2017; Wanless, 1979]. In the present paper, we have described a third species, *Brettus gravelyi* sp.n. from the Eastern Himalayas collected over a century ago by the well-known British arachnologist, Frederic Henry Gravely.

F.H. Gravely was the Assistant Superintendent (1909) of the Indian Museum, Calcutta (Kolkata), and later on became the Superintendent (1920) of the Government Museum of Madras (Chennai). During his tenure he extensively studied the arachnid fauna of the Indian subcontinent. His contributions greatly added toward the existing knowledge of Araneomorphae [Gravely, 1921a,b, 1922, 1924] and Mygalomorphae [Gravely, 1915; 1935]. His collections and all the material he studied have been kept in the Indian Museum, Kolkata and the Zoological Survey of India, Kolkata.

Material and methods

While examining unidentified salticid specimens collected by F.H. Gravely in 1916 from Peshok (=Pashok), located in the Eastern Himalayas in Darjeeling District, West Bengal state of India, an undescribed species has been recognized. Morphological examination and photography were performed under a Leica EZ4 HD stereomicroscope. All images were processed with the aid of the LAS core software (LAS EZ 3.0). Detailed micro-photographs of the palps were obtained using a Leica M205A stereomicroscope attached with Leica DFC500 HD camera enabled with a Leica Application Suite (LAS) version 3.8. Line drawings were prepared with the GNU Image Manipulation Program (GIMP) [Montesanto, 2015]. The terminology follows Wanless [1984]. Leg measurements are given in the following order: total (femur, patella, tibia, metatarsus, tarsus). Spine positions are as follows: prolateral, dorsal, retrolateral and ventral. All measurements are in millimeters. The holotype is kept in the National Zoological Collections (NZC), Zoological Survey of India, Kolkata.

Abbreviations used in the text are as follows: AER — anterior eye row; ALE — anterior lateral eye; AME — anterior median eye; EFL — eye field length; PER — posterior eye row; PLE — posterior lateral eye; PME — posterior median eye; RTA — retrolateral tibial apophysis; VTA — ventral tibial apophysis.

Taxonomy

Genus *Brettus* Thorell, 1895

Brettus gravelyi Caleb **sp.n.**
Figs 1–15.

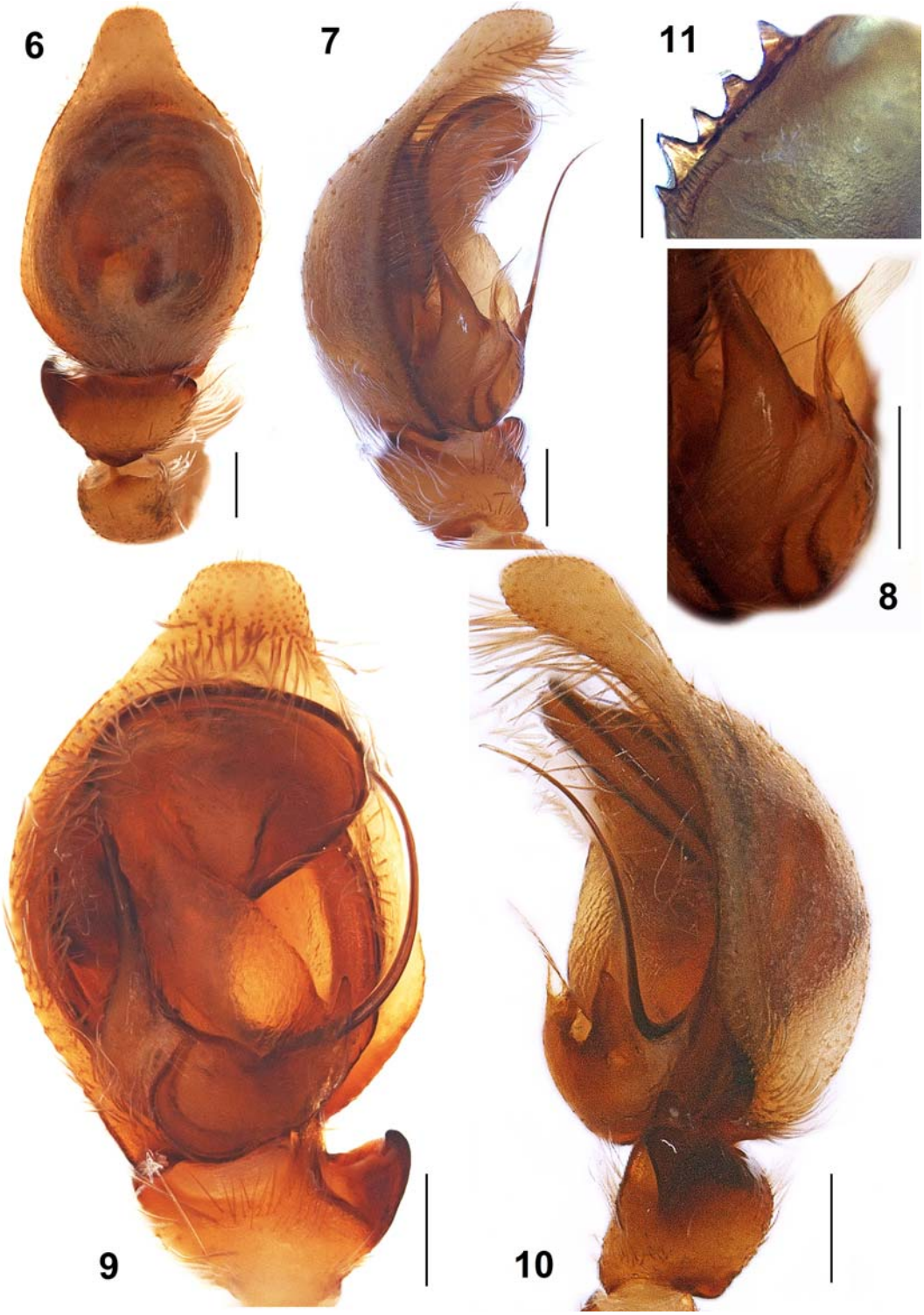
TYPE. Holotype ♂ (NZC-6589/18) from Peshok (=Pashok) (27.07°N, 88.39°E), 1066 m a.s.l., Darjeeling District, West Bengal, India, 26.05–14.06.1916, F.H. Gravely.

Figs 1–5. *Brettus gravelyi* sp.n., holotype male: 1 — general appearance, dorsal view; 2 — ditto, front view; 3 — ditto, lateral view; 4 — carapace, dorsal view; 5 — abdomen, dorsal view. Scale bars = (1–3) 1 mm, (4–5) 0.5 mm.

Рис. 1–5. *Brettus gravelyi* sp.n., голотип, самец: 1 — общий вид, дорзально; 2 — тоже, спереди; 3 — тоже, сбоку; 4 — головогрудь, дорзально; 5 — брюшко, дорзально. Масштаб (1–3) 1 мм, (4–5) 0,5 мм.

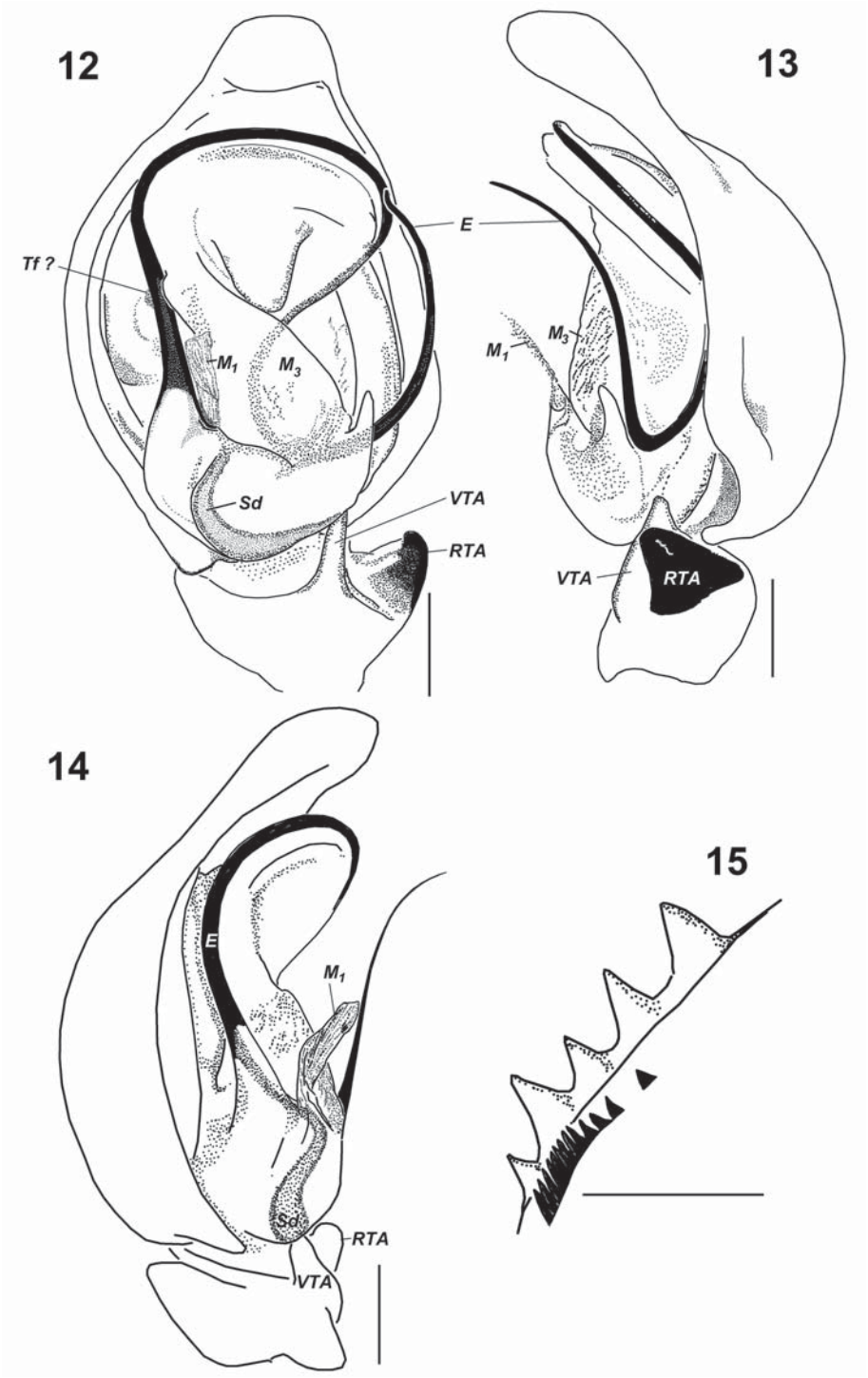
ETYMOLOGY. The specific name is a patronym, named in honor of Frederic Henry Gravely, a prominent British arachnologist.

DIAGNOSIS. The species can be distinguished from other congeners by the absence of ventral fringe of dense hairs on leg I (Figs 1, 2) and the chelicera with five promarginal teeth (Figs 11, 15). The male palp is similar to that of *B. cingulatus*, but can be distinguished by the smooth proximal region of the cymbium (serrated in *B. cingulatus*; see fig. 1A, G in Wanless



Figs 6–11. *Brettus gravelyi* sp.n., holotype male: 6 — left palp, dorsal view; 7–8 — ditto, prolateral view; 9 — ditto, ventral view; 10 — ditto, retrolateral view; 11 — teeth on left chelicera, ventral view. Scale bars = (6–10) 0.2 mm; (11) 0.1 mm.

Рис. 6–11. *Brettus gravelyi* sp.n., голотип, самец: 6 — левая пальпа, дорзально; 7–8 — тоже, спереди-сбоку; 9 — тоже, снизу; 10 — тоже, сзади-сбоку; 11 — зубцы на левой хелицере, снизу. Масштаб (6–10) 0,2 мм; (11) 0,1 мм.



Figs 12–15. *Brettus gravelyi* sp.n., holotype male: 12 — left palp, ventral view; 13 — ditto, retrolateral view; 14 — ditto, prolateral view; 15 — teeth on left chelicera, ventral view. Scale bars = (12–14) 0.2 mm; (15) 0.1 mm. Abbreviations: E — embolus; M_1, M_3 — membranous structures; RTA — retrolateral tibial apophysis; Sd — sperm duct; Tf — tegular furrow; VTA — ventral tibial apophysis.

Рис. 12–15. *Brettus gravelyi* sp.n., голотип, самец: 12 — левая пальпа, снизу; 13 — тоже, сзади-сбоку; 14 — тоже, спереди-сбоку; 15 — зубцы на левой хелицере, снизу. Масштаб (12–14) 0,2 мм; (15) 0,1 мм. Сокращения: E — эмболюс; M_1, M_3 — мембранные структуры; RTA — ретролатеральный голенный отросток; Sd — семенной каналец; Tf — тегулярная борозда; VTA — вентральный голенный отросток.

[1979] and fig. 2 in Ahmed *et al*. [2017]); RTA triangular, benting ventrad (thick, finger-like and directed anteriad in *B. cingulatus*; cf. Figs 9, 10, 12, 13 with figs 1A, G in Wanless [1979]).

DESCRIPTION. Male (holotype). Total length: 4.96; carapace: 2.59 long, 1.83 wide; abdomen: 2.37 long, 1.29 wide. Carapace brownish, with pale white hairs behind AMEs and sparsely distributed in the lateral sides of the eye field; a thin white stripe of hairs present on the lateral sides of the carapace extending from below ALEs to the posterior edge (Figs 1, 4). Posterior eyes surrounded by black patches. Anterior eyes surrounded by white orbital setae; clypeus covered with white hairs (Fig. 2). Eye measurements: AME 0.63, ALE 0.33, PME 0.11, PLE 0.32, AER 1.80, PER 1.70, EFL 1.24. Clypeus height 0.12. Sternum oval, yellowish. Chelicerae yellow-brown, with five large teeth on the promargin and 13 small teeth on the retromargin (Figs 11, 15); labium and maxillae yellowish. Legs yellowish; legs with black annulations near the joints; patch of white hairs present on tibiae of all legs dorsally (Figs 1, 3). Leg measurements: I 5.82 (1.69, 0.90, 1.32, 1.39, 0.52); II 5.45 (1.59, 0.84, 1.22, 1.22, 0.58); III 5.60 (1.56, 0.78, 1.24, 1.45, 0.57); IV 6.78 (1.96, 0.83, 1.41, 1.83, 0.75). Leg formula: 4132. Leg spination: femora I 0500, II 0700, III 0700, IV 0700; patellae I–IV 1010; tibiae I 2226, II 2226, III 2224, IV 2226; metatarsi I 2024, II 2024, III 2024, IV 3034; tarsi I–IV 0000. Abdomen brownish, with a pair of lateral thin white longitudinal stripes; mid-dorsal region with light brown chevron-shaped markings (Fig. 5); ventral region uniformly brownish. Spinnerets yellowish (Fig. 5). Palps yellow-brown covered with pale white hairs; cymbium apically swollen; embolus emerging at 7–8 o'clock position, long and undulating, with the medial portion looping inwards and then makes a hairpin loop; palpal tibia wide in ventral view, VTA present; RTA broad and triangular, directed ventrally (Figs 6–10, 12–14).

Female unknown.

DISTRIBUTION. India (West Bengal).

COMMENTS. The species is tentatively placed in *Brettus* Thorell, 1895 based on the presence of the long, undulating embolus. The species however is different from other congeners by the absence of ventral fringes of long dense hairs on legs I. Moreover, the general body morphology and cheliceral dentition with five promarginal teeth also do not resemble any known congener, but rather resemble members of the genus *Taraxella* Wanless, 1984. The species also shares characters from other members of the subfamily Spartaeinae Wanless, 1984 such as: the ribbon-shaped membranous M_1 which is homologous to the filamentous process present in *Phaeacius* Simon, 1900 (cf. Figs 7, 8, 10, 12–14 with fig. 2C in Wanless [1981]); the obliquely placed M_3; the broad and translucent membranous structure seems to be comparable with that of the transparent lobe in *Portia* (cf. Figs 9, 12 with fig. 29A in Wanless [1984]). The species seems to also display a plesiomorphic state of the strongly flexed sperm duct loop, which is known in *Wanlessia* Wijesinghe, 1992 only (cf. Figs 9, 12 with fig. 5 in Wijesinghe [1992]).

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