On two species of Bowie Jäger, 2022 (Aranei: Ctenidae) from Vietnam

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Introduction

The wandering spider genus Bowie Jäger, 2022 was recently erected and revised by Jäger (2022). The genus currently accounts for 115 Oriental and Australasian species (WSC, 2024), of which 16 species have been recorded/described from Vietnam (Chu et al., 2022; Jäger, 2022; Lu et al., 2022). While sorting recently collected spider materials from Vietnam, a new and one recently described Bowie species have been found. The aims of the present paper are (1) to diagnose and describe the new species, and (2) to illustrate the already known species. A brief discussion of the Bowie diversity in Vietnam is presented as well.

Material and Methods

The materials studied in the present work were collected by my colleague Alexei V. Abramov (St. Petersburg, Russia) during 2022 and 2023 expeditions to the Vietnam organized and supervised by the Joint Russian-Vietnamese Tropical Research and Technological Centre (Hanoi).

The type specimens of a new species have been shared between the following museums: MMUE —
Figs 1–10. *Bowie bigbrother* Jäger, 2022, male, 1, 4 — palp, ventral view, 2, 5 — same, retrolateral view, 3 — bulbus, ventral view, 6 — palp, dorsal view, 7 — body, dorsal view, 8 — same, ventral view, 9 — eye field, front view, 10 — chelicerae, ventral view. Scale bars: 2 mm (7–8), 1 mm (9), 0.5 mm (1–6, 10).

Manchester Museum, University of Manchester, Manchester, UK (curator: D. Arzuza Buelvas); ZISP — Zoological Institute, the Russian Academy of Sciences, St. Petersburg, Russia (curator: D.V. Logunov); ZMMU — Zoological Museum of the Moscow University, Moscow, Russia (curator: K.G. Mikhailov).

Digital photographs were made at the Manchester Museum, using an Olympus SZX16 stereo microscope with a DP27 Digital Colour Camera, and
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Helicon Focus 7.7.2 as the processing software. The distributional map was produced by using the online mapping software SimpleMappr (Shorthouse, 2010).

The terminology and format of description follow Jäger (2022), with modifications. In the following description, leg segments are abbreviated as follows: Fm — femur, Pt — patella, Tb — tibia, Mt — metatarsus, Tr — tarsus. Position of leg spines: d — dorsal, pr — prolateral, rt — retrolateral, v — ventral. For the leg spination the system adopted is that used by Ono (1988). The term ‘spine’ is used to describe pointed, rigid and usually articulating macrosetae on legs, the term ‘vulva’ is used for internal structures of female copulatory organs, and the term ‘receptacle’ is used as a synonym of ‘spermatheca’ (Jocque, Dippenaar-Schoeman, 2006: 25). The sequence of leg podomeres in measurement data is as follows: femur + patella + tibia + metatarsus + tarsus (total). All measurements are in mm.

**Results**

*Bowie bigbrother* Jäger, 2022

Figs 1–11.


**REMARKS.** The new species belongs to the *rebelrebel* species group (*sensu* Jäger, 2022) and, since its description, has been known from the type locality only. It is the second record of the species, which is currently known from two close localities in central Vietnam (Fig. 11).

*Bowie giang* sp.n.

Figs 11–23.

**TYPES.** **HOLOTYPE** ♂ (ZISP, ARA_0001532; Figs 12–21), Vietnam, Lam Dong Prov., Lac Duong Distr., c. 5 km NE of Long Lanh Vil., Bidoup - Nui Ba National Park, Giang Ly Forest Station (12°10′58.62″N, 108°40′48.96″E), 1400 m a.s.l., 24.V–4.VI.2023, A.V. Abramov. — **PARATYPES:** 2 ♂♂ (ZISP, ARA_0001535), 4 ♂♂ (ZMMU), 2 ♂♂ (MMUE), together with the holotype; 2 ♂♂ 1 ♀ (ZISP, ARA_0001534; Figs 22–23), same locality, June–July 2022, A.V. Abramov.

**ETYMOLOGY.** A noun in apposition taken from the Giang Ly Forest Station of the Bidoup – Nui Ba National Park, Vietnam, where the type series was collected.

**DIAGNOSIS.** In having the notched (hook-shaped) tegular apophysis, the new species is most similar to the Nepalese *B. martensi* Jäger, 2022, from which it differs in having the less bent and thicker retrolateral tibial apophysis, the thinner embolus and a different shape of the tegular apophysis in the males and the epigyne with smaller lateral teeth and the median plate which overhangs significantly more over the epigastric furrow in the females (cf Figs 12–17 and 22–23 with figs 40–42 in Jäger (2012) and figs 54–56 in Jäger (2022)). Besides, the male of *B. giang* sp.n. has no palpal patellar crack, which presents in *B. martensi*.

The new species is also similar to two Vietnamese species that were placed by Jäger (2022) outside any particular species group: *B. fame* Jäger, 2022 described from the male, and *B. win* Jäger, 2022 described from the female (cf Figs 22–23 with figs 412–417 in Jäger, 2022)). The male of *B. giang* sp.n. differs from that of *B. fame*, as well as of all other congeners in having the prominently notched (hook-shaped) tegular apophysis (not notched in other species, but *B. martensi*, see above) and the strong tibial apophysis originating from the middle part of palpal tibia. The female of *B. giang* sp.n. differs from that of *B. win* in the shape of the triangular median plate lacking anterior “shoulders” and the median keel (present in *B. win*), the median plate significantly overhanging the epigastric furrow (not overhanging in *B. win*), and comparatively larger receptacles.

**DISTRIBUTION.** Only the type locality (Fig. 11).

**DESCRIPTION.** **MALE** (holotype). Carapace 6.30 long, 4.95 wide. Eye sizes and interdistances: AME 0.30, ALE 0.28, PME 0.40, PLE 0.40, AME-
Figs 12–23. *Bowie giang* sp.n., holotype male (11–21) and paratype female (ARA_ARA_0001534; 22–23), 12, 15 — palp, ventral view, 13, 16 — same, retrolateral view, 14 — bulb, ventral view, 17 — palp, dorsal view, 18 — body, dorsal view, 19 — same, ventral view, 20 — eye field, front view, 21 — chelicerae, ventral view, 22 — epigyne, ventral view, 23 — vulva, dorsal view. Scale bars: 2 mm (18–19), 1 mm (20), 0.5 mm (11–17, 21–23).
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AME 0.23, AME-AME 0.33, PME-PME 0.23, PLE-PLE 0.45. Chelicera length 2.53; promargin with 3 teeth, retromargin with 5 teeth. Abdomen 5.25 long, 3.75 wide. Length of leg segments: I 4.60 + 2.50 + 4.90 + 4.70 + 1.30 (18.00); II 4.80 + 2.30 + 3.90 + 1.20 (16.10); III 4.20 + 2.10 + 3.10 + 3.30 + 1.90 (13.90); IV 5.40 + 2.20 + 4.60 + 5.70 + 1.50 (19.40). Leg spination: I — Fm d 2-2-1-3; Pt pr 0-0-1; Tb d 1-1-0, pr 0-1-0, rt 1-1, v 2-2-2-2ap; Mt d 0-1, pr and rt 1-1-1ap, v 2-2-2-2ap. II — Fm d 3-3-3-4; Pt pr 0-0-1; Tb d 1-1-1, pr 0-0-0, rt 1-1-0, v 2-2-2-2ap; Mt pr and rt 1-1-1ap, v 2-2-2-2ap. III — Fm d 3-3-3-4; Pt pr 0-0-0; Tb d 2-2-3; Pr 0-0-1, v 2-2-2-2ap; Mt d 2-2-2-2ap. IV — Fm d 2-2-3; Pt pr and rt 0-0-1; Tb d 1-1-1, pr and rt 1-1, v 2-2-2-2ap; Mt pr and rt 1-1-1-1ap, v 2-1-2-2ap. Colouration as in the male. Epigyne and vulva as in Figs 22–23: epigyne with swollen median plate that is notably tapered proximad and significantly overhangs epigastric furrow; ‘neck’ of median plate with a median longitudinal row of dense black/brown hairs; copulatory openings hidden beneath lateral sides of plate ‘neck’; lateral teeth prominent; vulva with wide insemination ducts and large, two-chambered receptacles directed to each other; fertilization ducts poorly visible, directed latero-proximad.

**Discussion**

To date, a total of 17 *Bowie* species have been reported from Vietnam (Chu *et al.*, 2022; Jäger, 2022; Lu *et al.*, 2022; present data). Of them, eight species (47%) are currently known from both sexes, seven (41%) from males and two (12%) from females.

The newly described species could not be placed to any particular species group (*sensu* Jäger, 2022). It is close to *B. fame* and *B. martensi* and *B. win* which were also left out of any species group because they had a "uniquely shaped RTA" in males and unusual epigynes in the females (Jäger, 2022: 12, 90). It seems reasonable to accommodate at least *B. fame*, *B. martensi* and *B. giang*-sp.n. to a separate, *martensi*-species group that can be diagnosed by the presence of very long, U-shaped retrolateral tibial apophysis (almost as long as palpal tibia; Figs 15–17) arising proximally from tibia in the males, and the median plate of the epigynite and prominent.

**FEMALE** (paratype, ARÀ_ARA_0001534). Measurements. Carapace 7.40 long, 5.70 wide. Eye sizes and interdistances: AME 0.30, ALE 0.23, PME 0.43, PLE 0.43, AME-AME 0.23, AME-ALE 0.48, PME-PME 0.33, PLE-PLE 0.43. Chelicera length 5.85. Abdomen 7.90 long, 5.30 wide. Length of leg segments: I 5.30 + 2.50 + 4.20 + 3.90 + 1.20 (16.80); II 4.80 + 2.60 + 3.80 + 3.50 + 1.30 (16.00); III 4.30 + 2.30 + 3.00 + 3.40 + 1.20 (14.20); IV 5.60 + 2.40 + 4.30 + 5.50 + 1.70 (19.50). Leg spination: I — Fm d 2-2-3; Pr 0-0-1, v 2-2-2-2ap; Mt d 2-2-2ap. II — Fm d 3-3-3; Tb v 2-2-2-2-2ap; Mt v 2-2-2-2ap. III — Fm d 2-3-5; Pr rt 0-1-0; Tb d 1-1, pr 0-1, rt 1-1, v 2-2-2ap; Mt d 0-1-0, pr and rt 1-1-1-2ap, v 2-1-2-2ap. IV — Fm d 1-2-5; Pr pr and rt 0-1-0; Tb d 1-1-1, pr and rt 1-1-1, v 2-2-2ap; Mt pr and rt 1-1-2ap, v 2-1-2-2ap.

![12-23](Bowie giang sp., самец-голотип (11-21) и самка-паратип (ARA_ARA_0001534: 22-23), 12, 15 — пальпа, вид снизу, 13, 16 — то же, вид сбоку-спади, 14 — бульбус, вид снизу, 17 — пальца, вид сверху, 18 — тело, вид сверху, 19 — то же, вид сверху, 20 — глазное поле, вид сверху, 21 — хелицеры, вид снизу, 22 — эпигина, вид снизу, 23 — вульва, вид сверху. Масштаб: 2 мм (18–19), 1 мм (20), 0,5 мм (11–17, 21–23).)
It is also interesting to note that the type locality of *B. win* is only 40–50 km away from that of *B. giang* sp.n. (Fig. 11) but at different elevations: 950 and 1400 m a.s.l., correspondingly. Both sites are located on the Da Lat Plateau (Central Highlands of Vietnam), the mountainous area known not only as a very species-rich area, but also as an area with a high level of endemism in many groups (Anon., 2024). Obviously, the discovery of many more new *Bowie* species in Vietnam should be expected with continued taxonomic inventories of spiders.

**Compliance with ethical standards**

CONFLICTS OF INTEREST: The author declares that he has no conflicts of interest.

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**References**


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