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Burmostrichus brunneus gen. nov., sp. nov. from Mid-Cretaceous Burmese amber, with other taxonomic notes on the family Bostrichidae (Coleoptera)

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Háva, J. & Zahradník, P. 2025: *Burmostrichus brunneus gen. nov., sp. nov. from Mid-Cretaceous Burmese amber, with other taxonomic notes on the family Bostrichidae (Coleoptera). – Natura Somogyiensis 45: 5-10.*
Abstract: *Burmostrichus brunneus* **gen. nov., sp. nov.** from Mid-Cretaceous Burmese amber (Myanmar) is described, illustrated and compared with the similar genera *Elongatus* Wang, Lin & Wang, 2024 and *Micrapate* Casey, 1898. A list of Bostrichidae known from Mid-Cretaceous Burmese amber is added.

Keywords: Taxonomy, new genus, new species, Coleoptera, Bostrichidae, Burmostrichus, Mid-Cretaceous Burmese amber, Myanmar.

Introduction

The family Bostrichidae currently contains about 600 species including fossil species (Zahradník & Háva 2024). New species from Burmese amber were recently described by Legalov (2018), Legalov & Háva (2020, 2022, 2024), Háva & Legalov (2023a,b), Peng et al. (2022), Wang et al. (2024, 2025). In the present, paper a new genus and species is described.

The amber piece with the described specimen was obtained from mines in the Hukawng Valley of the state of Kachin (Myanmar). It is likely from the Cenomanian radiometric age and was mined from sedimentary beds, indicating that it had been redeposited. An araucarian tree, possibly Agathis Salisbury, was the source of the amber.

Material and methods

The amber piece was mined in Hukawng Valley site, a deposit dated as Cenomanian, approximately 99 Ma (Shi et al. 2012).

Photographs were made by Canon EOS 550 D camera and a Canon Macro Photo Lens MP-E, images were modified with Helicon Focus 7.7.5. software.

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The mentioned material is deposited in (JHAC) - Jiří Háva, Private Entomological Laboratory & Collection, Únětice u Prahy, Prague-West, Czech Republic.

In the mentioned material, a slash (/) separates different labels.

The specimen described here is provided with a red, printed label with text as follows: „Holotype *Burmostrichus* gen. nov. *brunneus* sp. nov. Jiří Háva & Petr Zahradník det. 2025".

Taxonomy

Family **Bostrichidae** Latreille, 1802
Subfamily **Bostrichinae** Latreille, 1802

Genus ***Burmostrichus*** gen. nov.
Type species: *Burmostrichus brunneus* sp. nov., by monotypy.

Description. Body dark brown, parallel, length 3.0 mm (Figs. 1-2). Integument covered with semierect, short setae. Head missing. Pronotum almost flat and square (length 1.0 mm, width 1.1 mm), in middle, and at base, with short semierect setae, slightly rugose. Laterally with very small denticles and short setae. Elytra parallel (length 8.0 mm width 1.2 mm), with semierect, short setae, finely punctate (punctures forming longitudinal rows), posterior part of elytra without costae or tubercles. Scutellum small, triangular without setation. Prosternal process broad and short. Metaventrite finely punctate with median longitudinal carina. Legs: femora short and broad, tibiae short apically with short small spines, tarsomeres small and short. Abdomen missing.

Diagnosis. The new genus, because of the very small body is similar to the recently described fossil genus *Elongatus* Wang, Lin & Wang, 2024, which belongs to the subfamily Dinoderinae and the extant genus *Micrapate* Casey, 1898, which belongs to the subfamily Bostrichinae. The new genus differs from them by the following characters:

Elongatus: body length 3.0 mm; antennae with 9 antennomeres; antennal funicle with short setae; pronotum cylindrical with dense verrucous protuberances.

Micrapate: body length 2.5-6.5 mm; antennae with 9 or 10 antennomeres; pronotum strongly convex, strongly declivous, and dentate anteriorly, anterior angles of pronotum without large horns, lateral margins without carinae. *A similar* species known from the Oriental Region is *M. simplicipennis* (Lesne, 1895) as in Fig 4.

Burmostrichus: body length 3.0 mm; pronotum almost flat and square, lateral parts with very small denticles and short setae (Fig. 2).

Etymology. The name is composed of *Burmo-* (Burma (Myanmar) State) and the genus name *Bostrichus*. Masculine gender

Burmostrichus brunneus sp. nov.
(Figs. 1-2)

Type material: Holotype (not sexed): „Hukawng Valley southwest of Maingkhwan in Kachin State, Myanmar" / „No. BOSTR_2024/BBA", (JHAC). The beetle is included in a transparent amber piece. Syninclusions consist of numerous small to minute organic particles.

Description. Body dark brown, parallel, length 3.0 mm (Figs. 1-2). Integument covered with semierect, short setae. Head missing. Pronotum almost flat and square (length 1.0 mm, width 1.1 mm), in middle, and at base, with short semierect setae, slightly rugose. Laterally with very small denticles and short setae. Elytra parallel (length 8.0 mm width 1.2 mm), with semierect, short setae, finely punctate (punctures forming longitudinal rows), posterior part of elytra without costae or tubercles. Scutellum small, triangular without setation. Prosternal procces broad and short. Metaventrite finely punctate with median longitudinal carina. Legs: femora short and broad, tibiae short apically with short small spines, tarsomeres small and short. Abdomen missing.

Differential diagnosis. See the diagnosis of the genus.

Etymology. Named according to the dark brown body.

Figs. 1-3: *Burmostrichus brunneus* sp. nov.: 1: habitus, dorsal view; 2: pronotum; 3: holotype in piece

Fig. 4: ***Micrapate simplicipennis*** **(Lesne, 1895), (according to Liu (2021))**

Other taxonomic notes

Poinarinius kachinus Wang, Peng & Wang, 2025

Material examined: "Hukawng Valley southwest of Maingkhwan in Kachin State, Myanmar, No. 2" / „Alitrepanum aladelicatum Peng et., Jiří Háva det., 2022" / „Poinarinius kachinus Wang, Jiří Háva det., 2024", 1 spec., (JHAC); „Hukawng Valley southwest of Maingkhwan in Kachin State, Myanmar, No. 3" / „Alitrepanum aladelicatum Peng et., Jiří Háva det., 2022" / „Poinarinius kachinus Wang, Jiří Háva det., 2024", 1 spec., (JHAC).

Remarks. According to the characters mentioned by WANG et. al (2025) the two specimens examined belong to *P. kachinus* and not in *P. aledelicatum* (Peng, Jiang, Engel & Wang, 2022). The key published in the Wang´s article is not complete because it is missing the type species *P. burmaensis* Legalov, 2018 , *P. coziki* Háva & Legalov, 2023, and *P. decimus* Háva & Legalov, 2023.

List of Bostrichidae known from Burmese amber

Subfamily **Alitrepaninae**

Genus ***Poinarinus*** Legalov, 2018
= *Alitrepanum* Peng, Jiang, Engel & Wang, 2022

Poinarinius aladelicatum (Peng, Jiang, Engel & Wang, 2022)
Poinarinius antonkozlovi Legalov & Háva, 2022
Poinarinius aristovi Legalov & Háva, 2022
Poinarinius borowskii Legalov & Háva, 2022
Poinarinius burmaensis Legalov, 2018
Poinarinius coziki Háva & Legalov, 2023
Poinarinius cretaceus Legalov & Háva, 2022
Poinarinius decimus Háva & Legalov, 2023
Poinarinius kachinus Wang, Peng & Wang, 2025
Poinarinius lesnei Legalov & Háva, 2022
Poinarinius perkovskyi Legalov & Háva, 2022
Poinarinius vetus Wang, Peng & Wang, 2025
Poinarinius zahradniki Legalov & Háva, 2022

Subfamily **Bostrichinae**
Genus ***Burmostrichus*** **gen. nov.**
Burmostrichus brunneus **sp. nov.**

Subfamily **Dinoderinae**
Genus ***Elongatus*** Wang, Lin & Wang, 2024
Elongatus kachinus Wang, Lin & Wang, 2024

Subfamily **Polycaoninae**
Genus ***Cretolgus*** Legalov & Háva, 2020
Cretolgus minimus Legalov & Háva, 2020
Genus ***Melalgus*** Dejean, 1835
Melalgus cretaceous Háva, 2024

Acknowledgements

Authors are very indebted to Jan Hrdlička (Czech Republic) for his important assistance with the inclusions from Burmese amber and to Larry G. Bezark (California, U.S.A.) for the comments and English revision to the manuscript. The paper was supported by the Ministry of Agriculture of the Czech Republic, institutional support MZE-RO0118.

References

Háva, J. 2024: Second record of subfamily Polycaoninae (Coleoptera: Bostrichidae) from Cretaceous Burmese amber. - Studies and Reports, Taxonomical Series 20(2): 344-347.

Háva, J. & Legalov, A.A. 2023a: A new Poinarinius species (Coleoptera: Bostrichidae: Alitrepaninae) from mid-Cretaceous Burmese amber. - Studies and Reports, Taxonomical Series 19(2): 285-287.

Háva, J. & Legalov, A.A. 2023b: Poinarinius coziki sp. nov. (Coleoptera: Bostrichidae: Alitrepaninae), a new species from mid-Cretaceous Burmese amber. - Euroasian Entomological Journal 22(5): 273-274.

Legalov, A. A. 2018: New auger beetle (Coleoptera; Bostrichidae) from mid-Cretaceous Burmese amber. - Cretaceous Research 92: 210-213.

Legalov, A. A. & Háva, J. 2020: The first record of subfamily Polycaoninae (Coleoptera; Bostrichidae) from mid-Cretaceous Burmese amber. - Cretaceous Research 116(104620): 1-5.

Legalov, A.A. & Háva, J. 2022: Diversity of auger beetles (Coleoptera; Bostrichidae) in the mid-Cretaceous forests with description of seven new species. - Diversity 14(12): 1114. https://doi.org/10.3390/d14121114

Liu, L-Y. 2021: An annotated synopsis of the powder post beetles (Coleoptera: Bostrichidae) of Mainland China. - Zootaxa 5081(3): 389-419.

Peng, Y., Jiang, R., Shi, C., Song, W., Long, X., Engel, M. S. & Wang, S. 2022: Alitrepaninae, a new subfamily of auger beetles from mid-Cretaceous Kachin amber of northern Myanmar (Coleoptera: Bostrichidae). - Cretaceous Research 137(105244): 1-6.

Shi, G., Grimaldi, D. A., Harlow, G. E., Wang, J., Wang, J., Yang, M., Lei, W., Li, Q. & Li, X. 2012: Age constraint on Burmese amber based on U-Pb dating of zircons. - Cretaceous Research 37: 155-163.

Wang, H., Lin, Q., Hu, S., Huang, Y., Liu, Y. & Wang, S. 2024: A New Genus and Species of Dinoderinae Subfamily (Coleoptera: Bostrichidae) from Mid-Cretaceous Kachin Amber of Northern Myanmar. - National Academy Science Letters 47(7): 1-5. https://doi.org/10.1007/s40009-024-01514-0

WANG, H., PENG, Y., LIN, Q., TAO, R., ZHANG, Z. & WANG, S. 2025: Two new species of the extinct subfamily Alitrepaninae (Coleoptera: Bostrichidae) from the Upper Cretaceous (Cenomanian) Kachin amber in northern Myanmar. - Cretaceous Research 167(106051): 1-5. https://doi.org/10.1016/j.cretres.2024.106051.

ZAHRADNÍK, P. & HÁVA, J. 2024: World Catalogue of Insects. - Volume 17. Bostrichidae (Coleoptera). Leiden/Boston: Brill, xl + 187 pp.

Natura Somogyiensis 45: 11-16. Kaposvár, 2025 https://doi.org/10.24394/NatSom.2025.45.11
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Kalikius schawalleri gen. et sp. nov., a new genus and species from Kashmir, India (Coleoptera: Dermestidae: Megatominae)

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Háva, J. 2025: *Kalikius schawalleri gen. et sp. nov., a new genus and species from Kashmir, India (Coleoptera: Dermestidae: Megatominae).- Natura Somogyiensis 45: 11-16.*
Abstract: The species *Kalikius schawalleri* ***gen. et sp. nov.*** from India: Kashmir is described, illustrated and compared with similar genera and species.

Keywords: Taxonomy, Coleoptera, Dermestidae, Megatominae, Kalikius, Kashmir, India

Introduction

The new genus here described belongs to the subfamily Megatominae, tribe Megatomini, subtribe Megatomina Leach, 1815; the subtribe currently includes the genera *Cretomegatoma* Háva, 2021, *Dearthrus* LeConte, 1861, *Globicornis* Latreille in Cuvier, 1829 (*Elania* Mulsant & Rey, 1868, *Globicornis* s. str., *Hadrotoma* Erichson, 1846, *Pseudomesalia* Ganglbauer in Bodemeyer, 1900), *Hirtomegatoma* Pic, 1931, *Megatoma* Herbst, 1791 (*Megatoma* s. str., *Pseudohadrotoma* Kalík, 1951), *Socotracornis* Háva, 2013, *Sodaliatoma* Háva, 2013, *Turcicornis* Háva, 2000 and *Zhantievus* Beal, 1992 (Háva 2021, 2024).

While examining the unidentified material deposited in the Staatliches Museum für Naturkunde, Stuttgart, Germany, the author identified a new genus and species collected in India, Kashmir (Jammu and Kashmir), which is described here.

Material and methods

The size of the beetles or of their body parts can be useful in species recognition and thus, the following measurements were made (in mm):

total length (TL) - linear distance from anterior margin of pronotum to apex of elytra.

elytral width (EW) - maximum linear transverse distance.

head width (HW) - maximum linear transverse distance with eyes.

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pronutum width (PW) - maximum linear transverse distance.

pronotum length (PL) - linear distance from anterior margin to apex of pronotum (in the middle).

Photographs were made with a Canon EOS 550 D camera, and the images were modified with Helicon Focus 7.7.5. software.

Nomenclature and systematics in this paper follow MOTYKA et. al. (2022) and HÁVA (2024).

The type material mentioned is deposited in following collection:

SMNS - Staatliches Museum für Naturkunde, Stuttgart, Germany (W. Schawaller).

The type specimen are provided with red printed labels with texts as follows: „HOLOTYPE *Kalikius* gen. nov. *schawalleri* sp. nov. Jiří Háva det. 2025".

Taxonomy

Subfamily **Megatominae** Leach, 1815
Tribe **Megatomini** Leach, 1815
Subtribe **Megatomina** Leach, 1815

Genus ***Kalikius*** gen. nov.

Type species: *Kalikius schawalleri* **sp. nov.** (by monotypy).

Description. Body parallel, brown, covered by recumbent yellow setation, TL 2.8, (Figs. 1, 3a,b). Antennae with 9 antennomeres (Figs. 2, 5). Pronotum broader than long (PL 0.5 PW 0.9), latero-posterior parts raised, flat, discally convex (Fig. 4a,b). Prosternum forming a "collar" under which mouthparts fit when head is retracted. Legs: femora and tibiae narrow and long (Fig. 6). Tarsomeres 5-5-5. Male genitalia (Fig. 7).

Differential diagnosis. The new genus differs from other *Megatomina* genera by the 9 antennomered antennae; similar genera with 9 antennomere antennae are *Dearthrus* LeConte, 1861 and *Globicornis* subgenus *Pseudomesalia* Ganglbauer in Bodemeyer, 1900; the new genus differs from them by the following characters:

- elytra bicolorous; each elytron with red or orange fasciae or patterns (or with fasciae of white setation) - *Pseudomesalia* Ganglbauer in Bodemeyer, 1900,
- elytra unicolorous without fasciae or patterns,
- pronotum narrow in the middle, laterally flat, discally convex; posterior parts not dentate; India (Kashmir) - *Kalikius* gen. nov.,
- pronotum broad in the middle, convex; posterior parts dentate; Nearctic - *Dearthrus* LeConte, 1861.

Etymology. Patronymic, dedicated in memoriam to Vladimír Kalík, specialist in Dermestidae (Coleoptera). Masculine gender.

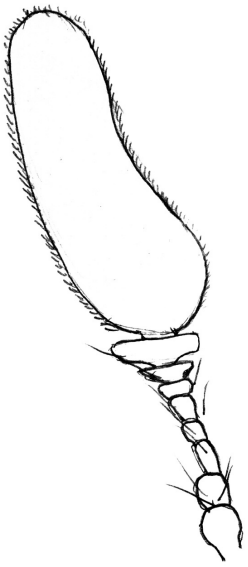
Note. The specimen was loaned by Mr. Kalík in 1990. The specimen was severely damaged during preparation and study by Mr. Kalík. During this study, the specimen was reconstructed and glued to a new label.

Kalikius schawalleri sp. nov.
(Figs. 1-7)

Type material. Holotype (♂): „INDIA: Kashmir: Tangmarg, Pir Panjal Gebirge, 2600 m, 21-25.v.1976, Martens & Schawaller leg.“ / Dearthrus sp. n. V. Kalik det. 1990 / schawalleri sp. n. V. Kalík det. 1990, (SMNS).

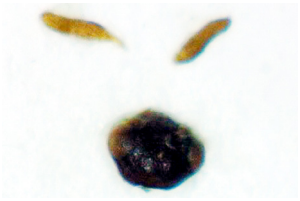
Description. Male. Body parallel, dorsal surfaces brown, covered by yellow, recumbent, long setation (Figs. 1, 3a,b). Body measurements TL 2.8 EW 1.5. Head dark brown, broader than long HW 0.6, coarsely punctate, covered by yellow setation. Labial and maxilary palpomeres dark brown. Eyes large with brown microsetae, with entire median margin. Ocellus present on front. Antennae light brown covered by short yellow setation, with 9 antennomeres, terminal antennomere large (Figs. 2, 5). Antennal cavity open, finely punctate. Pronotum broader than long PL 0.5 PW 0.9, dark brown covered by yellow, recumbent setation, coarsely punctate as on head (Fig. 4a,b). Latero-posterior parts raised, flat, discally convex, without denticles. Scutellum brown, small, triangular without setation. Elytral cuticle brown, without fasciae or spots, covered by long, recumbent, yellow setation. Each elytron on anterior part near pronotum EW 1.2, in posterior part EW 1.5. Each elytron with large humeral bump. Epipleuron short, brown, with yellow setation. Prosternum forming a “collar” under which mouthparts fit when head is retracted. Mesoventrite finely punctate, with yellow, recumbent setation. Metaventrite finely punctate with yellow recumbent setation. Visible abdominal ventrites brown, covered by yellow, recumbent setation. Pygidium brown with short yellow setation. Legs light brown with short yellow setation, femora and tibiae narrow, long. Tarsomeres 5-5-5. Male genitalia (Fig. 7). The tips of the parameres curled downwards as they dried.

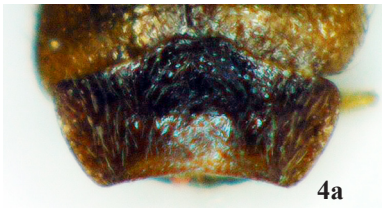
1

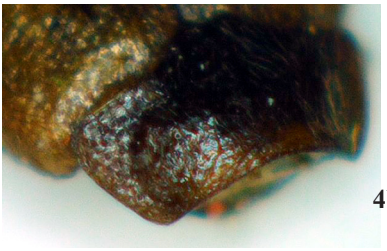


2

Figs. 1-2. *Kalikius schawalleri* sp. nov.: 1- original Kalík´s photo (Stuttgart, XI.1989, Foto-Lumpe); 2- original Kalík´s draft of antenna, (both before damage).







Figs. 3-7. *Kalikius schawalleri* sp. nov.: 3a,b- habitus, dorsal aspect; 4a – pronotum dorsal aspect; 4b – pronotum, dorso-lateral aspect; 5- antennal club; 6- posterior leg; 7- male genitalia.

Female. Unknown.

Differential diagnosis. See diagnosis of the genus.

Etymology. Patronymic, dedicated to the collector of the new species Wolfgang Schawaller (Stuttgart, Germany).

Distribution. India: Jammu and Kashmir (Fig. 8.)

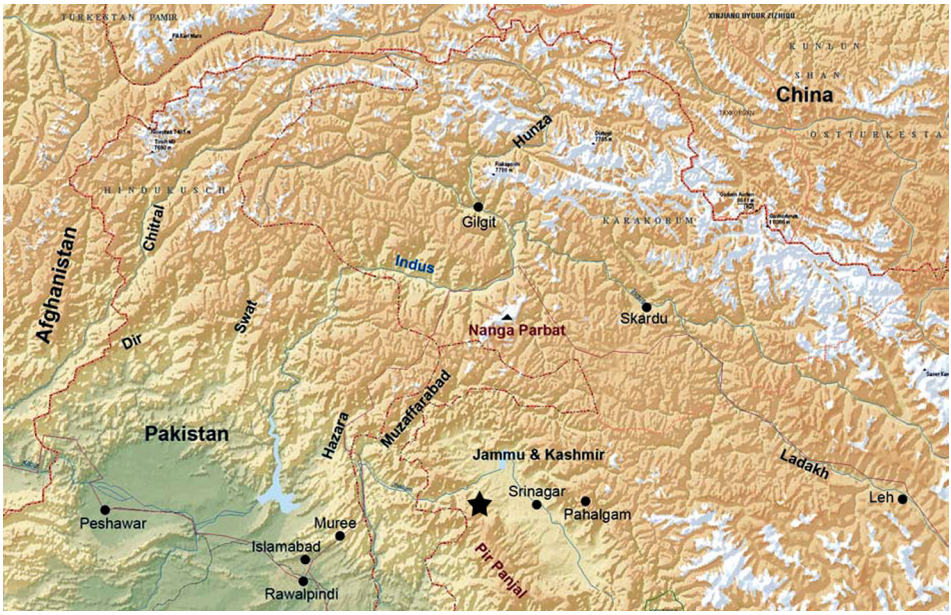


Fig. 8: The investigated area with record of Kalikius in the Indian Kashmir.
Names of regions are used in a geographical, not political sense, because some country borders are disputed. (according to SCHAWALLER 2014)

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I am very indebted to Larry G. Bezark (California, U.S.A.) for the comments and English revision to the manuscript.

References

HÁVA, J. 2021: Two new genera and species of Dermestidae (Coleoptera) from Cretaceous Burmese amber. - Euroasian Entomological Journal 20(6): 343-345.

HÁVA, J. 2024. Dermestidae World (Coleoptera). - World Wide Web electronic publication (open in 2004): http://www.dermestidae.wz.cz (version 2018, update December 2024).

MOTYKA, M., KUSY, D., HÁVA, J., JAHODÁŘOVÁ, E., BÍLKOVÁ, R., VOGLER, A. P. & BOCA,K L. 2022: Mitogenomic data elucidate the phylogeny and evolution of life strategies of Dermestidae (Coleoptera). - Systematic Entomology 47(1): 82-93.

SCHAWALLER, W. 2014: The genus Laena Dejean (Coleoptera: Tenebrionidae) in Pakistan and adjacent Kashmir and Ladakh, with descriptions of ten new species. - Stuttgarter Beiträge zur Naturkunde A, Neue Serie 7: 199-217.

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Some reptiles from Marsa El Brega, Libya (Reptilia: Chamaeleonidae, Gekkonidae, Phyllodactylidae, Lacertidae and Scincidae)

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Haris, A. 2025: *Some reptiles from Marsa El Brega, Libya (Reptilia: Chamaeleonidae, Gekkonidae, Phyllodactylidae, Lacertidae and Scincidae). - Natura Somogyiensis 45: 17-26.*
Abstract: The terrestrial reptile fauna of Libya is under-documented due to limited research stemming from political instability. The author conducted fieldwork in Libya, specifically in Marsa El Brega, during two visits in 2013 and 2014. Out of the 25 species known from Libya's historic Cyrenaica province, 7 species were identified in the surveyed area.

Keywords: Faunistic, Libya, geckoes, skinks, lizards, chameleons

Introduction

Hardly any faunistic papers have been published on the terrestrial herpetofauna of Libya. The first papers appeared during and before the Italian colonial period (Condorelli 1896, Calabresi 1916, Scortecci 1938, Werner 1909, Zavattari 1934, 1937), followed by a second period during the independent monarchy of Libya (Schnurrenberger 1958, 1959, 1962, 1963). Some research continued during the long-lasting regime of Muammar Gaddafi (Frynta et al. 2000, Ibrahim 2005, 2008, Schneider & Schneider 2008, Joger et al. 2008, Moravec 1995, Sayers 1964, Sindaco 1995). However, after the Arab Spring in 2011, zoological surveys completely stopped due to civil wars and political instability. The two species described during this period were results of collections from previous eras (Broadley et al. 2014, Bshaena & Joger 2013).

While Libya has been included in broader studies on North Africa (e.g., Le Berre 1989, Schleich et al. 1996), some comprehensive nationwide publications (Zavattari 1934, 1937) mainly consist of briefly annotated lists of collected specimens. Herpetofaunal research has never been a primary focus in Libya, and no comprehensive "*Herpetology of Libya*" has been published. This remained the case until 2017 when the "*Atlas of the Reptiles of Libya*" by Bauer, DeBoer, and Taylor was published. Marsa El Brega and its surrounding areas are hardly researched from a herpetological point of view: only *Acanthodactylus pardalis* (Lichtenstein, 1823) has been reported between Darnah and Marsa El Brega (Zavattari 1937).

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In our region, coastal vegetation (with the dominant plant being *Niraria retusa*, a salt-tolerant coastal-desert shrub native to North Africa), shrub vegetation (primarily composed of *Lycium shawii*) (Fig. 1), sandy and rocky deserts (Fig. 2), and date palm oases (Fig. 3) alternate with each other.

The local climate is predominantly Mediterranean in character. Most rain falls within a few days between November and January. In vegetated areas, less than 100 mm of rain falls annually, while in the Saharan zones, it is less than 25 mm. Temperature reaches its maximum in July and August with a mean of about 30-33°C, while the average temperature is 10°C in January. These averages obscure the fact that temperatures can vary tremendously throughout the day. In many areas of the Sahara, 200 consecutive rainless days have been recorded annually, and the world's greatest drought has been documented with an annual rainfall of only 10 mm. The arid climate is exacerbated by the ghibli, a hot, dry wind that blows across the country from the south several times a year. Typically, a brief lull precedes the full force of the ghibli, which arrives carrying vast amounts of sand and dust, turning the sky red and reducing visibility to less than 18 meters. The wind's heat is intensified by the rapid decrease in relative humidity, which can drop dramatically within hours.

Material and methods

Predominantly in January and February 2014, we surveyed the area's reptile, marine mollusc, and insect fauna. To date, two articles have been published from these surveys (HÉRA & HARIS 2015 and SCHWENNINGER 2023). The capture of animals was conducted

Fig. 1: Semi-desert shrub vegetation; 6 out of the 7 observed species occur here

Fig. 2: Limestone rocky shoreline, a preferred habitat of Acanthodactylus scutellatus

Fig. 3: Date palm oasis in Brega

gently and only for a few minutes, after which all animals were released. We created photo documentation of the animals and placed in the digital photo collection of the Rippl-Rónai Museum (Kaposvár, Hungary).

The studies did not extend to recording the sizes of the animals, nor did they include determining their sex distribution or health status. We recorded their species affiliation, observation location, date, and number of individuals. Our fieldwork predominantly, but not exclusively, took place within the area defined by the following coordinates: 30°25'10.87"N, 19°37'23.47"E and 30°24'23.56"N, 19°39'32.55"E

For species identification, we used the following works: SCHLEICH et al. (1996), "*Amphibians and Reptiles of North Africa: Biology, Systematics, Field Guide*," and UETZ et al. (2022), "*The Reptile Database*." For the identification of potential centipede predators, we consulted the monograph by AKKARI et al. (2008). For examining the distribution of species, we based our work on BAUER et al. (2017), "*Atlas of the Reptiles of Libya*."

Results and dicussion

Of Libya's 66 terrestrial reptile species, 25 species from the aforementioned five families occur in the province of Cyrenaica. Of these 25 species, we have successfully identified 7 species (28%) in and around the town of Marsa El Brega.

Chamaeleonidae

Chamaeleo chamaeleon (Linnaeus, 1758) (Common chameleon)

One specimen was observed around 30°25'20.10"N and 19°38'24.16"E 19.03.2013, One specimen was observed at the same location on 21.03.2013.

Comment: Sporadic in Brega, only two specimens were observed: one larger (photographed) and one smaller, among the ground vegetation. Its northernmost point of distribution is the southern coast of Spain, extending from the North African shores to Israel on the other side of the Mediterranean. In Libya, it is restricted to the coastal area, or inland, it occurs only in oases.

Gekkonidae

Tropiocolotes tripolitanus Peters, 1880 (Tripoli gecko)

Three specimens were observed around 30°25'21.88"N and 19°38'24.00"E on 04. 01. 2014 (Fig. 4)

Two specimens were observed at the same location on 05. 01. 2014

Two specimens were observed at the same location on 11. 01. 2012

Comment: This small gecko species is known from Western Sahara and Northern Africa. It probably occurs everywhere in Libya, except in the very southern regions of Cyrenaica. On January 4th, while collecting in the thorny shrub association behind our camp, we overturned a metal food tray, probably abandoned during the civil war, and found several specimens underneath it, along with their potential centipede predator, *Scolopendra canidens* Newport, 1844 (Fig. 5). This centipede, with pale crossbands (resembling S. cingulata; however, these crossbands are very pale), is a frequent color variation of *S. canidens*. *Tropiocolotes tripolitanus* is frequent in Marsa El Brega.

Fig. 4: ***Tropiocolotes tripolitanus*** **Peters, 1880 (Tripoli gecko) closeup**

Fig. 5: ***Scolopendra canidens*** **Newport, 1844 potential presator of Tripoli gecko**

Phyllodactylidae

Tarentola fascicularis (Daudin, 1802) (Moorish gecko)

One specimen was observed around 30°25'21.88"N and 19°38'24.00"E on 11. 01. 2014.

One specimen was observed around 30°24'46.02"N and 19°36'43.81"E on 17. 02. 2014

Comment: In Libya, this species is mostly found in the northern region, with scattered records in the interior parts of the country. It is a Northern African species known from southern Tunisia to north-western Sinai. It is sporadic in Marsa El Brega. This species is frequently identified as *Tarentola mauritanica* (Linnaeus, 1758). According to BAUER et al. (2017), *T. fascicularis* and *T. mauritanica* form a species complex. Morphometric and karyotypic data distinguish the two species, and in North Africa, *T. fascicularis* is the typical species.

Fig. 6: *Tarentola fascicularis* (Daudin, 1802) (Moorish gecko) in vertical position

Lacertidae

Acanthodactylus scutellatus (Audouin, 1827) (Nidua fringe-fingered lizard)

Four specimens were observed around 30°25'36.33"N and 19°38'13.02"E on 05. 01. 2014 (Fig. 7)

One specimen was observed around 30°25'21.88"N and 19°38'24.00"E on 14. 01. 2014

Three specimens were observed at the same location on 15. 01. 2014

Comment: Distributed across northern Africa and the Sahara, the species is prevalent throughout Libya. It was observed as the most frequent species in Marsa El Brega.

Fig. 7: ***Acanthodactylus scutellatus*** **(Audouin, 1827) (Nidua fringe-fingered lizard)**

Ophisops occidentalis (Boulenger, 1887) (Western snake-eyed lizard)
One specimen was observed around 30°24'20.84"N and 19°36'18.50"E on 22. 01. 2014

Comment: It is found in Algeria, Egypt, Libya, Morocco, and Tunisia. In Libya, it is restricted to the costal area. Frequent species, but only one specimen was observed.

Scincidae
Scincus scincus (Linnaeus, 1758) (Sandfish skink)
1 carcas was observed around 30°25'17.66"N and 19°38'24.57"E on 19. 01. 2014

Comment: One carcass was observed. The species is widely distributed in northern Africa and the Sahara belt. It is sporadic in Libya, occurring in all parts of the country. Since it was a carcass, it wasn't checked for subspecific rank, though from the investigated area (Brega Bay), the nomotypical form was reported

Chalcides ocellatus (Forskal, 1775) (Ocellated skink)
One juvenile specimen was observed around 30°25'23.16"N and 19°38'28.03"E on 08. 01. 2014 (Fig. 8)
One adult specimen was observed around 30°25'0.44"N and 19°38'1.24"E on 23. 01. 2014

Comment: I found them in completely different habitats. The tiny animal burrowed in the sand and almost swam under it. The larger animal, on the other hand, was found not in the sand, but in a date palm oasis when I overturned a fallen palm trunk. Widely dis-

Fig. 8: Jung *Chalcides ocellatus* (Forskal, 1775) (Ocellated skink) is resting in the sand

tributed in Libya, although in the inner side of the country, it is mostly restricted to oases. It is popular decorative terrarium animal, in this way as a non-native species, has become established in both Arizona (USA) and Sri Lanka.

Endangering factors

The area hold valuable herpetofauna. We observed the following endangering factors:

The main direct threat factors are stray animals, such as dogs. However, domestic cats also cause significant damage to wildlife. Since this area is an industrial zone, with the presence of fertilizer production and oil refining, it is essential to pay special attention to preventing accidental chemical spills, chemical accidents, or improper chemical storage, and to avoid these situations. In these areas, which naturally have a dry climate, climate change is causing significant damage. Since the Mediterranean Sea washes all the litter towards the southern coast, the coastline was extremely littered. The proportion of discarded plastic bottles in the litter was particularly high.

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References

Akkari. N., Stoev, P., Lewis, J. G. E. 2008: Th e scolopendromorph centipedes (Chilopoda, Scolopendromorpha) of Tunisia: taxonomy, distribution and habitats. - ZooKeys 3: 77-102. https://doi.org/10.3897/zookeys.3.51

Bauer, A. M.; DeBoer, J. C. & Taylor, D. J. 2017: Atlas of the Reptiles of Libya. - Proceedings of the California Academy of Sciences. Series 4,64(8) 155-318.

Broadley, D. G., Wade, E. O. Z., & Wallach, V. 2014: A new species of Myriopholis from Ghat oasis, southwestern Libya (Squamata: Leptotyphlopidae). - Arnoldia (Zimbabwe), 10(30): 351-359.

Bshaena, I., & Joger, U. 2013: A new gecko from Libya: Tarentola neglecta lanzai n. ssp. - Amphibia-Reptilia, 34(3): 353-362. https://doi.org/10.1163/15685381-00002913

Calabresi, E. 1916: Sulla presenza dell'Eumeces schneideri nella Tripolitania. - Monitore Zoologico Italiano, 27: 50-51.

Condorelli, G. 1896: Sovra diverse specie di rettili (Saurii ed Ofidii) raccolti presso Tripoli. - Bollettino della Società Romana per gli Studi Zoologici, 5: 30-48.

Frynta, D., Kratochvíl, L., Mazuch, T., & Šumbera, R. 2000: Amphibians and Reptiles recently recorded from Libya. - Acta Societatis Zoologicae Bohemicae, 64: 1-10.

Héra, Z. & Haris, A. 2015: Marine molluscs from Marsa El Brega, Libya (Mollusca: Gastropoda and Bivaliva) – Natura Somogyiensis 27: 37-44. https://doi.org/10.24394/NatSom.2015.27.37

Ibrahim, A. A. 2008: Contribution to the herpetology of southern Libya. - Acta Herpetologica, 3(1) 35-49. https://doi.org/10.13128/ACTA_HERPETOL-2479

Ibrahim, A. A., & Ineich, I. 2005: Additional records to the herpetofauna of Nalut Province, Libya. - African Herpetology News 38:2-10.

Joger, U., Bshena, I., & Essghaier, F. 2008: First record of the parthenogenetic Brahminy blind snake, Ramphotyphlops braminus (Daudin, 1803), from Libya (Serpentes: Typhlopidae). - Herpetology Notes, 1, 13-16.

Le Berre, M. 1989: Faune du Sahara: Poissons, amphibiens, reptiles. Terres Africaines, Lechevalier - R. Chabaud, Paris, 332 pp.

Moravec, J. 1995: On a small collection of reptiles from Agedabia, Libya. Časopis Národního muzea, - Řada přírodovědná, 164:51-54.

Sayers, R. J. 1964: Collecting in Libya, North Africa. - Bulletin of the Philadelphia Herpetological Society. 12: 23-26.

Schleich, H. H. 1987: Contribution to the Herpetology of Kouf NationalPark (NE-Libya) and adjacent areas. - Spixiana. 10(1): 37-80.

Schleich, H. H. 1989: Merkmalsausbildungen an Landschildkröten in Nord-ost-Libyen (Testudines: Testudinidae). - Herpetozoa, 1(3/4): 97-108.

Schleich, H. H., Kästle, W., & Kabisch, K. 1996: Amphibians and Reptiles of North Africa: Biology, Systematics, Field Guide. - Koeltz Scientific Books. Germany. 627 pp.

Schneider, C., & Schneider, W. 2008: The Egyptian Tortoise, Testudo kleinmanni Lortet, 1883 in Libya. - Salamandra, 44(3), 141-152.

Schnurrenberger, H. 1958: Aquatiel levende Psammophis schokari in Fezzan. - Lacerta 16(8-10): 58-60.

Schnurrenberger, H. 1959: Observations on behavior in two Libyan species of viperine snakes. - Herpetologica, 15: 70-72.

SCHNURRENBERGER, H. 1962: Über einige interessante reptilienfunde in der Libyschen wüste. - Vierteljahrsschrift der Naturforschenden Gesellschaft in Zürich, 107(3): 141-145.

SCHNURRENBERGER, H. 1963[1962]: Fishes, amphibians and reptiles of two Libyan oases. - Herpetologica 18: 270-273.

SCHWENNINGER, H. R. 2023: Andrena (Chlorandrena) harisi, a new bee species from Libya (Hymenoptera: Anthophila, Andrenidae. - Natura Somogyiensis 41: 21-30. https://doi.org/10.24394/NatSom.2023.41.21

SCORTECCI, G. 1938: Il genere Natrix in Tripolitania. - Natura (Milano), 29:32-35.

Sindaco, R. 1995: Addition to the herpetofauna of Libya: Scincopus fasciatus fasciatus (Peters, 1864). - Bollettino del Museo Regionale di Scienze Naturali di Torino, 13(1): 117-122.

UETZ, P.; HALLERMANN, J. & HOSEK, J. 2022: The Reptile Database. https://reptile-database.reptarium.cz/ (last accessed: 25. 02. 2022)

WERNER, F. 1909: Reptilien, Batrachier und Fische von Tripolis und Barka. - Zoologische Jahrbücher, Abteilung für Systematik, Geographie und Biologie der Tiere 27: 1-52.

ZAVATTARI, E. 1934: Prodromo della fauna della Libia. Pavia: Tipografia Gia Cooperativa, Pavia, Italy, 1234 pp.

ZAVATTARI, E. 1937: I vertebrati della Libia. In Festschrift für Prof. Dr. Embrik Strand (Vol. II, pp. 526-560). Riga, Latvia.

Natura Somogyiensis 45: 27-40. Kaposvár, 2025 https://doi.org/10.24394/NatSom.2025.45.27
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Country roads, take me home: *Cyclocosmia johndenveri*, a new species of trapdoor spider from the mountains of West Virginia (Araneae: Halonoproctidae)

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Sherwood, D., Warhol, V. & Bianco, A. 2025: Country roads, take me home: Cyclocosmia johndenveri, a new species of trapdoor spider from the mountains of West Virginia (Araneae: Halonoproctidae). - Natura Somogyienis 45: 27-40.
Abstract: A new species of the enigmatic trapdoor spider genus *Cyclocosmia* Ausserer, 1871 is described from West Virginia, United States of America. *Cyclocosmia johndenveri* sp. nov. represents a significant northeasterly range extension for the genus and is described based on the male.

Keywords: taxonomy, morphology, museum, *Cyclocosmia*

Introduction

The genus *Cyclocosmia* Ausserer, 1871 currently comprises 12 species: *Cyclocosmia abramovi* Sherwood, 2024 (♂, Vietnam), *Cyclocosmia lannaensis* Schwendinger, 2005 (♂♀, China and Thailand), *Cyclocosmia latusicosta* Zhu, J. X. Zhang & F. Zhang, 2006 (♂♀, China and Vietnam), *Cyclocosmia liui* Xu, Xu & Li, 2017 (♀, China), *Cyclocosmia loricata* (C. L. Koch, 1842) (♂♀, Mexico), *Cyclocosmia ricketti* (Pocock, 1901) (♂♀, China), *Cyclocosmia ruyi* Yu & F. Zhang, 2023 (♂♀, China), *Cyclocosmia siamensis* Schwendinger, 2005 (♂♀, Laos and Thailand), *Cyclocosmia sublatusicosta* Yu & Zhang, 2018 (♂, China), *Cyclocosmia subricketti* Yu & Zhang, 2018 (♂♀, China), *Cyclocosmia torreya* Gertsch & Platnick, 1975 (♂♀, United States), and the type species *Cyclocosmia truncata* (Hentz, 1841) (♂♀, United States).

As can be seen, the type species was described from North America, where two other congeners occur (Hentz 1841, Koch 1942, Gertsch & Platnick 1975), whilst the current hotspot of diversity for the genus is in Southeast Asia (Pocock 1901, Schwendinger 2005, Zhu et al. 2006, Xu et al. 2017, Yu & Zhang 2018, Yu et al. 2023, Sherwood 2024). The seminal study on the morphology of the species within the United States was by Gertsch & Platnick (1975) who devised an objective methodology for counting the opisthosomal ribs. A recent molecular study of *C. torreya* and *C. truncata* (amongst other taxa) by Opatova, Bourguignon & Bond (2023) showed potential for further

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speciation within these traditionally (morphologically) defined lineages, but opted for a cautious approach to avoid over-splitting.

In this work, we describe a new species of *Cyclocosmia*, the third from the United States and fourth from North America more broadly, based on specimens deposited in the Carnegie Museum of Natural History. The new species represents a significant range extension northeasterly for the genus.

Materials and methods

Specimens were examined under an AmScope SM-1 stereomicroscope. Photographs were made using a Canon EOS Rebel T6 with a Canon MP-E 65mm macro lens and Canon Macro Twin Lite MT-24EX mounted on a StackShot Macro Rail with images stacked with Zerene Stacker. Description style follows SHERWOOD (2024). All type material is deposited in the Carnegie Museum of Natural History, Pittsburgh, Pennsylvania, United States of America (CMNH). Abbreviations: ALE = anterior lateral eyes, AME = anterior median eyes, D = ventral medial depression, leg. = legit (collected by), PLE = posterior lateral eyes, PME = posterior median eyes, PS = prolateral superior keel, RS = retrolateral superior keel. Leg formulae start with the longest leg to the shortest in order of decreasing size, e.g. 4,1,2,3. All measurements are in millimetres. In accordance with the International Code of Zoological Nomenclature, this article was registered in ZooBank prior to publication: urn:lsid:zoobank.org:pub:D7615AB0-73BF-458F-B7EE-20CA766460B7.

Taxonomy

***Cyclocosmia johndenveri* sp. nov.**
urn:lsid:zoobank.org:act:3F379FBB-DAFA-4380-81A5-824EA023DDE1

Type material: Holotype ♂ (CMNH-IZ-A1618), UNITED STATES: West Virginia, Greenbrier County, Droop Mountain, VII-VIII/1994, pitfall traps set near the base of trees, site is wooded area near carpark, leg. Eric van den Berghe; paratypes: 1 ♂ (CMNH-IZ-A1619), same data; 2 ♂♂ (CMNH-IZ-A1484), same data.

Diagnosis: *Cyclocosmia johndenveri* **sp. nov.** can be readily distinguished from *C. abramovi, C. liui, C. ricketti, C. ruyi, C. siamensis, C. sublatusicosta* and *C. subricketti* by possessing less than 29 ribs on the opisthosoma (≥29 in *C. abramovi, C. liui, C. ricketti, C. ruyi, C. siamensis, C. sublatusicosta* and *C. subricketti*). *Cyclocosmia johndenveri* **sp. nov.** can be easily differentiated from *C. lannaensis* by the more pronounced apical tapering of the embolus in its apical third (embolus only tapering sharply at apex where keels start in *C. lannaensis*), from *C. latusicosta* by the much thinner embolus (embolus thick and with no sharp apical taper in *C. latusicosta*), from *C. loricata* by the tip of the embolus straight (tip of embolus curved upwards in *C. loricata*) and the abdominal ribs not protruding from the seam of the disc (protruding in *C. loricata*), from *C. torreya* by the aforementioned non-protruding abdominal ribs (protruding in *C. torreya*), and from *C. truncata* by the embolus not distinctly curved prolaterally in apical third when viewed ventrally (distinctly curved in *C. truncata*), presence of only one,

rounded, prolateral palpal tibial lobe situated apically (two lobes, both with pointed apex, one situated apically and the other prolatero-ventrally in *C. truncata*), basal half of the palpal tibia incrassate (not incrassate in *C. truncata*), and presence of 20–21 ribs (≥24 in *C. truncata*).

Etymology: The specific epithet is a patronym in honour of the American singer and songwriter John Denver (1943–1997), whose music has enriched the life of millions of people, including the first author.

Description of holotype male: Total length including chelicerae: 19.5. Carapace: length 7.1, width 6.4. Caput: slightly raised. Ocular tubercle: raised, length 1.1, width 1.8. Eyes: AME > ALE, ALE > PLE, PLE > PME, anterior eye row slightly procurved, posterior row recurved (Figs. 1A, AC). Fovea: deep, recurved. Abdomen: length 9.5, width 7.2. Chelicera: length 2.8, width 1.2. Maxilla lacking cuspules. Labium: length 0.9, width 1.4, lacking cuspules. Labio-sternal mounds: joined to sternum (Fig. 1D). Sternum: length 3.8, width 3.5, with two pairs of sigilla (Fig. 1B). Tarsi I–IV: scopulate. Lengths of legs and palpal segments: see table 1, legs 4132. Trichobothria: not scored (see below). Spination: not scored (see below). Posterior median spinnerets with single segment, 0.61 long. Posterior lateral spinnerets with 3 segments, basal 0.5, median 0.3, apical 0.5, basal and median segments incrassate, apical segment domed. Opisthosomal disk with 21 ribs on either side, length of disk 6.9. Palp: tibia basally incrassate, one prolateral palpal tibial protuberance present, situated apically, with rounded apex, prolatero-ventral ridge present and weakly developed; cymbium with two unequal lobes separated by sclerotized groove (Figs. 3A–D). Palpal bulb with embolus of moderate length, tapering sharply in apical third, developed prolateral curve at apex; D weakly developed; PS and RS present and weakly developed, apical keel absent; sperm pore situated ventro-laterally (Figs. 4A–H). Colour (in alcohol): brown; abdomen, labium, sternum, maxillae, and coxae lighter than dorsal cephalothorax, chelicerae, and legs (Figs. 1A–D, 2A–D).

Variation: Minimal body length differences were found in the type series, +/- 5mm. The prominence of the chelicerae varies, with the holotype and paratype CMNH-IZ-A1619 having large and more divergent chelicerae, whereas the other paratypes have smaller and less divergent chelicerae, a variation as is typically seen in this genus. Abdominal rib counts: 20 (all paratypes)–21 (holotype). Number of setae per rib: 1–3 (range observed in all specimens).

Spination, setation, and trichobothria of the legs: For curatorial reasons, it was preferred not to excessively manipulate the legs of the holotype, thus only standard measurements were taken and the typical process of moving the legs to count all types of setae avoided. Paratype male CMNH-IZ-A1619 has four legs dissected and offers ample opportunity to explore this area. As reported in another *Cyclocosmia* species (Sherwood 2024), *C. johndenveri* **sp. nov.** has legs covered in thorn-like setae, which can have distinct or indistinct bases and extremely closely resemble spines (Figs. 5–8). Indeed, some of the thin thorn-like setae, when broken off, can resemble the bases of trichobothria. The true spines are limited almost exclusively to the ventral and prolateral faces of the legs and are much thicker. Very thick thorn-setae can, for example, be found on the dorsal femora and patellae, and resemble true spines. The position, size, and number of spines, thorn-like setae and trichobothria differ on the left and right-hand sides of a single specimen, in addition to varying between different specimens. This variability,

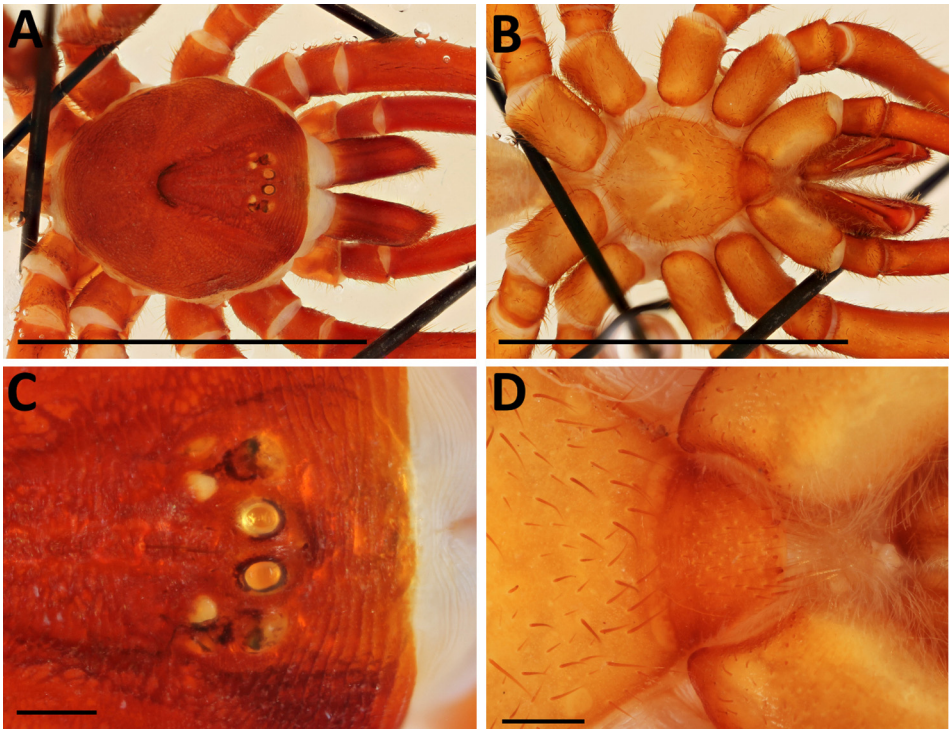

Fig. 1: ***Cyclocosmia johndenveri*** **sp. nov. holotype male (CMNH-IZ-A1618), A – cephalothorax, dorsal view, B – labium, sternum, coxae and maxillae, ventral view, C – ocular tubercle, dorsal view, D – labium, ventral view. Scale bars = 10mm (A–B), 1mm (C–D).**

observed in the type series, leads us to conclude that, broadly, these characters are of inadequate use for delineation of species within *Cyclocosmia*. Thus, given the lack of taxonomic value to these characters for alpha taxonomy like that undertaken here, we present photographs of the left-hand legs of and palp of one paratype in lieu of scoring these three types of setae on the holotype – and indeed all other specimens – to illustrate the variation found in these structures. The palp is aspinose and does not present with trichobothria, only thin thorn-like setae are present (Figs. 9A–D).

Distribution: Known only from the type locality: Droop Mountain, Greenbrier County, West Virginia, United States of America (38.0465, -80.2660) (Fig. 10).

Remarks: *Cyclocosmia johndenveri* **sp. nov.** represents a significant northeasterly range extension for *Cyclocosmia*, being over 400 miles from the most northernly specimen examined by OPATOVA, BOURGUIGNON & BOND (2023), which was collected in Christiana, Tennessee (35.722940, -86.214110). In our map (Fig. 10) we figure all *Cyclocosmia* specimens from Tennessee reported by OPATOVA, BOURGUIGNON & BOND (2023) in comparison to the type locality of *Cyclocosmia johndenveri* **sp. nov.**

DE LUNA et al. (2021) were the first to comment explicitly on the utility of structure(s) on the male palpal tibia to distinguish North American species of the genus. However, they simply refer to it as a "*prolateral ridge in the distal region*" (DE LUNA et al. 2021:

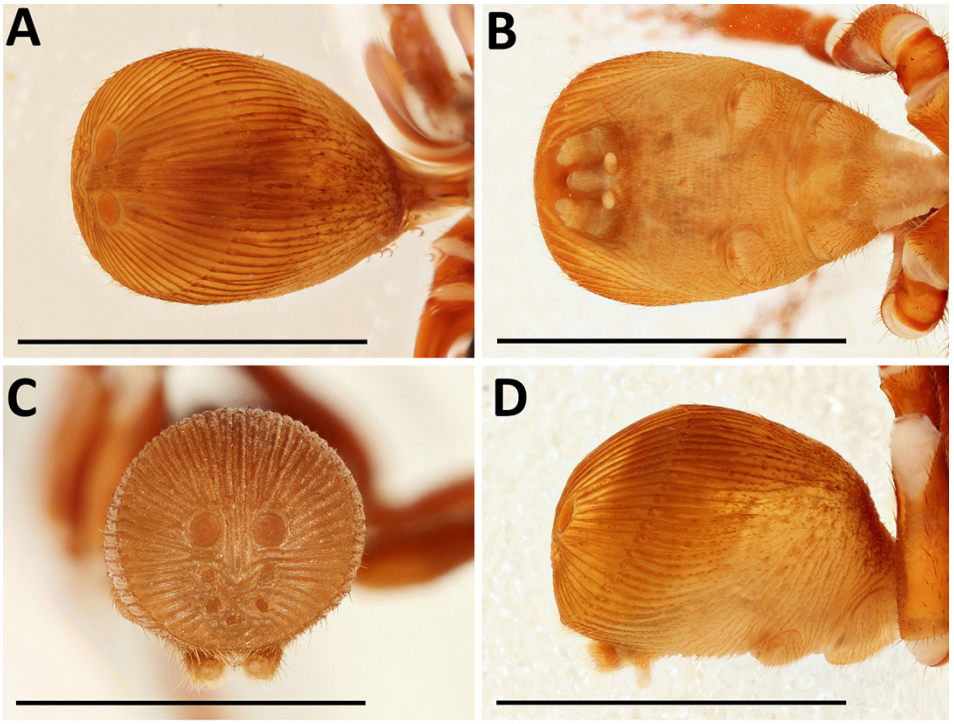

Fig. 2: ***Cyclocosmia johndenveri*** **sp. nov. holotype male (CMNH-IZ-A1618), abdomen, A – dorsal view, B – ventral view, C – posterior view, D – lateral view (right-hand side). Scale bars = 10mm.**

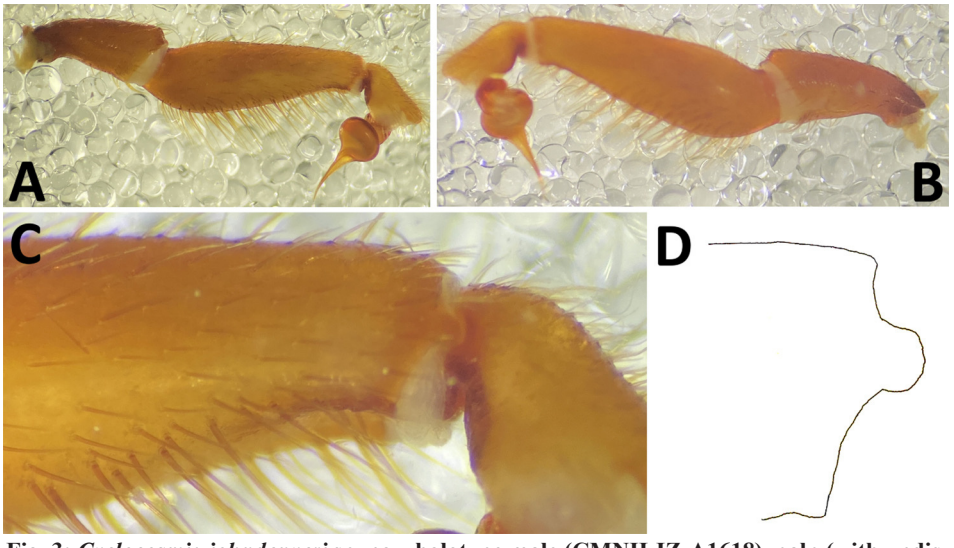

Fig. 3: ***Cyclocosmia johndenveri*** **sp. nov. holotype male (CMNH-IZ-A1618), palp (with undissected palpal bulb), A – prolateral view, B – retrolateral view, C – close-up of prolateral palpal tibial protuberance, D – outline drawing of prolateral palpal tibial protuberance.**

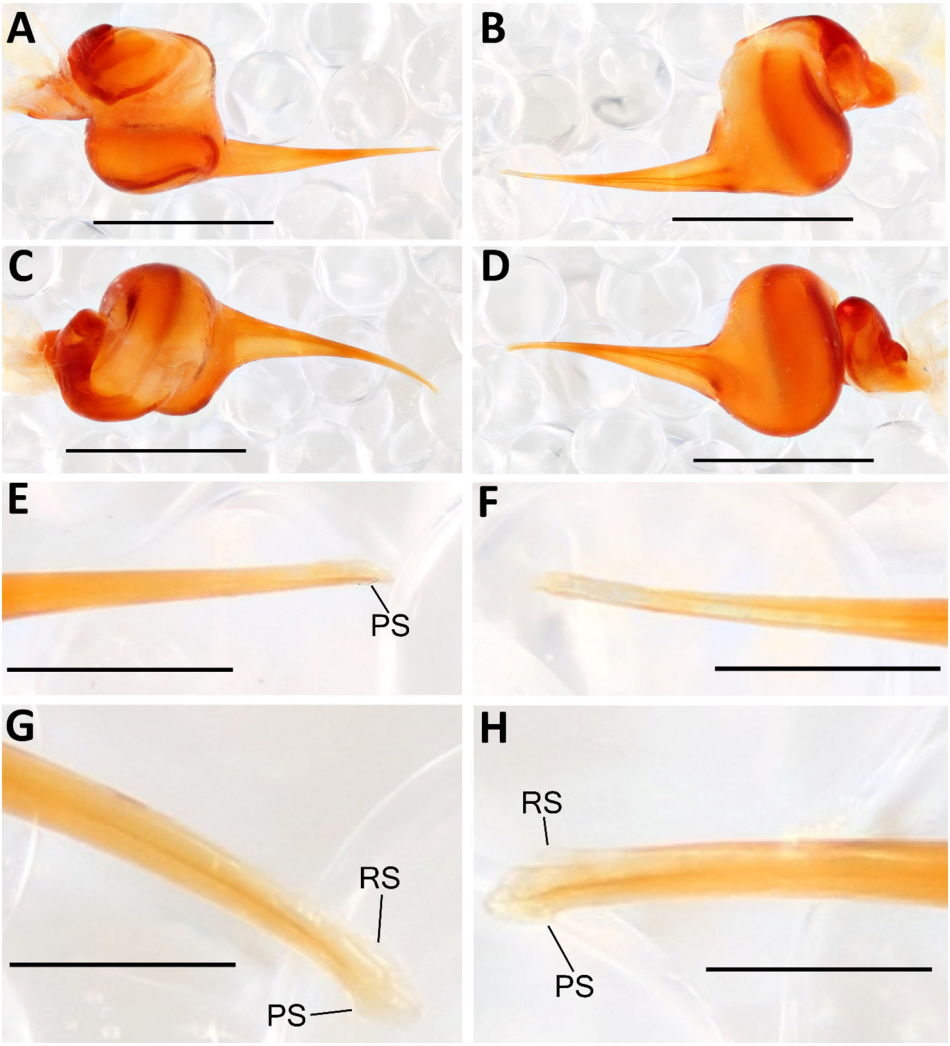

Fig. 4: ***Cyclocosmia johndenveri*** **sp. nov. holotype male (CMNH-IZ-A1618), palpal bulb (left-hand side), A – prolateral view, B – retrolateral view, C – dorsal view, D – ventral view, E – close-up of apex of embolus, prolateral view, F – close-up of apex of embolus, retrolateral view, G – close-up of apex of embolus, dorsal view, H close-up of apex of embolus, ventral view. Scale bars = 1mm (A–D), 0.5mm (E–H).**

90) without acknowledging or discussing the protuberances found on said ridge in *C. truncata*. Here, we formally classify the protuberance(s), which we demonstrate can intragenerically vary in number (one in *C. johndenveri* **sp. nov.** and two in *C. truncata*) and position (see diagnosis), as ***prolateral palpal tibial protuberance(s)***. Furthermore, the "*prolateral ridge*" of the palpal tibia *sensu* DE LUNA et al. (2021) is more accurately termed a ***prolatero-ventral ridge*** and is restricted to solely refer to the darkened and sclerotised surface found on the prolatero-ventral apex of the palpal tibia in males of *Cyclocosmia*. These characters should be checked for in all other known congeners as it

Fig. 5: ***Cyclocosmia johndenveri*** **sp. nov. paratype male (CMNH-IZ-A1619), leg I (left-hand side), A – dorsal view, B – prolateral view, C – retrolateral view, D – ventral view.**

may, along with elements of palpal bulb morphology (see remarks of Sherwood 2024), be an understudied yet useful character for further differentiation of other species.

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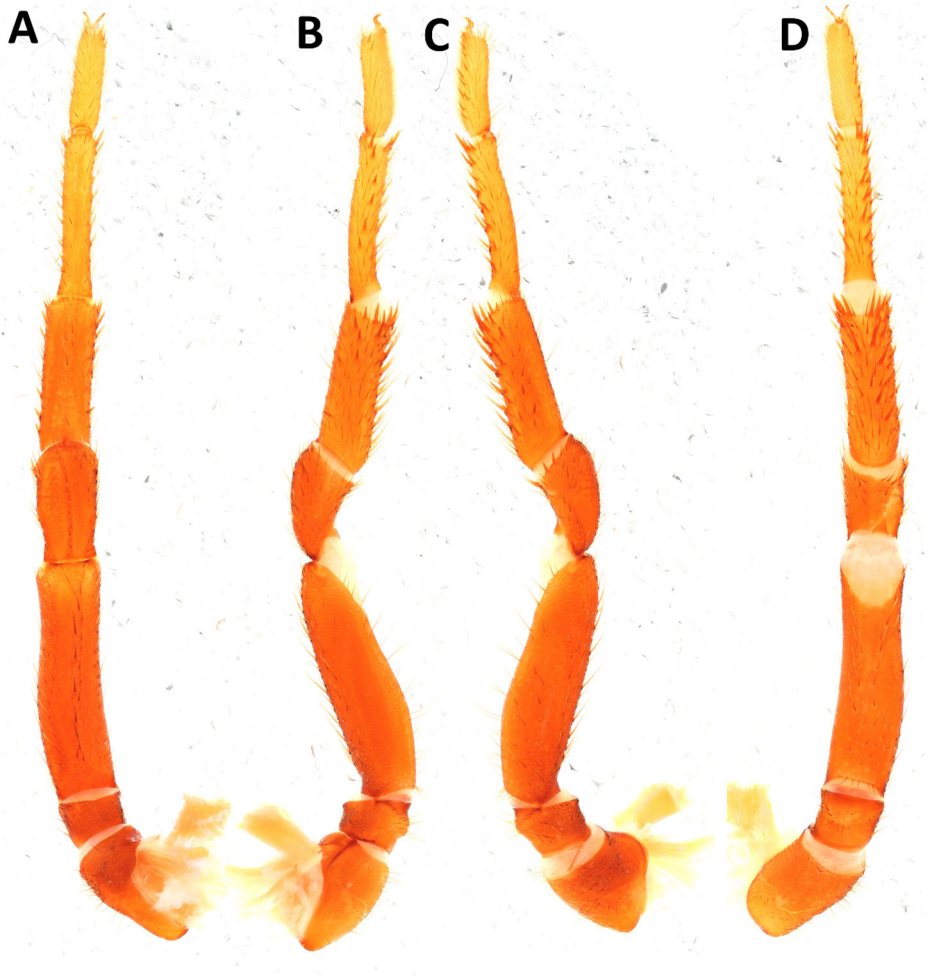

Fig. 6: ***Cyclocosmia johndenveri*** **sp. nov. paratype male (CMNH-IZ-A1619), leg II (left-hand side), A – dorsal view, B – prolateral view, C – retrolateral view, D – ventral view..**

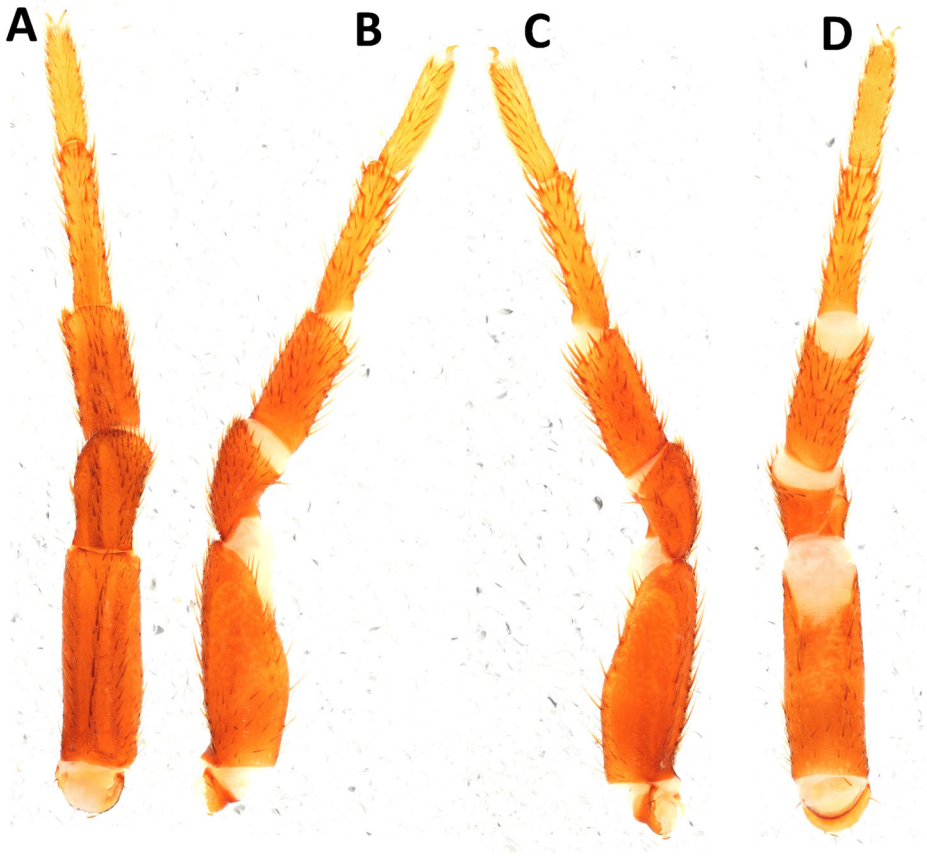

Fig. 7: ***Cyclocosmia johndenveri*** **sp. nov. paratype male (CMNH-IZ-A1619), leg III (left-hand side), A – dorsal view, B – prolateral view, C – retrolateral view, D – ventral view.**

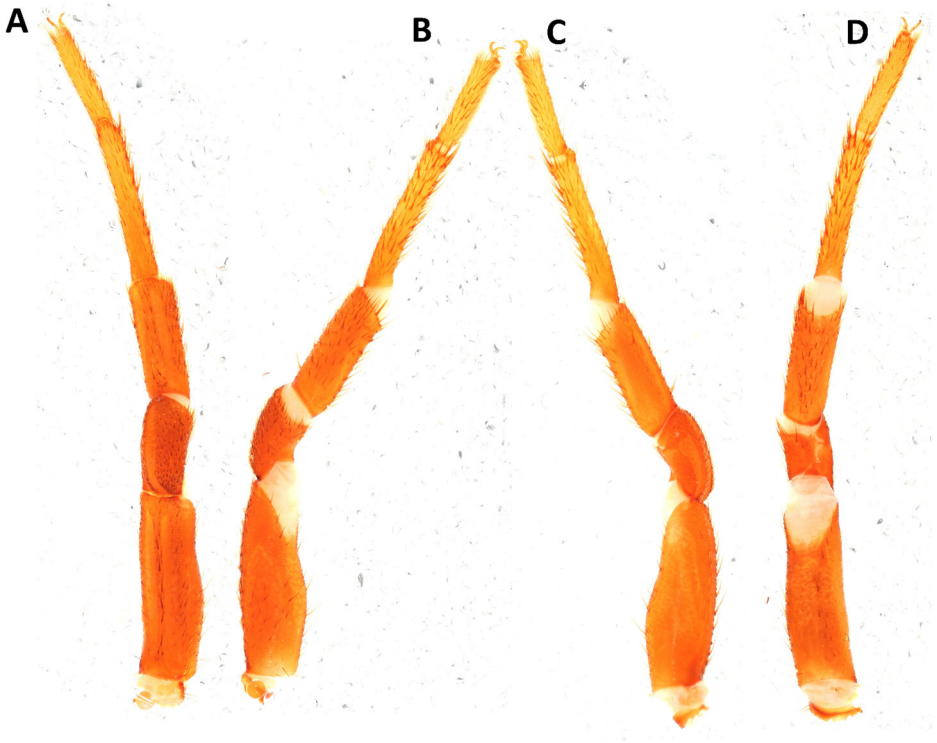

Fig. 8: ***Cyclocosmia johndenveri*** **sp. nov. paratype male (CMNH-IZ-A1619), leg IV (left-hand side), A – dorsal view, B – prolateral view, C – retrolateral view, D – ventral view.**

Fig. 9: ***Cyclocosmia johndenveri*** **sp. nov. paratype male (CMNH-IZ-A1619), palp (left-hand side), A – dorsal view, B – prolateral view, C – retrolateral view, D – ventral view.**

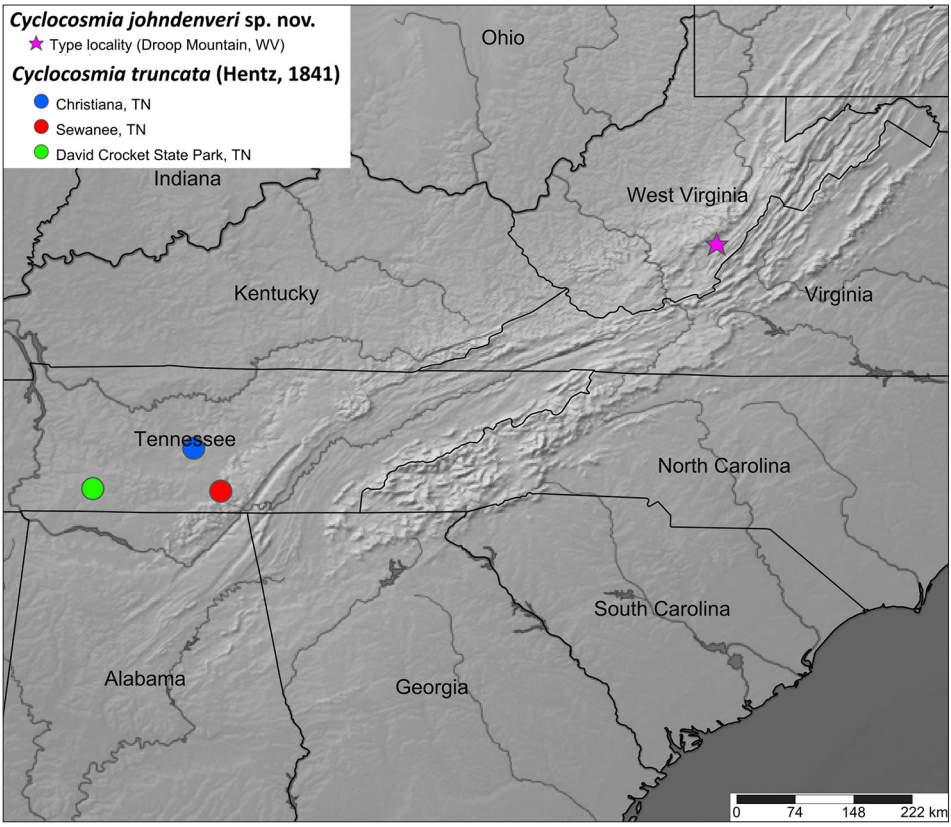

Fig. 10: Type locality of *Cyclocosmia johndenveri* sp. nov. (pink star) compared with the northernmost localities (circles) of *C. truncata* (Hentz, 1841) given by OPATOVA, BOURGUIGNON & BOND (2024).

References

De Luna, M.; Solís-Rojas, C.; García-Barrios, R.; Millán, A. B. 2021: New data on Cyclocosmia loricata (C.L. Koch, 1842) (Aranei: Halonoproctidae) with first description of the male palp. – Arthropoda Selecta 30(1): 89–93.
http://dx.doi.org/10.15298/arthsel.30.1.07

Gertsch, W. J.; Platnick, N. I. 1975: A revision of the trapdoor spider genus Cyclocosmia (Araneae, Ctenizidae). – American Museum Novitates 2580: 1–20.

Hentz, N. M. 1841: Species of Mygale of the United States. – Proceedings of the Boston Society of Natural History 1: 41–42.

Koch, C. L. 1842: Die Arachniden. C. H. Zeh'sche Buchhandlung, Nürnberg, Neunter Band, pp. 57–108, pl. 307–324 (figs. 727–755); Zehnter Band, pp. 1–36, pl. 325–336 (figs. 756–776).
https://doi.org/10.5962/bhl.title.43744

Opatova, V.; Bourguignon, K.; Bond, J. E. 2023: Species delimitation with limited sampling: An example from rare trapdoor spider genus Cyclocosmia (Mygalomorphae, Halonoproctidae. – Molecular Ecology Resources 2024: e13894.
https://doi.org/10.1111/1755-0998.13894

Pocock, R. I. 1901: On some new trap-door spiders from China. – Proceedings of the Zoological Society of London 70(2): 207–215, pl. 21.
https://doi.org/10.1111/j.1469-7998.1901.tb08540.x

Schwendinger, P. J. 2005: Two new Cyclocosmia (Araneae: Ctenizidae) from Thailand. – Revue Suisse de Zoologie 112(1): 225–252.
https://doi.org/10.5962/bhl.part.80297

Sherwood, D. 2024: A new species of Cyclocosmia Ausserer, 1871 from Vietnam (Araneae: Halonoproctidae). – Arthropoda Selecta 33(1): 106–111.
https://doi.org/10.15298/arthsel.33.1.10

World Spider Catalog 2025: World Spider Catalog, version 26.0. Natural History Museum Bern, online at: http://wsc.nmbe.ch

Xu, X.; Xu, C.; Li, F.; Pham, D. S.; Li, D. Q. 2017: Trapdoor spiders of the genus Cyclocosmia Ausserer, 1871 from China and Vietnam (Araneae, Ctenizidae). – ZooKeys 643: 75–85.
https://doi.org/10.3897/zookeys.643.10797

Yu, K.; Zhang, Z. S. 2018: On three species of the trapdoor spider genus Cyclocosmia from China (Araneae, Halonoproctidae). – Zootaxa 4532(2): 248–256.
https://doi.org/10.11646/zootaxa.4532.2.4

Yu, K.; Li, C. Z.; Zhang, S. Y.; Zhang, F. 2023: A new trapdoor spider of Cyclocosmia Ausserer, 1871 from southern China (Araneae, Halonoproctidae). – Biodiversity Data Journal 11(e98311): 1–23.
http://dx.doi.org/10.3897/BDJ.11.e98311

Zhu, M. S.; Zhang, J. X.; Zhang, F. 2006: Rare spiders of the genus Cyclocosmia (Arachnida: Araneae: Ctenizidae) from tropical and subtropical China. – Raffles Bulletin of Zoology 54: 119–124.
http://zenodo.org/record/13244930

Natura Somogyiensis 45: 41-44. Kaposvár, 2025 https://doi.org/10.24394/NatSom.2025.45.41
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Confirmation of the presence of the non-native tegu *Gymnophthalmus underwoodi* Grant, 1958 (Squamata: Gymnophthalmidae) in Anguilla

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Mukhida, F., Carter, D., Hughes, G., Connor, R. A. & Sherwood, D. 2025: C*onfirmation of the presence of the non-native tegu Gymnophthalmus underwoodi Grant, 1958 (Squamata: Gymnophthalmidae) in Anguilla. - Natura Somogyiensis 45: 41-44.*
Abstract: *Gymnophthalmus underwoodi* Grant, 1958, a non-native tegu that has been expected for some time to possibly occur in Anguilla, is formally recorded as present on the island based on a female recently collected from a pitfall trap, deposited in the collection of the Anguilla National Trust.

Keywords: herpetology, invasive species, lizard, pitfall trap, reptile

Introduction

Gymnophthalmus underwoodi Grant, 1958 is a parthenogenetic tegu originally described from Barbados and known to also occur in Antigua, Brazil, Cuba, Guadeloupe, Martinique, Saba, Sint Eustatius, Sint Maarten, Suriname, St. Barthélemy, St. Kitts, St. Martin, St. Vincent, Trinidad and Tobago (Thorpe 2022, Uetz et al. 2025). Many of the populations of this lizard in the northern islands of the Lesser Antilles are considered to be non-native and a recent paper mentioned that its presence on Anguilla was likely (visual records without vouchers), but not formally reported, based on personal communication with the author FM (Thibaudier et al. 2023).

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Results

Whilst examining samples of invertebrates collected for unrelated project work, we discovered a small female (SVL 23.3 mm) of *G. underwoodi* (Figs. 1A–C) that had been collected in a pitfall trap placed at the Fountain National Park, Anguilla (Figs. 1D–E) between 28–29/11/2024. The habitat at the locality where the traps were set is soil, primarily within *Leucaena leucocephala* (Fabaceae) and *Lantana involucrata* (Verbenaceae). Thus, we are able to formally confirm the presence of this species in Anguilla for the first time, based on this reference specimen deposited in the collection of the Anguilla National Trust. This species is likely distributed more widely on the island, but the true extent of its distribution can only be elucidated with targeted future fieldwork. Its present impact on the indigenous and endemic reptiles of Anguilla remains unknown.

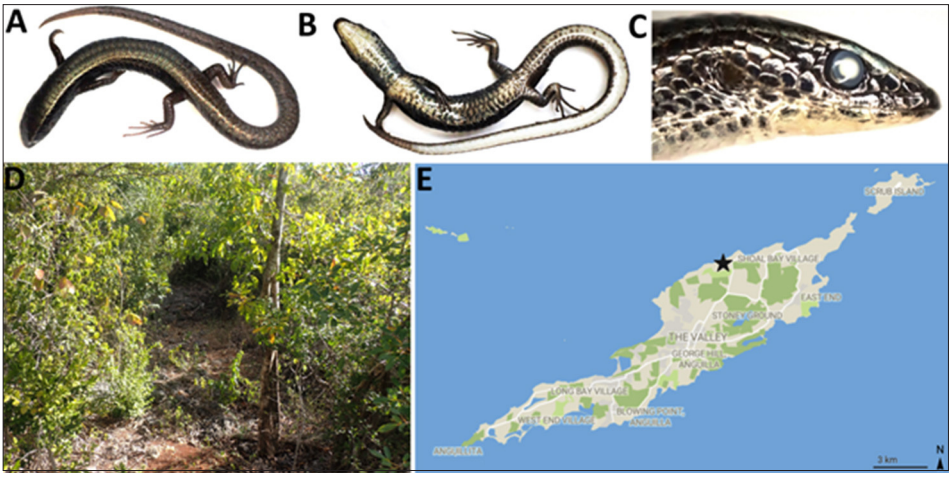

Fig. 1: *Gymnophthalmus underwoodi* Grant, 1958 on Anguilla. A – Specimen, habitus, dorsal; B – Idem, ventral; C – close-up of head, lateral view; D – habitat at collecting locality; E location (star) of Fountain National Park. All photos by D. Sherwood, map made with OpenStreetMap (2025).

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References

OpenStreetMap 2025: OpenStreetMap. OpenStreetMap Foundation, available online at: openstreetmap.org

Thibaudier, J.; van den Burg, M. P.; Mitchell, A.; Cornwell, T. 2023: Establishment of the Smooth-scaled Tegulet (Gymnophthalmus underwoodi) and the Common House Gecko (Hemidactylus frenatus) on St. Eustatius. – Caribbean Herpetology 86: 1–6.

Thorpe, R. S. 2022: Reptiles of the Lesser Antilles. Chimaira, Frankfurt, 608 pp.

Uetz, P.; Freed, P.; Aguilar, R.; Reyes, F.; Kudera, J.; Hošek, J. 2025: The Reptile Database, online at: http://www.reptile-database.org, accessed 08/02/2025

Natura Somogyiensis 45: 45-46. Kaposvár, 2025 https://doi.org/10.24394/NatSom.2025.45.45
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Pseudopalpares parvopunctatus Ábrahám, 2023 - a new record for the Angolan antlion fauna (Neuroptera: Myrmeleontidae)

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Papp, Z. 2025: *Pseudopalpares parvopunctatus Ábrahám, 2023 - a new record for the Angolan antlion fauna (Neuroptera: Myrmeleontidae). - Natura Somogyiensis 45: 45-46.*
Abstract: In this study, the author describes the occurrence of a rare and representative antlion species, namely *Pseudopalpares parvopunctatus* Ábrahám, 2023 in southern Angola. This is the first time that this species has been found in the fauna of Angola. The most important phenological and distributional features are given.

Keywords: faunistic, new record, distribution, Angola

The antlion fauna of Africa is very rich, with over 500 species (Stange 2004), including large, medium and small species. The largest and most decorative species belong to the tribe Palparini Banks, 1911. Previously classified in the genus *Palpares* Rambur, 1842, these species have now been combined into several new genera (Insom & Carfi 1988, Mansell 2004, Prost 2018).

Species of the genus *Pseudopalpares* Insom & Carfi, 1988 occur predominantly in Africa south of the Equator, as do most other species of the tribe. However, the distribution of the species is only partially known (Prost 2010), and several new species have been described even in the early 21st century (Mansell 2004, Akoudjin & Michel 2011, Ábrahám 2023, 2025).

Pseudopalpares parvopunctatus Ábrahám, 2023 has recently been described from Botswana and Namibia. The genus *Pseudopalpares* comprises five species (Ábrahám 2023). In the last two years, new specimens of this rare species have become known in addition to the type specimens. According to their distribution data, *P. parvopunctatus* has proven to be a new species in the fauna of Angola.

New faunistic data from Z. Papp's private collection, Budapest, Hungary: 1 ♀ North NAMIBIA, Rundu, 13 February, 2007, (at light) leg: Werner; 1 ♀ Southern ANGOLA, Prov. Huila 1337 m, 16°01'11"S, 14°13'42"E, 08. March 2024, (at light) leg: Majer A.

The new faunistic data show that the seasonal activity of the adults falls in February, March, and April. The species is active at night, as it was only collected using lamps and light traps.

The map, compiled based on the new faunal and type specimen locality data, shows that the distribution of the species is more closely associated with dry savannah vegetation, particularly Angolan mopane woodlands and Kalahari xeric savanna, and delineate its distribution across the ecoregions of Botswana, Namibia and Angola.

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Fig. 1: Female *P. parvopunctatus*, a new record for the fauna of Angola (Scale 10 mm)

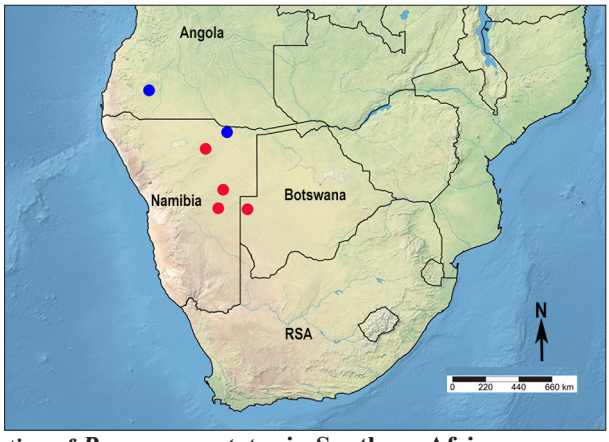

Fig. 2: Distribution of *P. parvopunctatus* in Southern Africa, new records blue dots

References

AKOUDJIN, M.; MICHEL, B. 2011: A new species of Palpares Rambur (Neuroptera: Myrmeleontidae) with an identification key to the species of West Africa. - Zootaxa 2792:33-40.

ÁBRAHÁM, L. 2023: Description of a new Pseudopalpares species from southern Africa (Neuroptera: Myrmeleontidae). - Natura Somogyiensis 41: 39-56.

ÁBRAHÁM, L. 2025: Palpares lilii sp. n. – a new species of antlion from Namibia (Neuroptera: Myrmeleontidae). - Annals of the Upper Silesian Museum in Bytom Entomology 34 (online 005): 1–7.

INSOM, E.; CARFÌ, S. 1988: Taxonomic studies on Palparini (sensu Markl, 1954). I: The genus Palpares Rambur, 1842 partim (Neuroptera: Myrmeleontidae) with the proposal of its division and description of new genera. - Neuroptera International 5:57-78.

MANSELL, M. W. 2004: Antlions of southern Africa: Annulares nov. gen. (Neuroptera, Myrmeleontidae, Palparini) including two new species, with comments on the tribe Palparini. ASPÖCK, U. (science editor). Entomologie und Parasitologie. Festschrift zum 65. Geburtstag von Horst Aspöck. Denisia 13:201-208.

PROST, A. 2010: Patterns of distribution of the Palparini (Neuroptera: Myrmeleontidae: Palparinae) in the northern half of Africa: faunal transitions and regional overlaps. Pp. 257–266. In: DEVETAK, D.; LIPOVŠEK, S.; ARNETT, A. E. (editors). Proceedings of the 10th International Symposium on Neuropterology. Meeting: 22-25 June 2008, Piran, Slovenia. University of Maribor, Maribor, Slovenia. 307 pp.

PROST, A. 2018: Révision du taxon Parapalpares latipennis (Rambur, 1842) et description d'une espèce nouvelle d'Angola (Neuroptera, Myrmeleontidae, Palparinae). Bulletin de la Société Entomologique de France 123:65-71.

STANGE, L. A. 2004: A systematic catalog, bibliography and classification of the world antlions (Insecta: Neuroptera: Myrmeleontidae). - Memoirs of the American Entomological Institute 74, iv+ 1-565.

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Occurrence and locations of *Odontepyris erucarus* (Szelényi, 1958) (Hymenoptera: Bethylidae) in Hungary

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Sipos, B. B. 2025: *Occurrence and locations of Odontepyris erucarus (Szelényi, 1958) (Hymenoptera: Bethylidae) in Hungary. Natura Somogyiensis 45: 47-50.*
Abstract: This study provides a detailed account of the rediscovery and collection records of *Odontepyris erucarus*, a species of Bethylidae wasps, in Hungary after a 70-year absence.

Keywords: Aculeata, Bethylidae, Odontepyris, rare species

Introduction

Odontepyris erucarus (Szelényi, 1958) was first described by Szelényi under the name *Parasierola erucarum*. This formerly rare and visually striking species belongs to the subfamily Bethylinae, one of the four Bethylidae subfamilies found in Hungary. The genus *Odontepyris* is exclusively distributed across the Old World and Australia, with approximately 45 species documented worldwide. Terayama (1997) described four additional species from Taiwan and Korea, emphasizing the limited research on this group, particularly in tropical and subtropical regions where new species are likely to emerge.

China holds the highest species count, with over ten documented species, followed by India and Cambodia with six species each. Sri Lanka, Madagascar, and Australia have five, four, and four species, respectively. Additionally, three species have been found in Taiwan and South Africa, while others occur in Japan and Indonesia. In Central Europe, two species are currently known: *O. moldavicus* (Nagy, 1976), recorded solely in Moldova from noctuid moth pupae, and *O. erucarus* (Szelényi, 1958), historically documented in Hungary and Romania.

Romanian records include a single female specimen captured via sweep netting in northern Romania in 1968. Recent faunistic surveys expanded the species' known range to Bulgaria (2001), Slovakia (2007), and Russia (2008, 2011, 2013). In the Middle East, *O. erucarus* was recorded exclusively in Iran, where a male and a female specimen were collected in June 2015 (Georgiev et al. 2001, Gordh & Móczár 1990, Macek 2007).

Szelényi (1958) reared 12 females and two males of *O. erucarus* from parasitized lepidopteran larvae collected on a cherry tree in Pomáz, north of Budapest. The wasp larvae exhibited ectoparasitic behavior, feeding externally on the host larvae. After con-

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suming the host, the larvae spun brown cocoons and emerged as adults on July 28, 1954. The females measured 5.99 mm in length, while the males were smaller at 4.48 mm.

For over six decades, these 14 specimens were the only known Hungarian records of *O. erucarus*. Despite efforts, no additional specimens or publications have surfaced since its original description. Unfortunately, the original specimens could not be located within the Hymenoptera collection of the Hungarian Natural History Museum.

In Russia, the earliest documented collection was by A. Chistovskiy in the Samara region on July 24, 1948. Interestingly, Szelényi described the species as new to science a decade later based on Hungarian specimens.

Key morphological traits: The wasps are predominantly black. The head is dorsally flattened and deeply punctured, while the gaster is smooth and glossy. Mandibles are tridentate and directed anteriorly. The antennae's scape and femora are black, while the flagellum, tibiae, coxae, and tarsi exhibit reddish hues. Male antennae are darker dorsally.

The wing venation is highly reduced, with only four closed cells in the forewing. A diagnostic feature is the quadrate discal cell near the mediocubital and submedial cells, with the radial cell remaining open—a hallmark of Bethylidae wasps. The clypeus projects anteriorly in a triangular shape. The compound eyes are twice as long as they are wide.

Among Hungarian Bethylidae, most species measure 2–4 mm, making *O. erucarus* a relative giant at 6 mm in body length.

According to observations by FADEEV (2017), *Odontepyris erucarus* parasitizes the larvae of the cotton bollworm (*Helicoverpa armigera*). It has also been recorded as a parasitoid of Pyralid moth larvae (Pyralidae).

In Bulgaria, under laboratory conditions, a specimen emerged from a dried oak trunk (*Quercus* spp.) that had previously been bored by the larvae of *Cerambyx cerdo* Limnaeus, 1758. The same galleries also yielded adult specimens of *Epicallima formosella* (Denis & Schiffermüller, 1775), leading Bulgarian researchers to hypothesize that this decorative moth might serve as one of the wasp's host species.

Material and methods

Only female specimens were collected using a butterfly net whixh is completed by manual collections. *O. erucarus* can be encountered from May to November, with the highest probability of collection in August, followed by July. Observed habitats where the species was recorded include: flowers of *Ailanthus altissima*, honeydew-covered leaves of peach trees (*Prunus persica*), oak leaves (*Quercus* spp.), hornbeam leaves (*Carpinus* spp.), cracks in pavements and walls, as well as dried leaves of thuja (*Thuja* spp.). The species has a preference for sweet honeydew.

Results

Examined material:

10 June 2000: On the Danube shore between Foktő and Fajsz, on a willow trunk, captured with a net. (1 specimen); 02-03. 1 July 2000: Foktő, Foktői Field, on a leaf of a bush. (2 specimens); 29 August 2000: Foktő, village center, on a peach leaf. (1 specimen, stung!); 30 July 2002: Foktő, residential area. (1 specimen, collected by K.T.); 23 August 2002: Foktő, residential area, on a peach tree infested with aphids. (1 specimen); 21 August 2003: Foktő, residential area, on a peach tree infested with aphids. (1 specimen); 22 August 2003: Foktő, residential area, on a peach tree. (1 specimen, gifted to the Natural History Museum in London) 9-10. 22 August 2003: Foktő, residential area, on a peach tree. (2 specimens); 01 May 2004: Foktő, riparian gallery forest. (1 specimen); 26 June 2004: Foktő, residential area, on the flowers of the tree of heaven. (1 specimen); 12 September 2004: Foktő, village center, on the wall of the church. (1 specimen); 23 October 2009: Foktő, village center, in a sidewalk crack. (1 specimen); 23 August 2017: Fajsz, village center, on a hornbeam leaf. (1 specimen); 25 August 2018: Fajsz, village center, on a hornbeam leaf. (1 specimen); 08 October 2022: Fajsz, village center, in a crack in the stairs. (1 specimen); 01 July 2023: Fajsz, village center, residential area. (1 specimen); 28 July 2023: Fajsz, village center, residential area, on dried thuja leaves. (1 specimen).

Fig. 1: Habitus of female *Odontepyris erucarus* (Szelényi, 1958)

The sting of *O. erucarus* causes brief but sharp pain. In terms of behavior, the species exhibits rapid movement and high sensitivity to potential threats. Upon detecting danger, individuals take immediate and decisive action to flee.

Conclusions

The humid areas along the Danube appear to provide ideal living conditions for this wasp species. Naturally, its distribution is determined by the presence and abundance of its host species. With further research, it is likely that additional regions in Hungary could be identified as part of its range. I also believe that the number of known host species will increase in the future.

Acknowledgments

I express my thank to Ms. Lilla Kinga Sipos, Library Director (University of Miskolc), for her excellent German-Hungarian translation, as well as to Dr. Zoltán Vas, curator of the Hymenoptera Collection at the Hungarian Natural History Museum, for the professional review of my manuscript.

References

FADEEV, K., I. 2017: New data on the distribution of bethylid wasps (Hymenoptera: Bethylidae) in Russia. - Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia https://doi.org/10.47640/1605-7678_2017_88_2_24

GEORGIEV, G., MIRCHEV, P. & LJUBOMIROV, T. 2001: Odontepyris erucarus (Szelényi) (Hymenoptera: Bethylidae) – A new Species to the fauna of Bulgaria and the Balkans. – Acta Zoologica Bulgarica 53 (3): 41–44.

GORDH, G., & MÓCZÁR L. 1990: A Catalog of the World Bethylidae. (Hymenoptera: Aculeata). – Memoirs of the American Entomological Institute 46: 1–364.

MACEK, J., STREJCEK, J. & STRAKA, J. 2007: Chrysidoidea: Bethylidae. – Acta Entomologica Musei Nationalis Pragae, Supplementum 11: 21–40.

SZELÉNYI, G. 1958: Über einige durch Zucht erhaltene Scolioniden und Bethyliden (Hymenoptera) Annales Historico-Naturales Musei Hungarici 50: 261–270.

TERAYAMA, M. 1997: Four New Species of Odontepyris Kieffer from Taiwan and Korea (Hymenoptera: Bethylidae), with a List of the World Species. – Japanese Journal of Entomology 65: 764–772.

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Heterothele erdosi, a new species of *Heterothele* Karsch, 1879 from Nigeria (Araneae: Theraphosidae)

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Abstract: A new species of theraphosid spider in the genus *Heterothele* Karsch, 1879 is described from Ibadan, Nigeria, *Heterothele erdosi* **sp. nov.** (♂), representing only the second *Heterothele* species known from Nigeria. It is the smallest known species of *Heterothele*.

Keywords: spider, taxonomy, morphology, tarantula, West Africa

Introduction

The genus *Heterothele* Karsch, 1879 currently contains nine valid species: *Heterothele affinis* Laurent, 1946 (♂♀, Congo, and Tanzania), *Heterothele atropha* Simon, 1907 (♀, Democratic Republic of the Congo), *Heterothele darcheni* (Benoit, 1966) (♀, Gabon), *Heterothele decemnotata* (Simon, 1891) (♀, Democratic Republic of the Congo), *Heterothele gabonensis* (Lucas, 1858) (♂♀, Gabon), *Heterothele honesta* (♂♀, Democratic Republic of the Congo; type species), *Heterothele hullwilliamsi* Smith, 1990 (♂, Cameroon), *Heterothele ogbunikia* Smith, 1990 (imm. ♂ [erroneously described as adult female], Nigeria), and *Heterothele spinipes* Pocock, 1897 (♂, Tanzania). A single species is currently regarded as a nomen dubium, *Heterothele villosella* Strand, 1907 (♂, Tanzania) (see Nentwig et al. 2020) but this species is in fact recognisable and will be revalidated in a future work. Presently, the only species formally recorded from Nigeria is *H. ogbunikia* (World Spider Catalog, 2025), although *H. hullwilliamsi* from neighbouring Cameroon is also likely to occur there.

In this work, a new species of *Heterothele* is described from Ibadan, Nigeria, based on a holotype and paratype deposited in the Natural History Museum, London (NHMUK) and further paratypes in the personal collection of the second author. It represents the second congener formally recorded from Nigeria and is the smallest known species of the genus.

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Materials and methods

Specimens examined under binocular microscopes. Photographs were made by DS with a Canon EOS 6D Mark II attached to a Leica MZ12.5, with images stacked using Helicon Focus. Description style follows SHERWOOD et al. (2020).

Abbreviations:

Repositories of material examined:

NHMUK – Natural History Museum, London, United Kingdom;

RGPC – Richard Gallon Private Collection, Llandudno, Wales, UK.

Structures: ALE – anterior lateral eyes, AME – anterior median eyes, PLE – posterior lateral eyes, PME – posterior median eyes. Other: leg. – legit (collected by).

Palpal bulb terminology follows BERTANI (2000): A – apical keel, PS – prolateral superior keel.

All measurements are in mm. Maps were made using SHORTHOUSE (2010); ecoregional framework follows DINERSTEIN et al. (2017). In accordance with the International Code of Zoological Nomenclature, this work was preregistered in ZooBank: urn:lsid:zoobank.org:pub:E45B991C-817E-41E1-A8B7-156A1CF46288

Taxonomy

***Heterothele erdosi* sp. nov.**

ZooBank: urn:lsid:zoobank.org:act:2A56AFA0-FDE7-4F51-A4A4-F3F94B63610E

Type material: Holotype ♂ (NHMUK), Ibadan, CIOR Site 11TA, Nigeria, fallow bush, July 1973, leg. A. Russell-Smith, Theraphosidae sp. det. Pedroso 05 November 2013; paratype 1♂ (NHMUK), "from Nigeria, coll. A. Russell-Smith"; paratypes 4♂♂ (RGPC), Ibadan, Nigeria, secondary forest, April 1981, leg. A. Russell-Smith, *Heterothele* sp. det. Gallon 15 December 2005.

Diagnosis: *Heterothele erdosi* **sp. nov.** can be distinguished from males of *H. affinis* Laurent, 1946, *H. honesta* Karsch, 1879, and *H. hullwilliamsi* Smith, 1990 by the embolus twice the length of the base of the bulb (equal to or only slightly longer than base of bulb in *H. affinis*, *H. honesta*, and *H. hullwilliamsi*), from those of *H. gabonensis* (Lucas, 1858) by the developed curvature in the apical third of the embolus (weakly developed in *H. gabonensis*), and from *H. spinipes* Pocock, 1897 by the palpal tibia not more than twice as long as the palpal bulb. The male of *H. erdosi* **sp. nov.** is further distinguished from those of *H. honesta*, *H. hullwilliamsi*, *H. spinipes* and *H. villosella* (currently regarded as a nomen dubium) in having an incrassate femur III (unmodified in *H. honesta*, *H. hullwilliamsi*, *H. spinipes* and *H. villosella*), and additionally from *H. hullwilliamsi* and *H. villosella* in lacking a prolateral scopula tuft on metatarsus I (present in *H. hullwilliamsi* and *H. villosella*). *Heterothele atropha* Simon, 1907, *H. darcheni* (Benoit, 1966), *H. decemnotata* (Simon, 1891), and *H. ogbunikia* Smith, 1990 are all known only from the female (*H. atropha*, *H. darcheni* and *H. decemnotata*) or an immature male (*H. ogbunikia*). The latter three species can be distinguished from the male of *H. erdosi* **sp. nov.** by the following characters: *H. darcheni* by the presence of a ventral and dorsal abdominal pattern, *H. decemnotata* by the presence of 10 shell-like spots on the dorsal abdominal surface, and *H. ogbunikia* by the presence of a herring-bone abdominal pat-

tern. The description of *H. atropha* is too poor for a full diagnosis, but *H. erdosi* **sp. nov.** can be distinguished from this species, and indeed all other known congeners, biogeographically by its distribution in the Nigerian Lowland Forests ecoregion (see below), being the only species west of the River Niger and simultaneously representing the northernmost and westernmost record for the genus.

Etymology: The specific epithet is an eponym in honour of the legendary Hungarian mathematician Paul Erdős (1913–1996) who published over 1500 papers, making him the most prolific mathematical researcher who ever lived. Erdős was famous for his love of collaboration and worked with quite literally hundreds of coauthors, spurning the invention of the Erdős number, which charts mathematical collaboration. Equally famous was his lifelong nomadic travel between institutions, the high quality of his research, his affection for colleagues, and his endearing eccentricities. The dedication Erdős gave to his field of mathematics is a constant inspiration and example to the author DS in her field of arachnology.

Description of holotype male: Total length including chelicerae: 13.6. Carapace: length 5.0, width 4.3. Caput: slightly raised. Ocular tubercle: raised, length 0.5, width 1.0. Eyes: ALE > AME, AME > PLE, PLE > PME, anterior eye row procurved, posterior row slightly recurved. Clypeus: narrow; clypeal fringe: long. Fovea: deep, slightly recurved. Chelicera: length 2.4, width 0.8. Abdomen: length 6.2, width 3.3. Maxilla with 60–70 cuspules covering approximately 57% of the proximal edge. Labium: length 0.5, width 0.8, with 80–90 cuspules most separated by 0.5–1.0 × the width of a single cuspule. Labio-sternal mounds: separate. Sternum: length 2.2, width 2,3, with three pairs of sigilla. Tarsi I–IV divided by a band of setae. Tarsal claws serrated, third claw absent. Metatarsal scopulae: I 100%; II 79%; III 26%; IV ascopulate. Lengths of legs and palpal segments: see table 1, legs 4,1,2,3. Spination: tibia I v 0–2–2, r 1–1–0, II v 0–3–3, p 1–1–0, r 1–1–0, III v 1–2–3, p 1–1–0, IV v 1–2–3, p 1–1–0, r 1–1–0, palp p 0–0–1, metatarsus v 0–0–1 (apical), p 0–1–0, r 0–0–2, II v 0–0–1 (apical), p 0–1–0, r 0–1–0, III v 1–2–3 (apical), p 1–1–0, IV v 2–4–4 (3 apical), p 1–1–0, r 1–1–0. Femur III: incrassate. Palpal tibia: unmodified, slightly longer than palpal bulb. Palpal cymbium: unmodified. Metatarsus I: straight, unmodified. Posterior lateral spinnerets with three segments, basal 1.2, median 0.8, digitiform apical 0.7. Posterior median spinnerets with one segment. Palpal bulb with rounded base, tegular heel absent; embolus approximately twice as long as base of bulb with developed vertical curvature in anterior third; PS and A weakly developed; prolateral crease wide in basal half, extremely narrow, constricted by ventral face of subtegulum in anterior half. Colour: overall alcohol preserved brown; abdomen abraded but with some irregular brown mottling present, lacking any obvious dorsal or ventral patterning.

Table 1: *Heterothele erdosi* sp. nov. holotype male (NHMUK), length of legs and palp.

	I	II	III	IV	Palp
Femur	3.7	3.5	2.9	3.5	2.9
Patella	2.2	2.2	1.4	1.4	1.4
Tibia	2.7	2.7	1.8	2.9	2.1
Metatarsus	2.0	2.1	2.2	3.9	–
Tarsus	1.8	1.8	1.6	2.1	0.7
Total	12.4	12.3	9.9	14.0	6.7

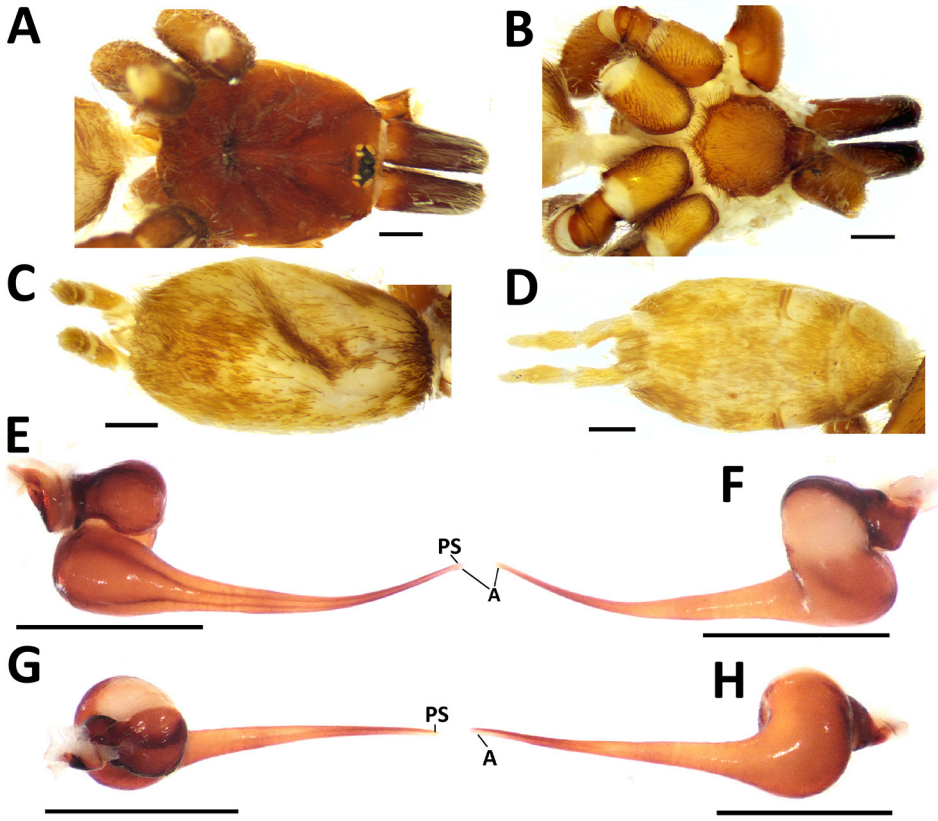

Fig. 1: *Heterothele erdosi* sp. nov. holotype male (NHMUK). A – carapace dorsal view, B – labium, sternum, and maxilla, ventral view, C – abdomen, dorsal view, D – Idem, ventral view, E – palpal bulb (left-hand side), prolateral view, F – palpal bulb (left-hand side), retrolateral view, G – Idem, dorsal view, H – Idem, ventral view. Scale bars = 1mm.

Female: Unknown.

Distribution: Known only from the type locality, Ibadan, Nigeria.

Remarks: The holotype of this new species was discovered by DS when she was conducting work for a taxonomic review of *Acontius* Karsch, 1879 (Cyrtaucheniidae) which is imminent. A second [paratype] male was found shortly after in another sample of the same species of *Acontius*. Both specimens were in jars otherwise containing only cyrtaucheniids but have since been recurated. The paratype male hails from a tube which has an original label (a rudimentary, ripped, piece of paper) which simply states the country of origin and the collector, without a date or precise locality. However, the samples can be confirmed with certainty to originate from Ibadan based on questioning of the collector (A. Russell-Smith pers. comm. to DS) and further supported by fact the cyrtaucheniids in the tube are conspecific with that of other *Acontius* samples in two different museums known with certainty to have been collected in Ibadan (*Acontius*

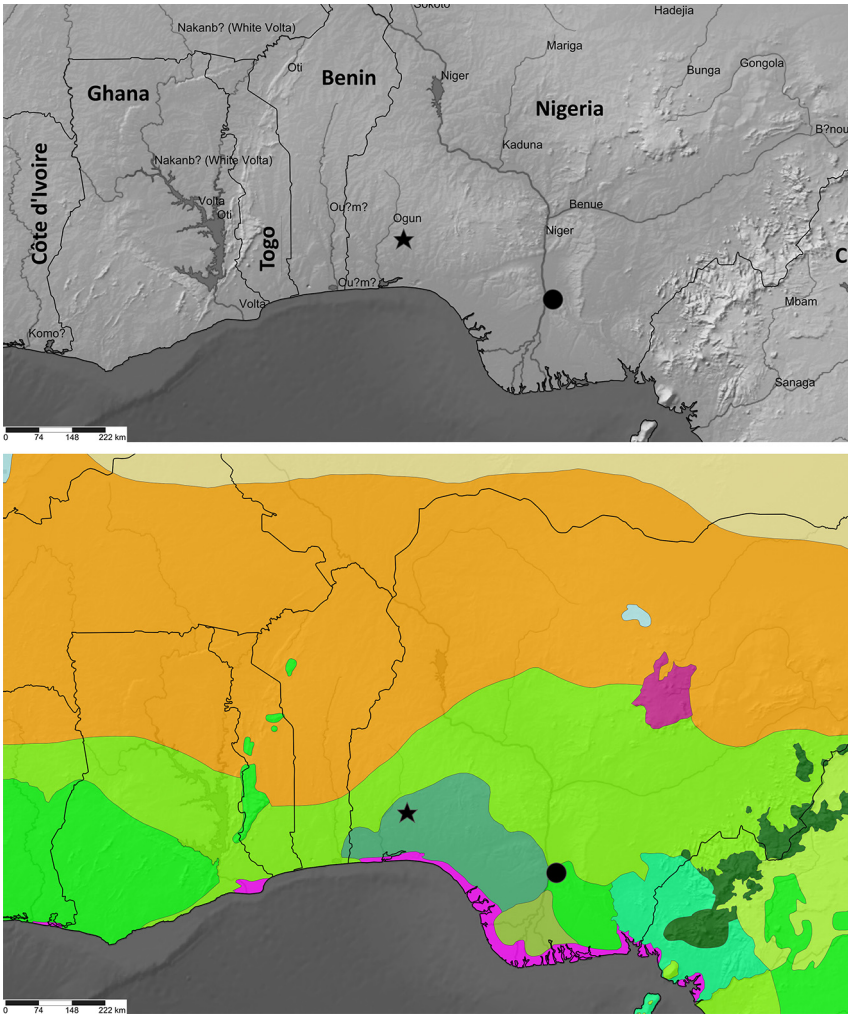

Fig. 2: Distribution of *Heterothele* species in Nigeria. A – grey-scale map with labelled rivers, B – map showing ecoregional classification of area, sensu DINERSTEIN et al. (2017); black circle = *H. ogbunikia* Smith, 1990, black star = *Heterothele erdosi* sp. nov.

demonstrates pronounced short-range endemism, SHERWOOD et al. in prep.). Leg I of the holotype was interpreted and measured from the right-hand side as the left-hand leg I is missing, the rest of the data derives from left-hand appendages. The type locality of *Heterothele erdosi* **sp. nov.** is situated in the Nigerian Lowland Forests ecoregion (*sensu* DINERSTEIN et al. 2017), the River Niger creates a significant barrier between it and the type locality of *H. ogbunikia* which is situated in the Cross-Niger Transition Forests ecoregion.

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References

BENOIT, P. L. G. 1966: Macrothele darcheni n. sp., dipluride nouveau du Gabon (Aran-Orthognatha). Biologia Gabonica 2: 87–89.

BERTANI, R. 2000: Male palpal bulbs and homologous features in Theraphosinae (Araneae, Theraphosidae). Journal of Arachnology 28: 29–42.

DINERSTEIN, E., OLSON, D., JOSHI, A., VYNNE, C., BURGESS, N. D., WIKRAMANAYAKE, E., HAHN, N., PALMINTERI, S., HEDAO, P., NOSS, R., HANSEN, M., LOCKE, H., ELLIS, E. C., JONES, B., BARBER, C. V., HAYES, R., KORMOS, C., MARTIN, V., CRIST, E., SECHREST, W., PRICE, L., BAILLIE, J. E. M., WEEDEN, D., SUCKLING, K., DAVIS, C., SIZER, N., MOORE, R., THAU, D., BIRCH, T., POTAPOV, P., TURUBANOVA, S., TYUKAVINA, A., DE SOUZA, N., PINTEA, L., BRITO, J. C., LLEWELLYN, O. A., MILLER, A.G., PATZELT, A., GHAZANFAR, S. A., TIMBERLAKE, J., KLÖSER, H., SHENNAN-FARPÓN, Y., KINDT, R., LILLESØ, J. B., VAN BREUGEL, P., GRAUDAL, L., VOGE, M., AL-SHAMMARI, K. F. & SALEEM, M. 2017: An Ecoregion-Based Approach to Protecting Half the Terrestrial Realm. Bioscience 67(6): 534–545.

KARSCH, F. 1879: Zwei neue afrikanische Vogelspinnen. Sitzungsberichte der Gesellschaft Naturforschender Freunde zu Berlin 1879: 63–65.

LAURENT, R. 1946: Notes arachnologiques africaines II.-Sur quelques théraphosides du Congo Belge (Ischnocolinae, Eumenophorinae, Selenocosmiinae). Revue de Zoologie et de Botanique Africaines 39: 293–326.

LUCAS, H. 1858: Aptères. In: THOMSON, J. (ed.) Voyage au Gabon. Archives Entomologiques de M. J. Thomson 2, 377–445, pl. 12–13.

POCOCK, R. I. 1897: On the spiders of the suborder Mygalomorphae from the Ethiopian Region, contained in the collection of the British Museum. Proceedings of the Zoological Society of London 65(3): 724–774, pl. 46–48.

SHERWOOD, D., FABIANO-DA-SILVA, W., GABRIEL, R. & LUCAS, S. M. 2020: Redescription of Nesipelma insulare Schmidt & Kovařík, 1996 with a revised generic diagnosis for Nesipelma Schmidt & Kovařík, 1996 and a transfer from Cyrtopholis Simon, 1892 (Araneae: Theraphosidae). Arachnology 18(5): 462–467.

SHORTHOUSE, D. P. 2010: SimpleMappr, an online tool to produce publication-quality point maps, online at: https://www.simplemappr.net

SIMON, E. 1891: Etudes arachnologiques. 23e Mémoire. XXXVII. Arachnides recueillis sue le haut Congo par M. Ant. Greshoff. Annales de la Société Entomologique de France 60: 297–299.

SIMON, E. 1907: Arachnides recueillis par L. Fea sur la côte occidentale d'Afrique. 1re partie. Annali del Museo Civico di Storia Naturale di Genova 43: 218–323.

SMITH, A. M. 1990: Baboon spiders: Tarantulas of Africa and the Middle East. Fitzgerald Publishing, London, pp. 1–142.

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Arachnological biosecurity on one of the world's most remote inhabited islands: a checklist of stowaway spiders found on Saint Helena, South Atlantic Ocean

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Abstract: An annotated checklist of non-native spiders intercepted by biosecurity staff of the Agriculture & Natural Resources Division (ANRD) of the Saint Helena Government is presented, along with a complete list of all other known stowaway specimens examined by us in other collections. As a consequence, *Araneus quadratus* Clerck, 1757 and *Neoscona rapta* (Thorell, 1899) and four generic-level taxa are newly recorded for the list of Saint Helenian spiders. Five morphospecies, including one that constituted a new genus record, are newly reported (*Clubiona* sp., *Crossopriza* sp., *Palystes* sp., *Physocyclus* sp., and *Zenodorus* sp.). *Palystes* sp. also represents the first record of the family Sparassidae Bertkau, 1872 for Saint Helena. One further record of a previously known species, *Steatoda nobilis* (Thorell, 1875), is made from a specimen recently intercepted in an inbound parcel in 2024. Finally, a list of additional immature specimens, unidentifiable below the family level but nonetheless examined for this work, are presented to complete the catalogue of specimens in the ANRD collections. The total number of spider families recognised on the island raises to 33 and valid genera and species (i.e. excluding undetermined morphospecies) to 92 and 116, respectively.

Keywords: arachnid, interception, non-native, United Kingdom Overseas Territories.

Introduction

The spiders of Saint Helena have been studied since the late 19th Century (Sherwood & Fowler 2023). Over 158 years later, the araneofauna of the island underwent a complete revision and an annotated checklist of all spiders established on the island (Sherwood et al. 2024). However, that work did not consider any recent species known definitively to be stowaways to the island, except to note that two had been discussed by

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KEY et al. (2021) as being imported contemporaneously: *Steatoda nobilis* (Thorell, 1875) and *Zygiella x-notata* (Clerck, 1757). SHERWOOD et al. (2024) newly recorded *Latrodectus renivulvatus* Dahl, 1903 from Saint Helena based on specimens from Jamestown in the 1950s, but which they presumed were likely stowaways, as no specimens have since been found.

Non-native species have significant impacts on ecosystems, particularly those on islands (HOUGHTON et al. 2019, DAWSON et al. 2023). In this work, we catalogue the non-native spiders intercepted thanks to biosecurity efforts on Saint Helena, and two further taxa found by us in the historical collections of the Natural History Museum, London, many of which are new records at varying levels of taxonomy.

Material and methods

All specimens reported in this paper are deposited in either the Saint Helena Government Agriculture & Natural Resources Division, Scotland, Saint Helena (ANRD), Natural History Museum, London, UK (NHMUK), or Saint Helena National Trust, Jamestown, Saint Helena (SHNT). Photographs were made using a Canon EOS 6D Mark II attached to a Leica MZ12.5 stereomicroscope, with images stacked using Helicon Focus software. Authors' emphases in [ ].

Results

Araneus quadratus Clerck, 1757 (**Araneidae**)

Material examined: 1♀ (NHMUK), St. Helena Island, coll. A. Loveridge, no other data.

Remarks: A single female with a damaged epigyne, missing the scape, was examined (Figs. 1A–F). It is one of two samples from Saint Helena with such scanty data in the NHMUK collection, the other tube containing non-native salticids (see below). We considered the possibility that the specimens were mislabelled by Arthur Loveridge and came from Asia or Oceana, but no strong evidence exists to confirm this, and the possibility is equal that they were stowaway specimens found at the port and given to the famous naturalist Loveridge, who was well known and beloved by Saints. Prior to twenty first century, the only access to Saint Helena – an island whose history is defined by extensive and global maritime trade – was by boat, meaning non-native species were likely frequently to be encountered in the busy port area of the island. Given this, and the fact no *Araneus* Clerck, 1757 *s.s.* have been observed on Saint Helena despite our years of combined fieldwork, we have concluded this specimen represents a stowaway from the United Kingdom. It is the first confirmed record of the genus for Saint Helena, previous grey literature using this genus corresponded to immature araneids unidentifiable below the family level but assigned to *Araneus* by John Murphy (DS pers. obs.). It is also therefore a newly reported species.

***Clubiona* sp. (Clubionidae)**

Material examined: 1♀ (ANRD 563), intercepted from personal shipping container via RMS Saint Helena [importer name redacted], V230N, collected 29/08/2015.

Remarks: The epigyne (Fig. 1J) of the female (Figs. 1G–H) is not immediately recognisable to any of the known species from Europe or Southern Africa, but since a revision of African Clubionidae is underway in South Africa (Charles Haddad pers. comm. to DS) we are not yet able to assign this specimen at the species-level. It may represent a new species but cannot be described without a verified country of origin. This tube also contains two other specimens, an adult male of *Zygiella x-notata* and an immature pholcid (see below). This morphospecies corresponds to *Clubiona sensu lato*, becoming the second known island record (both at genus-level and as a morphospecies) from this group. The first record of *Clubiona* was made over 150 years ago: the endemic, non-stowaway, species now placed as *Bucliona dubia* (O. Pickard-Cambridge, 1870) (see SHERWOOD et al. 2024).

***Crossopriza* sp. (Pholcidae)**

Material examined: 2 imm. (ANRD 554(a)), intercepted from container imported from Australia via RMS Saint Helena [importer name redacted], V228N, 14/07/2015.

Remarks: These specimens are desiccated and in bad condition. They likely belong to *Crossopriza lyoni* (Blackwall, 1867) but their immaturity and condition means this cannot be stated for certain. Regardless, this genus constitutes a new record for the island. The sample also includes an immature specimen of *Steatoda* sp. (see below) and an adult male of the theridiid *L. geometricus* (see above).

***Latrodectus geometricus* C. L. Koch, 1841 (Theridiidae)**

Material examined: 1♀ (ANRD 857), intercepted from black grapes (Alphonse Lavallée) imported from Cape Town South Africa via MV Helena, V001 07/03/2018, collected 08/03/2018; 1♀ (ANRD 575), intercepted from container via RMS Saint Helena [importer name redacted], V231N, collected 21/09/2015, leg. Biosecurity officers; 1♂ (ANRD 554(a)), intercepted from container imported from Australia via RMS Saint Helena [importer name redacted], V228N, 14/07/2015.

Remarks: This species is established on Saint Helena in arid areas such as Prosperous Bay Plain and Horse Point Plain (SHERWOOD et al. 2024; pers. obs.). It is unsurprising to see this species continuing to be a stowaway in produce in Saint Helena, as this also occurs across other parts of the world, including the mainland United Kingdom (SHERWOOD 2025). Sample ANRD 554(a) also contains an immature *Crossopriza* sp. and an immature female of *Steatoda* sp. (see below).

***Micropholcus fauroti* (Simon, 1887) (Pholcidae)**

Material examined: 1♀ (ANRD 784), intercepted [with eggs] from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], V251SH, collected 10/01/2017, leg. N. Stevens.

Remarks: This species was recently recorded new to Saint Helena by SHERWOOD et al. (2024) based on a male examined by the senior author collected from Ruperts by Edward Thorpe in the early 2000s. The discovery of an adult female with eggs intercepted at the

port in Jamestown is the first stowaway record and provides further evidence that this species, as suspected, is invasive to the island, and indeed continues to be a species for which authorities must remain vigilant. Searches should be conducted to see if this species has established around urban areas of Jamestown and Ruperts. A brief preliminary survey in November 2022 by the senior author yielded only specimens of *Pholcus phalangioides* (Fuesslin, 1775) which has been common on the island for hundreds of years (see SHERWOOD et al. 2024).

Neoscona rapta (Thorell, 1899) (**Araneidae**)

Material examined: 1♂ (ANRD 924), intercepted from imported seed potatoes (Sifra) from Cape Town, South Africa via RMS Saint Helena [importer name redacted], V28N, 21/05/2019, collected 26/05/2019.

Remarks: It can be challenging to identify males (Figs. 1J–N) of this genus, especially as the shape of the median apophysis changes radically with only small movements in orientation of the palp, such as those it naturally rests in when placed on a flat surface (Figs. 1L–N). When moved to an angle replicating GRASHOFF (1986) (not figured) the shape of the median apophysis alters from the form shown in our figures to a shape and curvature consistent with the figure of *N. rapta* (Grashoff, 1986: 101: fig. 146). The examined male also has tibial spination consistent with Grashoff (1986) and a similar habitus; *N. rapta* occurs in Cape Town (DIPPENAAR-SCHOEMAN et al. 2022). Thus, we tentatively assign it to this species but stress a modern revision of the genus is very much warranted. It is a new species-level record for Saint Helena, which has had a convoluted history of records of the genus prior (SHERWOOD et al. 2024).

***Palystes* sp.** (**Sparassidae**)

Material examined: 1 imm. ♀ (ANRD 830), intercepted from RMS Saint Helena whilst in port, Jamestown, V261N 30/07/2017, collected 01/08/2017, '*Palystes superciliosus*'.

Remarks: This immature female was previously identified at the time of collection as *P. superciliosus* L. Koch, 1875 as indicated on the label. However, as the specimen is not yet adult and the pre-epigyne is not informative or reliable for species identification within this genus due to ontogeny, it can only be reliably identified at the genus-level. Nonetheless, this previously unpublished specimen represents the first record of the genus *Palystes* L. Koch, 1875 on Saint Helena and indeed the family Sparassidae as a whole.

Physocyclus globosus (Taczanowski, 1874) (**Pholcidae**)

Material examined: 1♀ (ANRD 667), intercepted from container leav [sic] 2518034 via RMS Saint Helena, V243SH 07/07/2016, collected 08/07/2016, leg. N. Stevens.

Remarks: This constitutes the first published record of this non-native species on Saint Helena, also adding a new genus record for the island. The epigyne (Fig. 1O) is figured.

Plexippus paykulli (Audouin, 1826) (**Salticidae**)

Material examined: 1♀ (ANRD 789), intercepted via biosecurity check of hold baggage container, CRSU 1489926, collected 05/02/2017, leg. N. Stevens.

Remarks: This species is already widespread on Saint Helena (SHERWOOD et al. 2024; pers. obs.) and is non-native.

***Smeringopus* sp. (Pholcidae)**

Material examined: 2♀ (ANRD 681), intercepted from lowest deck of RMS Saint Helena during survey, 15/09/2016, leg. N. Stevens and D. Pryce; 2 imm. (ANRD 431), intercepted from pallets imported from [importer name redacted, origin of imported goods was Southern Africa], collected 11/07/2013.

Remarks: It is not possible to be sure of the species-level identification solely from morphology, but it is very likely these specimens are *S. pallidus* (Blackwall, 1858) which is known from the island (SHERWOOD et al. 2024). *Smeringopus pallidus* was most recently seen *in situ* under pallets at the Millenium Forest in November 2022 (DS and LF pers. obs.). One sample (ANRD 431) also contains an adult female of the theridiid *T. proximum* (see below).

Steatoda capensis Hahn, 1990 (**Theridiidae**)

Material examined: 1♀ (ANRD 416), intercepted from imported seed potatoes (BP1) via RMS Saint Helena, V176N, collected 22/06/2012, leg. A. Leo (Levelwood), stored in alcohol 02/07/2012.

Remarks: This species is widespread in arid areas on Saint Helena (SHERWOOD et al. 2024). Its discovery as a stowaway in produce from only a decade ago reinforce the conclusion that this species established on the island by human-mediated means. The female examined (ANRD 416; Figs. 1P–R) presented with an epigynal plug (Fig. 1R). We provide a figure of the plugged epigyne for reference to biosecurity officers, to compliment the Scanning Electron Microscope image of HAHN (1994: 228, fig. 4) which also shows an epigynal plug in *S. capensis*. HAHN (1994) also provides a photograph of a regular (unplugged) epigyne and a drawing of the vulva, and SHERWOOD et al. (2024: 1276, fig. 71) present a photograph of a slide-mounted epigyne which had been prepared by the Belgian arachnologist P. L. G. Benoit in the 1970s.

Steatoda nobilis (Thorell, 1895) (**Theridiidae**)

Material examined: 1♀ (ANRD 965), intercepted from container imported from UK, date not given; 1♀ (ANRD 646), imported with wooden cable reels in shipping container from UK [importer name redacted], collected 08/04/2016, leg. M. Buckley; 1 imm. ♂ (ANRD 977), intercepted from container imported from the UK via MV Helena, V053N 03/06/2022, collected 23/06/2022, found by biosecurity assistant; 1 imm. (ANRD 836), intercepted from vehicle imported from Ascension via RMS Saint Helena [car registration number redacted here], Mini Cooper, V262SH 21/09/2017, collected 22/09/2016; 1 imm. (ANRD 747), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], V247SH, collected 11/10/2016; 1♂ (SHNT), Jamestown, Saint Helena, found in Amazon parcel imported from United Kingdom by boat, voyage 16, 13/08/2024, leg. D. Joshua.

Remarks: This species was listed by SHERWOOD et al. (2024) who referred to the present work when it was in preparation. All but one current records are of intercepted specimens found in cargo arriving from the United Kingdom.

Theridion proximum Lawrence, 1964 (**Theridiidae**)

Material examined: 1♀ (ANRD 431), intercepted from pallets imported from [importer name redacted, origin of imported goods was Southern Africa], collected 11/07/2013.

Remarks: This species was recorded from the island by SHERWOOD et al. (2024), who found it to be established on the island. This record confirms suspicions that it was introduced to the island through produce from South Africa. The sample also contains two immature *Smeringopus* sp. (see above).

***Zenodorus* sp.** (**Salticidae**)

Material examined: 2♂♂, 3♀♀ (NHMUK), St. Helena Island, coll. A. Loveridge, no other data.

Remarks: This species (Figs. 1S–Z) is clearly non-native to the island and was never recorded by any historical author nor observed by us (see SHERWOOD et al. 2024). If such a conspicuous and large salticid was established on the island, it would be easily detected. Considering its unusually vague locality data (see remarks for *A. quadratus*), this material must be considered as a stowaway. A revision of *Zenodorus* is underway (Tamás Szűts pers. comm. to DS) and at this stage we cannot assign the specimens to species-level as the diversity of the genus is still being evaluated. Furthermore, the smaller females (not figured) have a different shape to the genitalia to the large female depicted here but it is unclear if this is just ontogenetic morphology of the pre-epigyne or whether a second (adult) species is involved. Nonetheless, the females are much smaller than the one depicted here and do not have the incrassate leg I, leading us to believe they are merely immature. We thus conservatively maintain them as the same morphospecies, noting the genus clearly requires a modern revision. The specimens constitute the first genus-level and morphospecies records for *Zenodorus* on Saint Helena.

Zygiella x-notata (Clerck, 1757) (**Araneidae**)

Material examined: 2♀♀, 2 imm. (ANRD 676), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], V245SH, collected 01/09/2016; 2 imm. (ANRD 748), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], V247SH, collected 11/10/2016; 1 imm. (ANRD 660), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], V243S, collected 28/06/2016; 1♀, 2 imm. ♀♀ (ANRD 580), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], V231S, collected 24/09/2015, leg. PCBO and PCO; 1 imm. (ANRD 657), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], V243S, collected 28/06/2016; 1 imm. (ANRD 673), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], V245SH, collected 01/09/2016; 1♀, 1 imm. (ANRD 598), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], blue CRV Honda, collected 07/11/2015, leg. PCBO and BO; 1♀, 1 imm. (ANRD 593), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], Ford Fusion Zetec, V233N, collected 31/10/2015; 1 imm. (ANRD 644), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number and importer name redacted here], V239SH, collected 17/03/2016, leg. J. Balchin and N. Stevens; 1 imm. (ANRD 595), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], V233N, collected 31/10/2015, leg. PCBO and BO; 5♀♀ (ANRD 579), intercepted from number plate from vehicle imported from the UK via RMS Saint Helena [car registration number and importer name redacted here], Mitsubishi, collected 24/09/2015, leg. PCBO and PCO; 1 imm. (ANRD 797), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], V253SH, collected 25/02/2017, leg. N. Stevens; 1 imm. (ANRD 602), intercepted from

vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], Toyota surf, collected 07/11/2015, leg. PCBO and BO; 1♀ (ANRD 597), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], white Transit Van, V233N, collected 31/10/2015, leg. PCBO and BO; 1 imm. (ANRD 601), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], red Ford Focus, V233S, collected 07/11/2015, leg. PCBO and BO; 1 imm. (ANRD 656), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], V243S, collected 28/06/2016; 3 imm. (ANRD 497), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], V206, collected 04/04/2014, leg. A. Rowe; 1 imm. (ANRD 661), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], V243S, collected 28/06/2016; 13 imm. (ANRD 798), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number and importer name redacted here], V253SH, collected 25/02/2017, leg. N. Stevens; 1 imm. (ANRD 659), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], V243S, collected 28/06/2016; 1♂, 2♀♀ (ANRD 578), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], V231S, collected 24/09/2015, leg. PCBO and PCO; 1 imm. (ANRD 606), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number and importer names redacted here], Land Rover Defender, V234N 21/11/2015, includes egg sac, collected 30/11/2015; 1♂ (ANRD 563), intercepted from personal shipping container via RMS Saint Helena [importer name redacted], V230N, collected 29/08/2015; 1♂ (ANRD 837), intercepted from vehicle imported from Ascension via RMS Saint Helena [car registration number redacted here], Jeep, V262SH 21/09/2017, collected 22/09/2017; 1♀♀, 2 imm. (ANRD 675), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], V245SH, collected 01/09/2016; 1 imm. (ANRD 658), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], V243S, collected 28/06/2016; 1♀, 3 imm. (ANRD 599), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], vehicle RAV4 V233S, 07/11/2015, collected 07/11/2015.

Remarks: Despite being the most commonly intercepted stowaway arachnid on Saint Helena, this species still appears not to have established (SHERWOOD et al. 2024) although this situation must be closely monitored. One sample (ANRD 563) also contains a female clubionid (see above) and an immature pholcid (see below).

Indeterminate material

The following samples could only be identified to family or genus level, owing to the immaturity of the samples, damage and/or and lack of required diagnostic features. Those at the genus level cannot be said with certainty to be new morphospecies records, as they may correspond to known species recognised in SHERWOOD et al. (2024) or above in this work. However, for one of the aforementioned reasons, we could not confidently assign them to the respective species-level taxa. Nonetheless, they are listed to show that stowaways intercepted span a large number of spider families and often comprise of immature specimens.

Araneidae gen. et sp. indet.

Material examined: 1 imm. (ANRD 662), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], V243S, collected 28/06/2016.

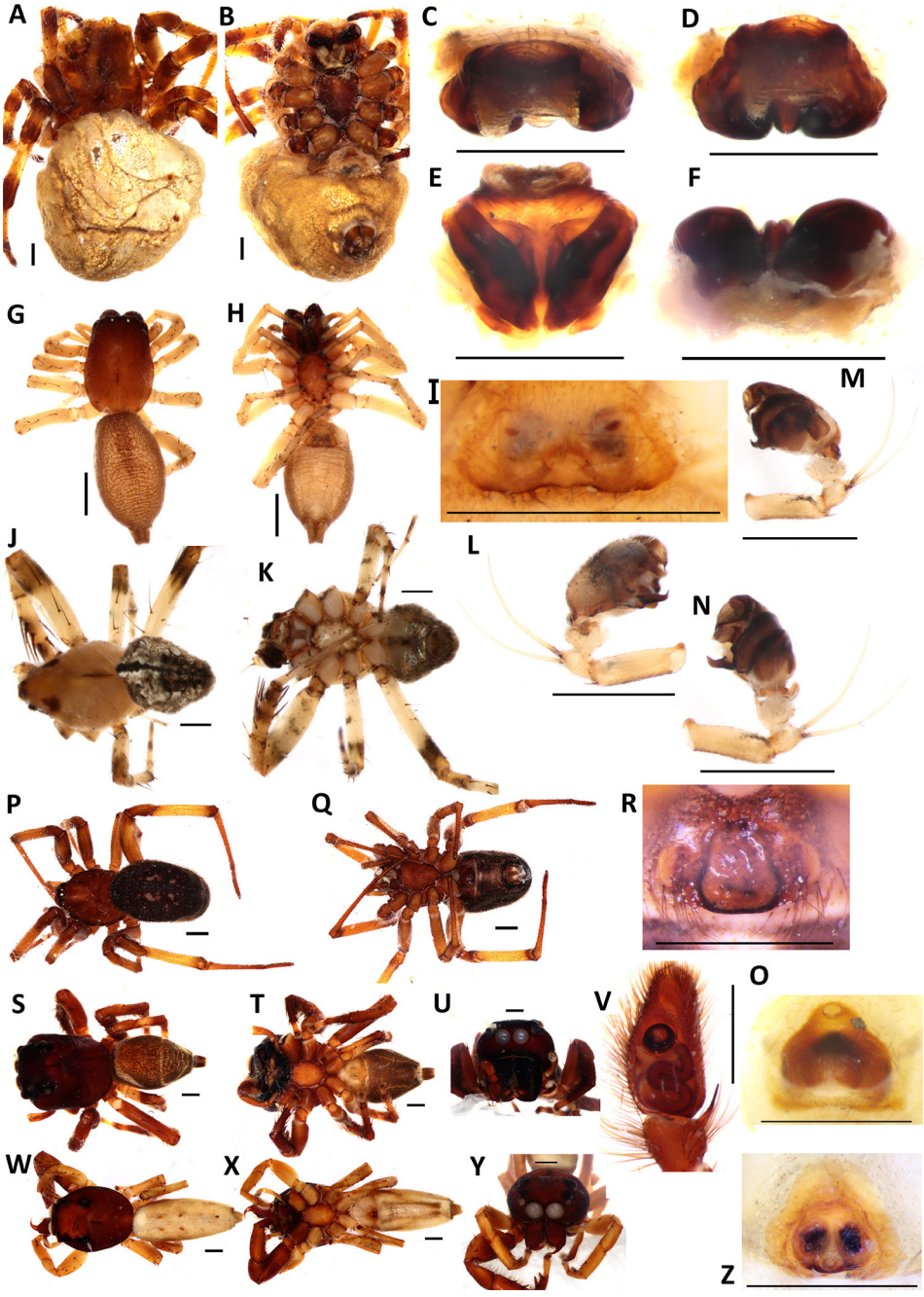
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Fig. 1: A–F *Araneus quadratus* Clerck, 1757 female (NHMUK), G–I *Clubiona* sp. female (ANRD 563), J–N *Neoscona rapta* (Thorell, 1899) male (ANRD 924), O *Physocyclus globosus* (Taczanowski, 1874) female (ANRD 667), P–R *Steatoda capensis* Hahn, 1990 female (ANRD 416), S–V *Zenodorus* sp. male (NHMUK), W–Z *Zenodorus* sp. female (NHMUK). A habitus, dorsal view; B *Idem*, ventral view; C epigyne (dissected, scape missing), ventral view; D *Idem*, dorso-ventral view; E *Idem*, posterior view; F vulva, dorsal view; G habitus, dorsal view; H *Idem*, ventral view; I epigyne (undissected), ventral view; J habitus, dorsal view; K *Idem*, ventral view; L palp, prolateral view, M *Idem*, retrolateral view; N *Idem*, retro-ventral view; O epigyne (undissected), P habitus, dorsal view; Q *Idem*, ventral view; R epigyne (undissected, completely filled by epigynal plug), ventral view; S habitus, dorsal view; T *Idem*, ventral view; U cephalothorax, frontal view; V palp, ventral view; W habitus, dorsal view; X *Idem*, ventral view; Y cephalothorax, frontal view; Z epigyne (undissected), ventral view. Scale bars = 1mm.

Clubionidae gen. et sp. indet.

Material examined: 1 imm. (ANRD 648), intercepted from Barlinka grapes imported from Cape Town, South Africa via RMS Saint Helena, V241N, collected 25/06/2016.

Remarks: It is unclear if this specimen is congeneric/conspecific with *Clubiona* sp. due to its immaturity.

Gnaphosidae gen. et sp. indet.

Material examined: 1 imm. (ANRD 801), intercepted with imported pineapples (queen) from Cape Town, South Africa via RMS Saint Helena, V254N, collected 12/03/2016, leg. N. Stevens.

Philodromidae gen. et sp. indet.

Material examined: 1 imm. (ANRD 747), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], V247SH, collected 11/10/2016.

***Pholcus* sp.** indet. (**Pholcidae**)

Material examined: 1 imm. (ANRD 563), intercepted from personal shipping container via RMS Saint Helena [importer name redacted], V230N, collected 29/08/2015; 1 imm. (ANRD 582), intercepted from container TITU 352 5428 via RMS Saint Helena, V231S, collected 24/09/2015, leg. PCBO and PCO.

Remarks: This specimen is probably *P. phalangioides* which is established on Saint Helena (SHERWOOD et al. 2024) but we cannot be sure from a morphological point of view due to its immaturity. The sample also contains an adult male of the theridiid *Z. x-notata* (see above). Sample ANRD 582 was initially determined in Saint Helena as Pholcidae sp. indet. by the senior author, although we later found it congruent with this genus after having seen the other sample.

Salticidae gen. et sp. indet.

Material examined: 1 imm. (ANRD 883), spice imported by Thai passenger via South Africa Airlink, collected 15/01/2019.

Remarks: A juvenile of this size cannot be distinguished at the genus-level, a huge myriad of salticid spiders occur in Thailand (World Spider Catalog 2025).

***Scytodes* sp.** indet. (**Scytodidae**)

Material examined: 1 imm. (ANRD 792), intercepted on Wharf from imported pineapples, V253N, collected 19/02/2016.

Remarks: This specimen may refer to the known species on Saint Helena, *Scytodes fusca* Walckenaer, 1837, (SHERWOOD et al. 2024) which coincidentally has also recently been recorded as a stowaway in the UK (SHERWOOD 2025), yet could equally represent a different species.

***Steatoda* sp.** indet. (**Theridiidae**)

Material examined: 1 imm. (ANRD 798), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number and importer name redacted here], V253SH, collected 25/02/2017, leg. N. Stevens; 1 imm. ♀ (ANRD 554(a)), intercepted from container imported from Australia via RMS Saint Helena [importer name redacted], V228N, 14/07/2015.

Remarks: Sample ANRD 798 is probably *S. nobilis*, but it is too small to be absolutely sure based on morphological analysis alone, and thus it is cautiously identified at the genus level. Sample ANRD 554(a) could be either *S. grossa* or *S. nobilis*, both known on-island, and the tube also contains an immature *Crossopriza* sp. and an adult male of the theridiid *L. geometricus* (see above).

Theridiidae gen. et spp. indet.

Material examined: 1 imm. ♂ (ANRD 672), imported in dog's box via RMS Saint Helena, V245SH, collected 01/06/2016; 1 imm. (ANRD 605), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number redacted here], silver Ford Focus, V233S, collected 07/11/2015, leg. PCBO and BO; 1 imm. ♀ (ANRD 798),), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number and importer name redacted here], V253SH, collected 25/02/2017, leg. N. Stevens; 1 imm. (ANRD 606), intercepted from vehicle imported from the UK via RMS Saint Helena [car registration number and importer names redacted here], Land Rover Defender, V234N 21/11/2015, includes egg sac, collected 30/11/2015.

Discussion

In this work, two new species and four new genera are newly added to the list of Saint Helenian spiders as stowaway taxa, that is, spiders which have been intercepted at least once on Saint Helena but have not established. Only three species-level taxa had been recorded as stowaways previously (see SHERWOOD et al. 2024). Furthermore, inclusive two of the new generic-level records, five morphospecies are recorded for the first time, one of which also represents a new family for Saint Helena. It is important to recall these are taxa which cannot be identified to the species-level and thus cannot be included in the official count of [valid] species known for the island at this time. This is equally true for the further new records in the section indeterminate material, which may or may not correspond to genera/species already definitively confirmed for the island. However, the family and genus-level records of these specimens is included on the list of officially recognised family and genera respectively.

In addition to new records, further records of species already in the normal checklist (sensu Sherwood et al. 2024) of species which are established on the island gives further evidence to support the non-native status of six species: *L. geometricus, M. fauroti, P. paykulli, S. capensis, S. nobilis,* and *T. proximum*. Most if not all of these were likely introduced as stowaways but, unlike other stowaway taxa recognised here and in Sherwood et al. (2024), have managed to establish on the island. The count of endemic genera and species remains unchanged from Sherwood et al. (2024): 12 and 45, respectively. When non-established and established taxa are considered together, the data presented here raises the total number of genera and species ever recorded from Saint Helena (regardless of whether they are established species or intercepted stowaways, and excluding morphospecies as discussed above) from 88 and 114 (Sherwood et al. 2024) to 92 and 116 (this work). The number of recognised families raises from 32 (Sherwood et al. 2024) to 33 (this work). Saint Helena's history as a globally important shipping port and its continued role in world commerce means that biosecurity remains critically important, and it is likely that further species of spider may be intercepted in the future. It is our hope to continue to publish new records, if or when they arise.

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References

DAWSON, W., PEYTON, J. M., PESCOTT, O. L., ADRIAENS, T., COTTIER-COOK, E. J., FROHLICH, D. S., KEY, G., MALUMPHY, C., MARTINOU, A. F., MINCHIN, D., MOORE, N., RABITSCH, W., RORKE, S. L., TRICARICO, E., TURVEY, K. M. A., WINFIELD, I. J., BARNES, D. K. A., BAUM, D., BENSUSAN, K., BURTON, F. J., CARR, P., CONVEY, P., COPELAND, A. I., FA, D. A., FOWLER, L., GARCÍA-BERTHOU, E., GONZALEZ, A., GONZÁLEZ-MORENO, P., GRAY, A., GRIFFITHS, R. W., GUILLEM, R., GUZMAN, A. N., HAAKONSSON, J., HUGHES, K. A., JAMES, R., LINARES, L. MACZEY, N., MAILER, S., NAQQI MANCO, B., MARTIN, S., MONACO, A., MOVERLEY, D. G., ROSE-SMYTH, C., SHANLIN, J. STEVENS, N., STEWART, A. J., VAUX, A. G. C., WARR, S. J. WERENKAUT, V. & ROY, H. E. 2023: Horizon scanning for potential invasive non-native species across the United Kingdom Overseas Territories. – Conservation Letters 16: e12928.

HANN, S. W. 1994: Descriptions of four Steatoda species (Araneae, Theridiidae) found in New Zealand. – New Zealand Journal of Zoology 21(2): 225-238.

HOUGHTON, M., TERAUDS, A., MERRITT, D., DRIESSEN, M. & SHAW, J. 2019: The impacts of non-native species on the invertebrates of Southern Ocean Islands. – Journal of Insect Conservation 23: 435–452.

SHERWOOD, D. 2025. Annotated checklist of imported non-native spider (Araneae) taxa recorded in the United Kingdom 1800–2024. – Arthropoda Selecta 34(1): 121–160.

SHERWOOD, D. & FOWLER, L. 2023: Spider research on St Helena: past, present, and future. – Wirebird 52: 2–22.

SHERWOOD, D., HENRARD, A., JOCQUÉ, R., FOWLER, L., MARUSIK, Y. M., MADDISON, W., HARVEY, M. S., HORMIGA, G., RHEIMS, C. A., PIACENTINI, L. N., PETERS, M., STEVENS, N., JOSHUA, D., SCIPIO-O'DEAN, C. J., ELLICK, G., WILKINS, V., ASHMOLE, M. & ASHMOLE, P. 2024: Annotated checklist of the spiders of Saint Helena, with new records, descriptions of unknown sexes, new and restored genera, and two new species (Araneae: Araneomorphae). – Arachnology 19(9): 1218–1291.

Natura Somogyiensis 45: 69-98. Kaposvár, 2025 https://doi.org/10.24394/NatSom.2025.45.69
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Revision of the genus *Dicolpus* Gerstaecker, 1885 with description of a new species from Africa (Neuroptera: Ascalaphidae)

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Ábrahám, L. 2025: *Revision of the genus Dicolpus Gerstaecker, 1885 with description of a new species from Africa (Neuroptera: Ascalaphidae). - Natura Somogyiensis 45: 69-98.*
Abstract: The genus *Dicolpus* Gerstaecker, 1885 is redescribed, the type species of the genus is *Dicolpus volucris* Gerstaecker, 1885. *Dicolpus bicolor* Klapálek, 1906, *Dicolpus ellenbergeri* Navás, 1912 (**n. syn.**), *Suphalacsa* [sic!] *recondita* Navás, 1914 (**n. syn.**), *Suphalomitus opalinus* Navás, 1921 (**n. syn.**) are all new junior synonyms of *Dicolpus volucris* Gerstaecker, 1885. Lectotypes of five syntypes are designated. *Dicolpus congensis* Navás, 1923 (**n. syn.**), is a new synonym of *Dicolpus eurypterus* (Gerstaecker, 1885). Morphological features of male *Dicolpus orientalis* (van der Weele, 1909a) are documented. *Dicolpus martoni* **sp. n.** is a new species from South Africa and Mozambique. Identification keys for males and females are given and distribution of species is plotted.

Keywords: Taxonomy, owlfly, new species, new synonym, distribution, Africa

Introduction

The African owlfly fauna is the most diverse in the world, with more than 200 species. In the 20th century, two excellent monographs (van der Weele 1909a, Tjeder 1992) dealt with this predominantly Afrotropical area.

Tjeder (1992) was unable to complete the revision of the African ascalaphids due to his advanced age. His taxonomic research was therefore supported by his colleagues (Tjeder & Hansson 1992). According to the traditional taxonomic division of Ascalaphidae, Tjeder (1992) revised several tribes of the subfamily Haplogleniinae (Proctolyrini, Melambrotini, Campylophlebiini, Tmesibasini, Allocormodini) and Ascalaphinae (Ululomyiini) and also described new tribes. Anderson, Hansson & Cederholm wrote an appendix for this volume in which genera not described by Tjeder (1992) were replaced by numbers and type species were designated on the basis of his research.

During the determination of Ascalaphidae collections from Africa and the identification of newly collected material (Ábrahám 2017, 2023), we found several specimens that Tjeder combined into new but unpublished genera. On this basis, the genera *Afroasca* Ábrahám, 2017 and *Bellulula* Ábrahám & Tjeder, 2023 were described.

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Encioposini Weele, 1908, is one of the tribes that TJEDER (1992) and TJEDER & HANSSON (1992) could not complete. This tribe includes the genus *Dicolpus* Gerstaecker, 1885, which was revised by checking the type specimens and describing a new species from southern Africa.

Since the publication of the monographs by TJEDER (1992), TJEDER & HANSSON (1992), the traditional phylogenetic status of ascalaphids (MCLACHLAN 1868, VAN DER WEELE 1909a, TJEDER 1992) has been radically altered by the results of genetic studies (MACHADO et al. 2019, JONES 2020). However, there is still no consensus in interpreting the results regarding the family, subfamily, and tribe of ascalaphids (BADANO et al. 2017, MICHEL et al. 2017, PROST et al. 2022). Further studies will probably be needed to clarify this in the future, as summarised by WU et al. (2022) and HEVIN et al. (2023). The present study only covered the examination and revision of the species of the genus *Dicolpus*.

Material and methods

Habitus photographs were taken using a Canon EOS 6DM2 digital camera equipped with a Canon 100mm macro lens and a Godox MS 300 flash system. Other photos were taken using an Olympus SZX9 stereomicroscope equipped with a ScopeTek DCM 800 digital camera. The photographic layers were then processed using stacking and Adobe Photoshop software.

Following traditional methods, the caudal part of the abdomen was removed, treated with 10% KOH solution and heated for 15 minutes. After cooling, it was rinsed in distilled water. For photography, the genitalia were placed in glycerine in a petri dish. Finally, each genitalia was transferred to glycerine in a microvial for preservation.

Abbreviations of the collections:

ANHRTUK – African Natural History Research Trust, Leominster, UK
AUM – Adam Mickiewicz University, Poznan, Poland
EMAU – Ernst-Moritz-Arndt Universität, Zoologisches Institut and Museum, Greifswald, Germany
MNHN – Muséum National d'Histoire Naturelle, Paris, France
MNMS – Museo Nacional de Ciencias Naturales, Madrid, Spain
MRAC – Musée Royal de l'Afrique Centrale, Tervuren, Belgium
MZLU – Biological Museum (Entomology) Lund University, Lund, Sweden
NHRS – Naturhistoriska Riksmuseet, Stockholm, Sweden
RMNH – Nationaal Natuurhistorische Museum, Leiden, Netherlands
SCMK – Rippl-Rónai Museum, Kaposvár, Hungary (former Somogy County Museum)
USMB – Upper Silesian Museum, Bytom, Poland

Abbreviations of annotation:

Comb – New combination; Dist – Distribution; List – Faunal list; Mon – Monograph; Nom – Nomenclature; Odescr – Original description; Redescr – Redescription; Syn – Synonym, Tax – Taxonomy.

Taxonomy

Genus ***Dicolpus*** Gerstaecker, 1885

Dicolpus Gerstaecker, [1885] 1884: 7 – (Odescr), van der Weele 1906 (Tax), 1909a (Mon), Navás 1912a (Mon). Oswald & Penny 1991 (Nom).

Type species: *Dicolpus volucris* Gerstaecker, 1885.

Comment: *Dicolpus* R. A. Philippi, 1887: 40, fossil. Type species: *Dicolpus obesus* R. A. Philippi, 1887 (subsequent designation). The genus *Dicolpus* (Mollusca: Gastropoda) is a homonym.

Diagnosis: The genus includes large or medium-sized species (the lenght of the fore wing: 25-45 mm). Sexual dimorphism is present. The hind margin, especially in males, is strongly depressed, forming a backward-facing lobe or a slight concavity, and have small modified setae (spines) arranged in a characteristic pattern on the anal and cubital areas. The wings are unpatterned, but the membrane of older specimens often turns brown. The cells are arranged in two rows in the apical area. The cross-veins have not become rare in the costal area. The antennae reach almost to the pterostigma. The thorax is usually dark reddish-brown and mostly unpatterned in dorsal view. The abdomen of males is slightly longer than the wings in the resting position. The male ectoproct bears a ventro-caudal processus.

Based on these features, it can easily be distinguished from morphologically similar genera. *Dicolpus* resembles the genus *Pseudohybris* van der Weele, 1909, but its fore and hind wings are narrow, and the costal and hind margins are parallel. It can be easily distinguished from similar-sized species in the genus *Disparomitus* van der Weele, 1909 by its thorax pattern in the dorsal view, the dorsal projection of the first tergite segment in males, and the ectoproct is sub-conical and slightly developed laterally. The cross-veins are noticeably less frequent in the costal area of *Procterrelabris* Lefébvre, 1842, and long hairs are found on the basal part of the antenna. The hind wing of *Bellulula* Ábrahám & Tjeder, 2023 is distinctly triangular in shape, and a characteristic dark pattern is present on the fore and hind wings. *Encyoposis* MacLachlan, 1871, and *Phalascusa* Kolbe, 1897 can be immediately distinguished from the genus *Dicolpus* due to their striking yellow colouring.

Redescription

Head: About as wide as thorax. Eye oval, divided, both equal parts. Vertex narrow with long hairs. Frons and scapus with long and dense hairs. Gena and mandible with sparse hairs. Postorbital sclerite and occiput hairless. Antenna bare, somewhat shorter than distance between base of fore wing and pterostigma. Club subglobular-shaped with flattened apex.

Thorax: Weakly hairy.

Wings: slightly triangular, apices rounded, anal angle obtuse in fore wing. Hind margin varied from straight to strongly concave depression forming lobe-like shape in males, but hind margin straight in females. Membrane transparent without pattern but discoloured in older specimens. Venation not sparse. Apical area with two rows of cells. Pterostigma about as long as wide in both wings. Hind wing considerably shorter than fore wing.

Legs: Rather short and slender. Femora about as long as tibiae. Femora and tibiae with long upstanding bristles. Tarsi 1-4 equal, tarsus 5 somewhat shorter than tarsi 1-4 com-

bined on fore and middle legs. Tarsal segment 1 as long as segments 2-3 combined in hind leg. Tibial spurs as long as tarsal segments 1-2 together in fore and middle legs and as long as tarsal segment 1 in hind leg.

Abdomen: Male abdomen longer than wings. In male tergites 1-3, with long hairs, other tergites with short, sparse setae. In female abdomen shorter than wings and dominantly with short setae.

Terminalia and genitalia: Male ectoproct with long and strong caudo-lateral processus. Sternite 9 with strong, upwardly curved medio-caudal lobe. Gonocoxites 9+11 (gonarcus-parameres) fused, arch-like; pelta not seen; gonosetae moderately long. Female ectoproct oval plate, gonocoxites 8 (ventrovalvae) long, gonocoxites 9 (distivalvae) moderate size, interdens not seen.

Etymology: The name of the genus was derived from the double lobe-like shape of the fore wing of the type male.

Distribution: The species of the genus are found to the south of the Sahara in the Afrotropical region.

Dicolpus volucris Gerstaecker, 1885

Dicolpus volucris Gerstaecker, [1885] 1884:7 – (Odescr), van der Weele 1909a (Mon), Navás 1912a (Mon), 1912b (Dist), 1919 [1921] (Dist), 1932 (Dist), Banks 1920 (Dist), Whittington 2002 (List), Prost et al. 2022 (List).
Dicolpus bicolor Klapálek, 1906:325 – (Odescr), van der Weele 1909a (Mon, Syn), Navás 1912a (Mon).
Dicolpus ellenbergeri Navás, 1912c:137 – (Odescr), Navás 1912a (Mon), **n. syn.**
Suphalacsa [sic!] *recondita* Navás, 1914a:91 – (Odescr), Navás 1916 (Rdescr), Banks 1920 (Dist), **n. syn.**
Suhpalacsa reconditus Navás, 1914a – Oswald 2025 (Nom).
Syn. *Suphalomitus opalinus* Navás, 1919 [1921]:289 – (Odescr), **n. syn.**

Type of Dicolpus volucris (Fig. 1). Type male checked, preserved in EMAU. Lectotype (**present designation**): / Lectotypus [printed] / Dicolpus / volucris Gerst. / 1884 / Bo Tjeder 1988 [red label with Tjeder's handwriting] /.

Fig. 1: Lectotype of *Dicolpus volucris* Gerstaecker, 1885 (Scale: 10 mm)

Label information: / volucris / Gerst.* / Bonjongo / April. / Buchh. [blue label with black margins and handwritten] /.

In Gerstaecker (1884) "Bonjongo (Camaroons), Buchholz".

Type condition: excellent.

Comment: In 1981, the type specimen was labelled as lectotype by Tjeder, but this designation was never published. *Dicolpus bicolor* Klapálek, 1906 was first synonymised by van der Weele (1909a). However, *Dicolpus ellenbergeri* Navás, 1912 (**n. syn.**), *Suphalacsa recondita* Navás, 1914 (**n. syn.**) and *Suphalomitus opalinus* Navás, 1919 (**n. syn.**) proved to be new synonyms of *Dicolpus volucris* Gerstaecker, 1885.

Type of Dicolpus bicolor (Fig. 2). Type checked, preserved in MNMS. Lectotype (**present designation**): / Lectotype male / Dicolpus bicolor / Klapálek, 1906 / design.: Ábrahám L. [red label with printed letters] /.

Label information: / Biafra / Cabo S. Juan / VII-1901 Escalera [white label with printed black letters and margins] // Dicolpus / bicolor [handwritten] // visto por / Klapalek [handwritten] // Dicolpus / volucris ♂ Gerst. [white label with Navás's handwritting] / Navás S.J. det. [printed] // Dicolpus / volucris (Gerst.) / det. Bo Tjeder 1981 [printed] // Dicolpus bicolor [red label handwritten] / Sintipo [printed] / Klapalek, 1906 [handwritten] // MNCN_Ent. / 264422 [white label with printed black letters and margins] /.

In Klapálek (1906) "Biafra, Cabo San Juan, VII, 1901".

Type condition: Medium, left fore wing and tip of abdomen missing.

Label information: Syntype female / Biafra / Cabo S. Juan / VII-1901 Escalera [white label with printed black letters and margins] // visto por / Klapalek [handwritten] // Dicolpus / volucris ♀ Gerst. [white label with Navás's handwritting] / Navás S.J. det.

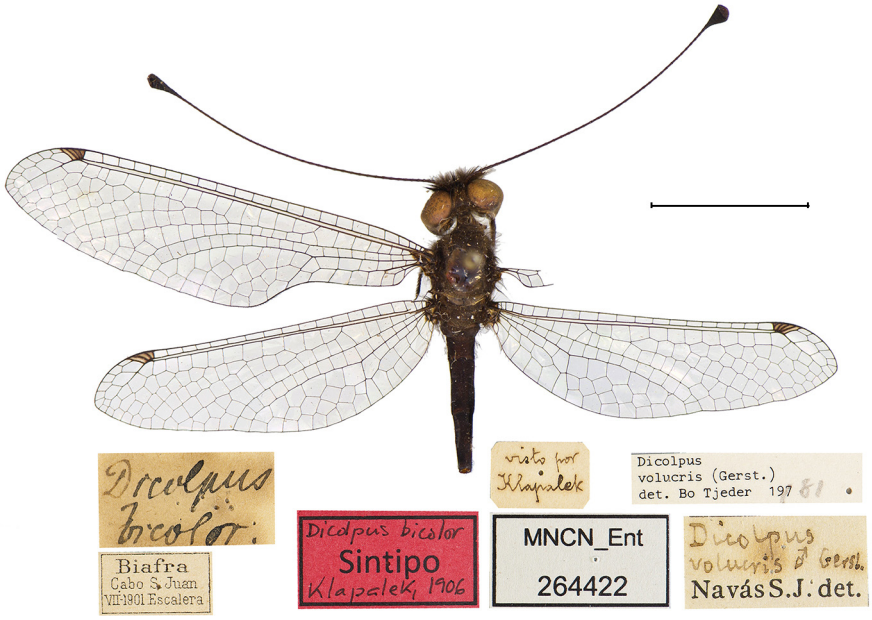

Fig. 2: Lectotype of *Dicolpus bicolor* Klapálek, 1906 (Scale: 10 mm)

[printed] // Adicolpus / eurypterus (Gerst.) / det. Bo Tjeder 1981 [printed] // Dicolpus bicolor [red label handwritten] / Sintipo [printed] / Klapalek, 1906 [handwritten] // MNCN_Ent. / 264423 [white label with printed black letters and margins] /.

Type condition: Medium, right fore wing missing.

Comment: There are two syntypes in the MNMS collection. KLAPÁLEK's (1906) description was based on the male syntype, but he did not publish a figure of the type. VAN DER WEELE (1909a) noted that the type was probably just a colour variation of *Dicolpus volucris* and considered it a new synonym based on KLAPÁLEK's (1906) paper. Furthermore, the female specimen of the syntype was assumed to be a specimen of *Dicolpus eurypterus*, but the type specimens were not examined. In 1981, the type specimens were checked by Tjeder, the lectotype was labelled but never published with this designation.

Type of Dicolpus ellenbergeri (Fig. 3). Lectotype male checked, preserved in MNHN. Lectotype (**present designation**): / Lectotypus [printed] / Dicolpus ellenbergeri / Navás [handwritten] / design. [printed] Bo Tjeder 1970 [Tjeder's handwritting] [red label] /.

Label information: / Dicolpus ♂ / volucris Gerst. [white label Tjeder's handwritting and with pointed margins] / det. Bo Tjeder 1968 [printed] // Type [white label in red letters] // Museum Paris / Congo francais / Oguuoé / N'Gomo / P. Ellenberger 1906 [blue label with printed letters] // Dicolpus / Ellenbergeri ♂ / type Nav. [white label with Navás's handwriting] /.

In NAVÁS (1912c) "Congo francés, Ogué, N'Gomo, P. Ellenberger, 1906".

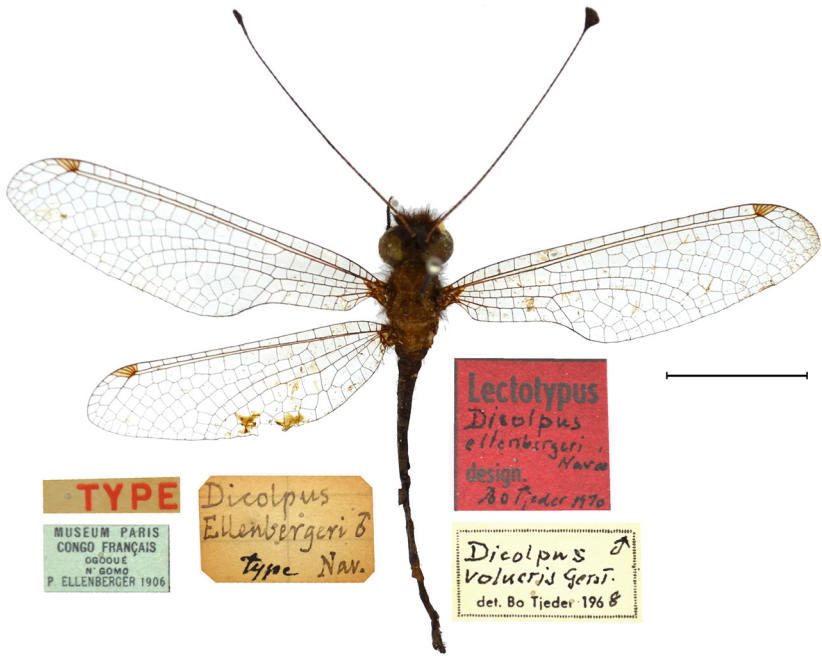

Fig. 3: Lectotype of *Dicolpus ellenbergeri* Navás, 1912 (n. syn.) (Scale: 10 mm)

Type condition: good, left hind wing missing.
Comment: Lectotype male was labelled and synonymised by Tjeder in 1970, but never published this designation.

Type of Suphalacsa recondita (Fig. 4). Lectotype female checked, preserved in MRAC. Lectotype (**present designation**): / Lectotypus ♀ [red label with printed letters] / Suphalacsa / recondita / Navás [Tjeder's handwritting] / design. [printed] Bo Tjeder 1970 [Tjeder's handwritting] /.
Label information: / Typus [reddish label with Navás's handwriting] // Type [red label with double black margins and in capital letters] // Suphalacsa ♀ / recondita Nav. [white label with Navás's handwriting] / Navás S.J. det. [printed letters] // Dicolpus / volucris Gerst. / det. Bo Tjeder 1970 [white label with printed letters] // Musée du Congo / Malela [white label with printed letters] / 1- XI – 1913 [handwritten] / R. Verschueren [printed] // R. dét / F / 226 [white label with black margin] // 00708 [white label with handwriting] /.
In Navás (1914a) "Criques de Matela, 1er février 1913 (R. Verschueren)".
Type condition: Excellent.

Comment: This species was described twice by Navás (1914a and 1916). Lectotype female was labelled and synonymized by Tjeder in 1970 but never published this designation.

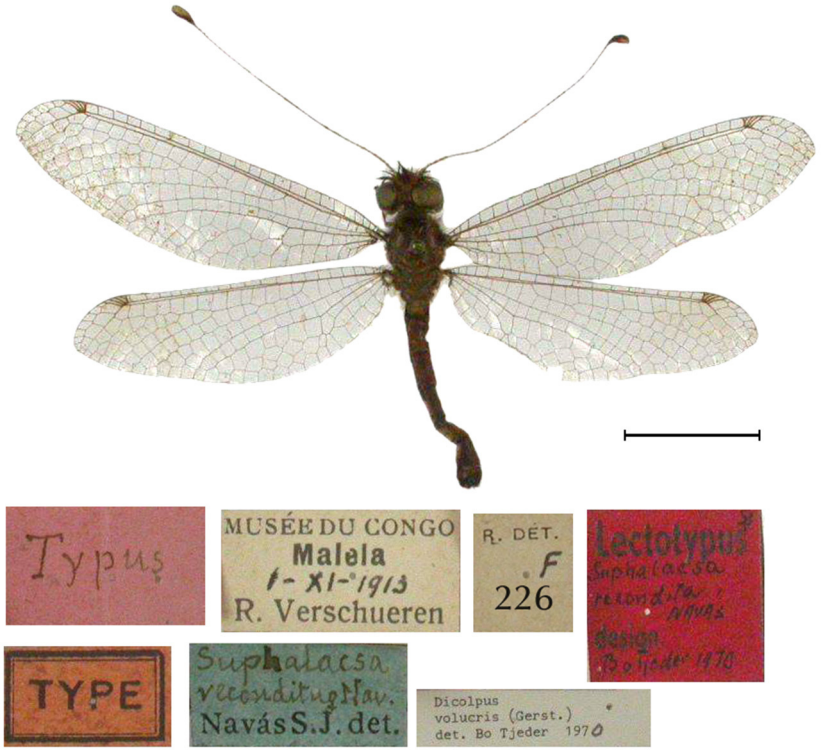

Fig. 4: Lectotype of *Suphalacsa* [sic!] *recondita* Navás, 1914 (n. syn.) (Scale: 10 mm)

Type of Suphalomitus opalinus (Fig. 5). Type female checked, preserved in MNHN. Lectotype (**present designation**): / Lectotype female / Suphalomitus opalinus / Navás, 1921 / design.: Ábrahám L. [red label with printed letters] /

Label information: / Type [white label in red letters] // Museum Paris / Oguuoé / Lambaréné / P. Ellenberger 1912 [blue label with printed letters] // Suphalomitus opalinus ♀ Nav. [blue label with Navás's handwriting] / Navás S.J. det. [printed] // Dicolpus ♀ / opalinus (Nav.) [white label with Tjeder's handwriting] / det. Bo Tjeder 1970 [printed] /.

In NAVÁS (1912c) "Congo francés, Ogué, N'Gomo, P. Ellenberger, 1906".

Type condition: good, left hind wing missing.

Comment: Lectotype male was designated and placed into a new combination by Tjeder in 1970 but never published this designation. The type was redetermined and *Suphalomitus opalinus* Navás, 1921, proved to be a new synonym of *Dicolpus volucris* Gerstaecker, 1885.

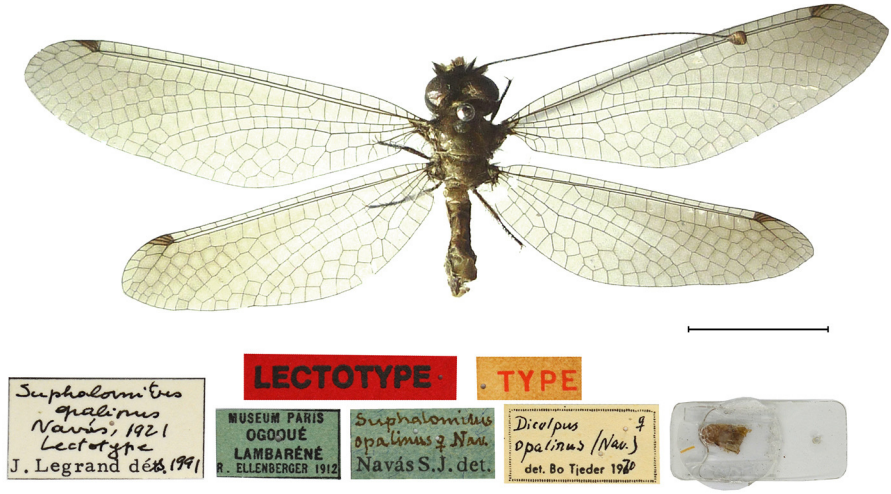

Fig. 5. Lectotype of *Suphalomitus opalinus* Navás, 1921 (n. syn.) (Scale: 10 mm)

Additional material examined:

In coll. SCMK: 2♂ CAMEROON Eastern Region, Atok, on Route N1 Haut Nyong District [4°04'19.9"N 12°48'23.2"E] 01.05.2016 Leg: Sáfián Sz., Simonics G. (NeuAsc422); 2♂ GHANA Western Region Research Centre, Bia National Park 6°34'51.25"N 3°2'21.39"W 09-03.10.2006 Leg: Szabolcs Sáfián, Kwaku Aduse-Poku; (NeuAsc402); 1♂ GHANA Volta Region Amedzofe [6°50'43.0"N 0°26'06.6"E] 22.05.2007 Leg: Sáfián Sz. (NeuAsc403); 1♀ GHANA Volta Region Biakpa-Avatime [6°50'39.6"N 0°25'44.3"E] 19-23.05.2007 Leg: Sáfián Sz. (NeuAsc404); 2♀ NeuAsc405 GHANA Ashanti Region Bobiri Butterfly Sanctuary at Kubease [6°41'12.2"N 1°20'39.9"W] 13-17.05.2007 Leg: Sáfián Sz. (NeuAsc405); 1♀ GHANA Volta Region Adjeikrom [5°48'54.9"N 0°24'17.4"W] 19-23. 05.2007 Leg: Sáfián Sz. (NeuAsc406); 2♂ GHANA Ashanti Region Bobiri Butterfly Sanctuary at Kubease [6°41'12.2"N 1°20'39.9"W] 10.10.2007. Leg: Sáfián Sz. (NeuAsc469); 2♂ GHANA Central Region Kakum Forest, Abrafo Gyaware [5°20'14.8"N 1°22'41.5"W] 19-25.03.2008 Leg: Sáfián Sz., Csontos G. (NeuAsc408); 1♂ GHANA Aburi Botanical Gardens 5°51'10.68"N 0°10'28.49"W 09.11.2008 Leg: Sáfián Sz. (NeuAsc409); 1♂ GHANA Central Region Abrafo Kakum Forest [5°20'56.3"N 1°22'53.6"W] 03.10.2008 Leg: Kúti Zs., Csontos G., Rendes N., Szabó B. F. (NeuAsc410); 1♂ GHANA Eastern Region Kyebi (Kibi) District Sagyimase forestry access road Atewa Range [6°13'41.1"N

0°31'34.9"W] 06-10.03.2008 Leg: Sáfián Sz., Csontos G., Vorgas R. (NeuAsc411); 1♂ GHANA Central Region Kakum Forest, Abrafo Gyaware [5°20'14.8"N 1°22'41.5"W] 18-28.09.2007 Leg: Sáfián Sz. (NeuAsc412); 1♀ GHANA Eastern Region Bunso Arboretum [6°16'05.7"N 0°27'40.9"W] 22-30.10.2009 Leg: Sáfián Sz., Walker A., Davey S., Onstein R. (NeuAsc413); 2♀ GHANA Eastern Region Bunso Arboretum [6°16'05.7"N 0°27'40.9"W] 12-20.10.2009 Leg: Sáfián Sz., Walker A., Davey S., Onstein R. (NeuAsc414); 1♀ GHANA WLI Volta Region, Hohoe District, Agumatsa 7°7'2.44"N 0°35'27.16"E 23.04.2009 Leg: G. Csontos (NeuAsc416); 1♀ GHANA WLI Volta Region Hohoe District Agumatsa N07°06.909' E00°35.346' 2005.04.13-17. Leg: Sáfián Sz., Csontos G., Kormos B. (NeuAsc417); 1♂ 1♀ GHANA Eastern Region Sagyimase Trail, Atewa Range [6°13'41.1"N 0°31'34.9"W] 11.10.2009 Leg: Szabolcs Sáfián (NeuAsc418); 1♂ GHANA Volta Region Amedzofe 9-14.III.2009 [6°50'43.2"N 0°25'55.2"E] Leg: Gábor Csontos, Előd Kondorosy (NeuAsc419); 9♂ 3♀ West Africa Republic of GUINEA N'Zerekoré Region Mt. Nimba Ziela 535m N7.71559° W8.35710° 12.03-09. 04.2017 Leg: Gergely Petrányi (NeuAsc424); 1♂ 1♀ West Africa Republic of GUINEA N'Zerekoré Region Mt. Nimba Ziela 535m N7.71559° W8.35710° 01-31.06.2017 Leg: Gergely Petrányi (NeuAsc425); 1♀ LIBERIA Grand Gedeh County Mt. Jideh Putu Mountains [5°40'08.9"N 8°11'34.1"W] 10-20.04.2011 Leg: Szabolcs Sáfián, Mártin Strausz (NeuAsc420); 1♂ 1♀ LIBERIA Grand Jideh County Putu Range [5°40'08.9"N 8°11'34.1"W] 19-31.12.2010 Leg: Szabolcs Sáfián, Erika Zakar (NeuAsc421); 4♂ LIBERIA East Region Kagnol Haut Nyong District UFA Concession forest 3°44'34.05"N 13°23'51.97"E 02-06.05.2016 Leg: Sáfián Sz., Simonics G. (NeuAsc423); 1♂ SIERRA LEONE, Belebu, Gola North [7°36'26.2"N 11°01'35.1"W] 17-26.03.2009 Leg: Sáfián Sz. (NeuAsc415);
In coll. ANHRTUK: 1♂ IVORY COAST 60m / Parc National d'Azagny, entrée / Sonaye (Secondary forest) / 05°14'32"N, 04°48'05"W / 25-28.xi.2021 LepiLED Light / Trap. Moretto,P., / Mulvaney,L., Takano,H. / Leg. // (ANHRTUK00355964); 1♂ IVORY COAST 1171m / Mt Tonkoui Peak, / 07°27′15.2″N, 07°38′12.5″W / 9-16.IV.2016 General / Collecting / Aristophanous, M., / Moretto, P., leg. // (ANHRTUK00189305); 4♂ GUINEA 435m / Geipa Camp, Forêt de Diecké / 7°26′7.06″N, 8°50′47.87″W / 05-14.iv.2019 Light Trap / Blended Bulb (250W) / Sáfián, Sz., Koivogui, S. Leg. // (ANHRTUK00189380, ANHRTUK00189382, ANHRTUK00189385, ANHRTUK00189386); 1♂ GUINEA 550m / Guineé Forestiére, Forêt Classée / de Ziama, Trek from Dopamai / Village (Lowland Forest) / 08°11′04″N, 09°27′39″W / 11.iii.2019, general coll. / Sáfián, S., Simonics, G., / Florczyk, K. leg. (ANHRTUK00396804); 1♂ LIBERIA 551m / Wetezu camp, Wonegizi / Nature Reserve, Lofa County / 8°4′57.11″N, 9°34′47.86″W / 19-27.iii.2019 Light Trap / Blended Bulb (250W) / Sáfián, Sz., Koivogui, S. Leg. // (ANHRTUK00189392); 1♂ SIERRA LEONE 1050m / Loma Mountains / Closed-canopy forest / N09°10′35″, W11°05′25″ / 7-10.vi.2016 Light Trap / leg. Takano, Miles & Goff // (ANHRTUK00189002); 3♂ 1♀ REPUBLIC OF CONGO 480m / Odzala-Kokoua National Park, / Imbalanga Camp / 00°45'47"N, 15°15'39"E / 05–09.iv.2024, MV light trap / Bashford,M., László,G., / Talani,M., Yaba Ngouma,S. leg. // (ANHRTUK00189610, ANHRTUK00189612, ANHRTUK00189622, ANHRTUK00189623); 3♂ REPUBLIC OF CONGO 377m / Nouabalé-Ndoki National Park, / Makao camp / 02°35'42.2"N, 17°10'08.3"E / 15–21.v.2023, MV light trap / Dérozier, V., Kirk-Spriggs, A., / László, G., Mvouende, S. leg. // (ANHRTUK00396469, ANHRTUK00396471, ANHRTUK00396472); 2♂ 3♀ REPUBLIC OF CONGO 570m / Odzala-Kokoua National Park, / Mbomo Headquarters / 00°26'13"N, 14°42'01"E / 28. ix–01.x.2024, MV light trap / Bashford, M., László, G., / Volynkin, A. leg. (ANHRTUK00414107, ANHRTUK00414114, ANHRTUK00414123, ANHRTUK00414129, ANHRTUK00414229); 1♀ REPUBLIC OF CONGO 480m / Odzala-Kokoua National Park, / Imbalanga camp / 00°45'47"N, 15°15'39"E / 04–05. ix.2024, actinic light trap / Bashford, M., László, G., / Talani, M., Volynkin, A. leg. (ANHRTUK00414235); 1♀ REPUBLIC OF CONGO 379m / Odzala-Kokoua National Park, / Lekoli River near Mboko / 00°37'04.79"N, 14°54'27.32"E / 21–23.ix.2024, LepiLED light / trap. Bashford, M., László, G., / Talani, M., Volynkin, A., / Yaba Ngouma, S. leg. (ANHRTUK00414241).

Diagnostic characters: It is the smallest of the known *Dicolpus* species with a wing length of less than 30 mm. There is a strong dimorphism between the sexes, with the male fore wing being strongly curved in the anal and cubital areas. Wing colouration can vary from light brown to completely transparent, and colouration is not a sexual characteristic (Figs. 6-8).

Distribution: Gabon (as *Dicolpus ellenbergeri* - Navás 1912c), Cameroon and Gabon (as *Suphalacsa euryptera* - van der Weele 1905, 1909b), Liberia, Togo, Nigeria (as

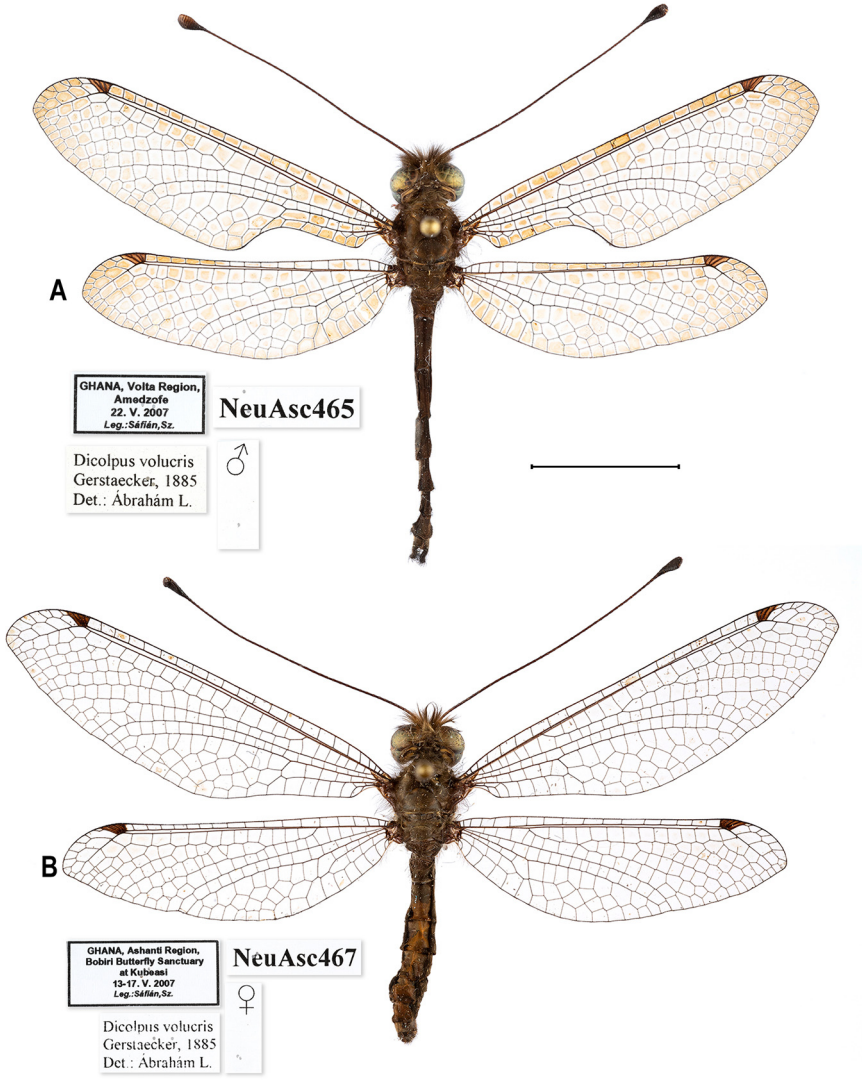

Fig. 6: *Dicolpus volucris* Gerstaecker, 1885, A – male habitus, B – female habitus (Scale: 10 mm)

Suphalomitus opalinus - NAVÁS 1921), DR Congo VAN DER WEELE 1909a, (as *Suphalacsa recognita* - NAVÁS 1914a), Togo (PROST et al. 2022), Ghana, Guinea, Republic of Congo, Sierra Leone (new records in coll. SCMK and ANHRTUK). (Fig. 21).

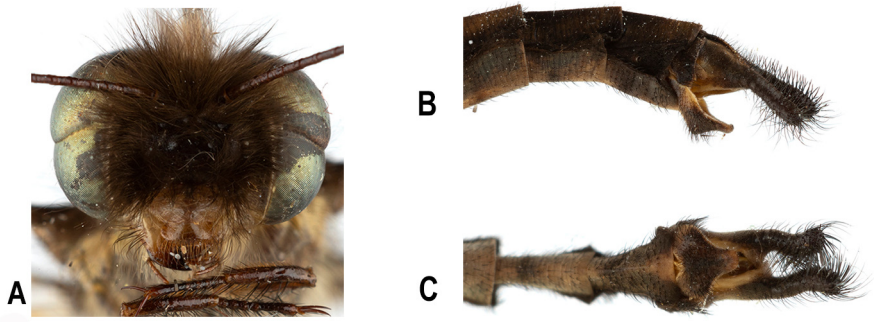

Fig. 7: *Dicolpus volucris* Gerstaecker, 1885, A – head in frontal view, B – male terminalia in lateral view, D – the same in ventral view (Scale: 10 mm)

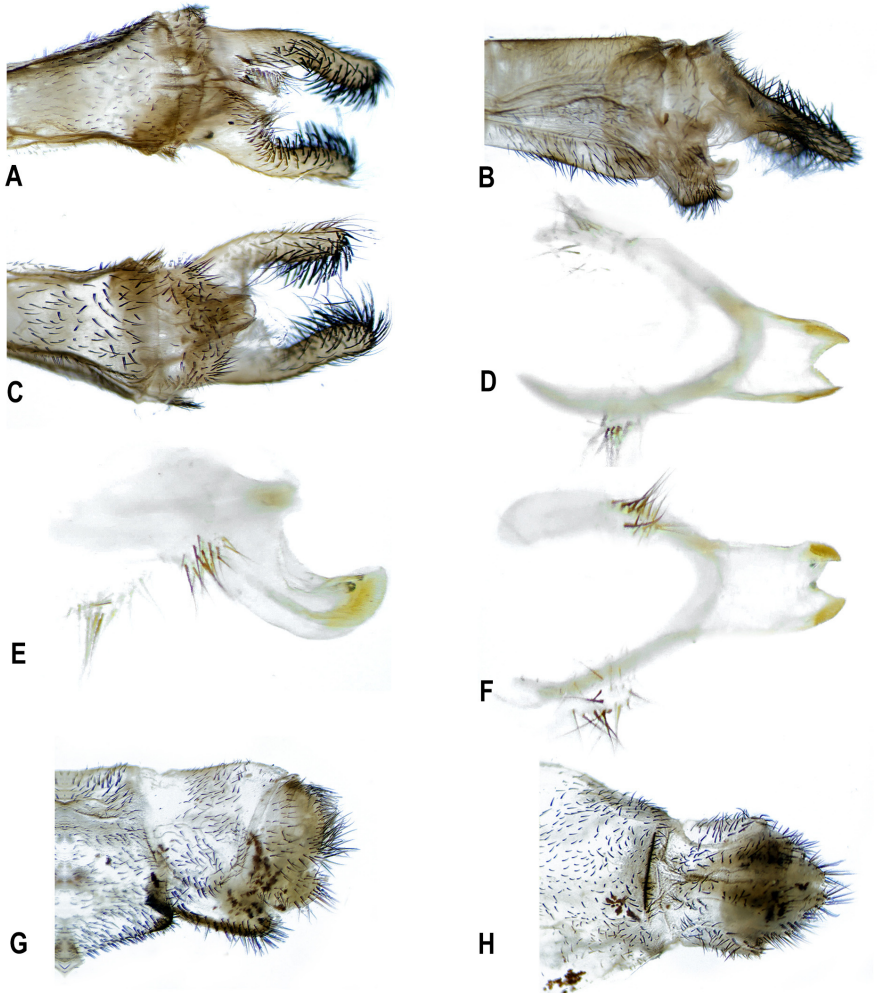

Fig. 8: *Dicolpus volucris* Gerstaecker, 1885, A – male terminalia in dorsal view, B – the same in lateral view, C – the same in ventral view, D – male genitalia in dorsal view, E – the same in lateral view, F – the same in ventral view, G – female terminalia in lateral view, H – the same in ventral view

Dicolpus eurypterus (Gerstaecker, 1885)

Suhpalacsa eurypterus Gerstaecker, 1885:6 – (Odescr).
Suphalasca [sic!] *euryptera* Gerstaecker, 1885 – van der Weele 1905-1907 (Dist).
Dicolpus eurypterus (Gerstaecker, 1885) – van der Weele 1909a (Mon, Comb), Navás 1912a (Mon), 1919 (Dist), Prost et al. 2022 (Dist), Aistleitner & Ábrahám 2023 (Dist).
Dicolpus congensis (sic!) Navás, 1923:11 – (Odescr), Michel 2019 (Tax), **n. syn**.

Type of Suhpalacsa eurypterus (Fig. 9). Syntype female checked, preserved in EMAU.

Lectotype (**present designation**): / Lectotype female / Suhpalacsa eurypterus Gerstaecker, 1885 / design.: Ábrahám L. [red label with printed letters] /

Label information: / Holotypus ♀ [printed] / Suphalacsa [sic!] euryptera [handwritten] / Gerstaecker [red label] // eurypterus / Gerst.* / Victoria / 26/9. [18]73. / Buchh. [blue label with black margins and handwritten] // Zool. Mus. / Griefswald / II 27502 /.

In GERSTAECKER (1884) "Victoria (Camaroons), Buchholz".

Type condition: excellent, tip of abdomen glued.

Fig. 9: Lectotype of *Suhpalacsa eurypterus* Gerstaecker, 1885 (Scale: 10 mm)

Type of Dicolpus congoensis (Fig. 10). Lectotype male checked, preserved in MNHN.

Lectotype (**present designation**): / Lectotype [red label in printed capital letters] // Dicolpus congensis (sic!)/ Navás, 1923 / Lectotype ♂ [white label with Legrand's handwriting] / J. Legrand dét. 1991 [printed] /.

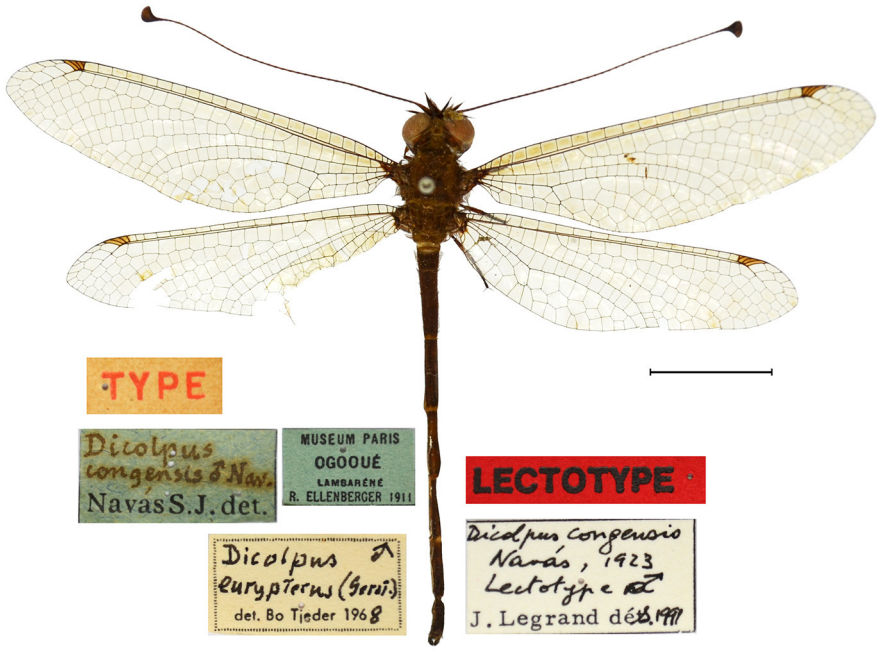

Fig. 10: Lectotype of *Dicolpus congensis* Navás, 1923 (Scale: 10 mm)

Label information: / Type [white label in red letters] // Museum Paris / Oguuoé / Lambaréné / R. Ellenberger 1911 [blue label in printed letters] // Dicolpus / congensis (sic!) ♂ Nav. [white label with Navás's handwriting] / Navás S.J. det. [printed] // Dicolpus ♂ / eurypterus (Gerst.) [white label with Tjeder's handwritting] / det. Bo Tjeder 1968 [printed] /.

In Navás (1923) "Congo gallicus: Ogooué, Lambaréné, K. [sic!] Ellenberger, 1911"

Type condition: Good, the right hind wing incomplete.

Comment: In 1968, Tjeder correctly determined the male type specimen as *Dicolpus eurypterus* (Gerst.) in the collection of MNHN, this lectotype was labelled by Legrand in 1991; the designation has never been published. *Dicolpus congoensis* Navás, 1923 (**n. syn.**) is a new junior synonym of *Dicolpus eurypterus* (Gerstaecker, 1885).

Additional material examined:

In coll. SCMK: 1♂ CAMEROON Mamfe region [5°43'37.9"N 9°20'00.2"E] 12.1976 (NeuAsc383); 3♂ 1♀ GHANA Ashanti Region Bobiri Butterfly Sanctuary at Kubease 6°41'12.2"N 1°20'39.9"W 10.10.2007. Leg: Sáfián Sz. (NeuAsc374); 1♂ 2♀ GHANA Ashanti Region Bobiri Butterfly Sanctuary at Kubease 6°41'12.2"N 1°20'39.9"W 20-24.09.2007. Leg: Sáfián Sz. (NeuAsc375); 1♀ GHANA Ashanti Region Bobiri Butterfly Sanctuary at Kubease [6°41'12.2"N 1°20'39.9"W] 13-17.05.2007 Leg: Sáfián Sz. (NeuAsc376); 2♀ GHANA Ashanti Region Bobiri Butterfly Sanctuary at Kubease [6°41'12.2"N 1°20'39.9"W] 20-24.09.2006 Leg: Sáfián Sz., Aduse-Poku, K. (NeuAsc377); 1♀ GHANA Ashanti Region Bobiri Butterfly Sanctuary at Kubease [6°41'12.2"N 1°20'39.9"W] 12-19.11.2006 Leg: Sáfián Sz., Larsen T. B. (NeuAsc378); 1♂ GHANA Brong-Ahafo Region Boabeng-Fiema Monkey Sanctuary [7°42'31.9"N 1°41'42.2"W] 12-15.10.2006 Leg: Sáfián Sz., Aduse-Poku, K. (NeuAsc379); 2♂ 3♀ GHANA Central Region Kakum Guesthouse, Kakum National Park

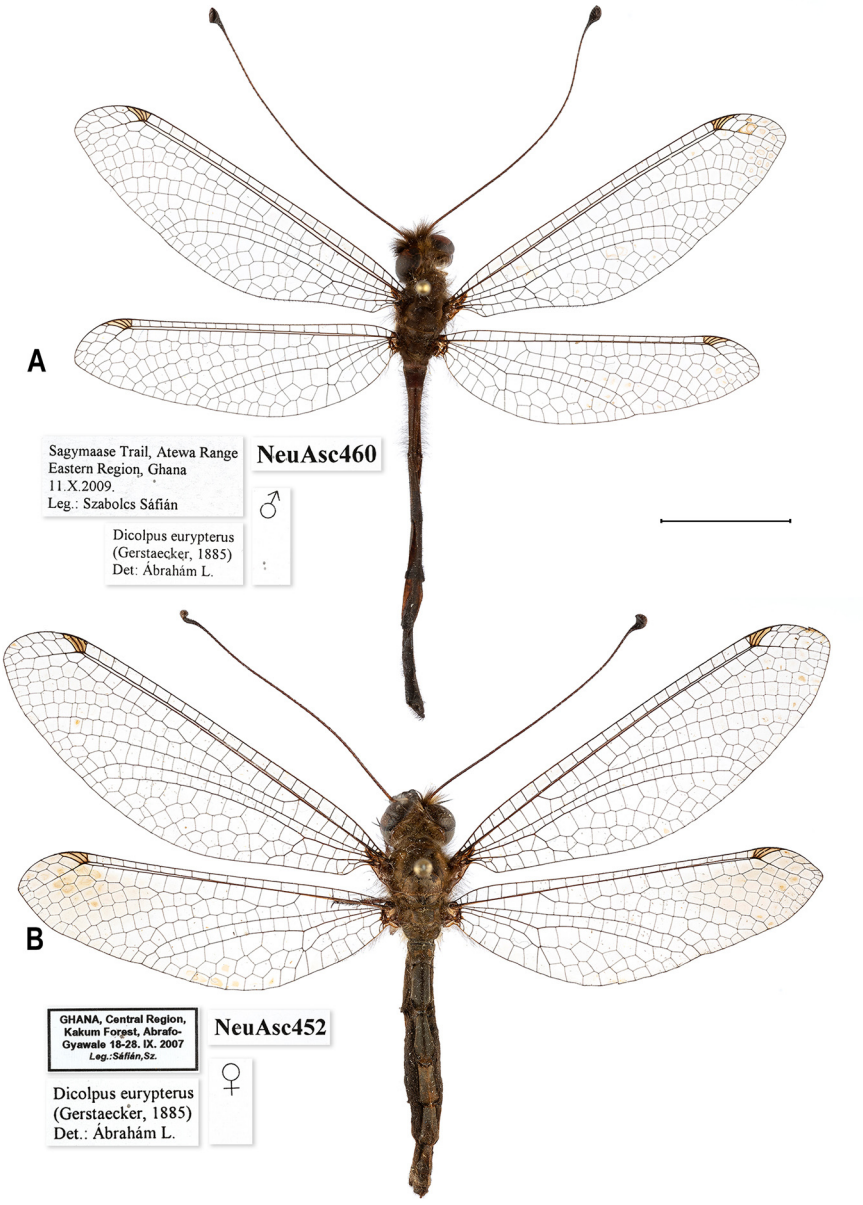

Fig. 11: *Dicolpus eurypterus* (Gerstaecker, 1885), A – male habitus, B – female habitus (Scale: 10 mm)

[5°20'39.2"N 1°22'39.2"W] 22-26.10.2011 Leg: Sáfián Sz., Pühringer F. & Pöll N. (NeuAsc380); 1♀ GHANA Central Region Kakum Forest, Abrafo Gyawale [5°20'14.8"N 1°22'41.5"W] 18-28.09.2007 Leg: Sáfián Sz. (NeuAsc381); 2♂ 1♀ GHANA Aburi Botanical Gardens 5°51'10.68"N 0°10'28.49"W 09.11.2008 Leg: Sáfián Sz. (NeuAsc384); 1♀ GHANA Central Region Abrafo Kakum Forest 5°21'26.28"N 1°22'16.61"W 17-25.02.2007. Leg: Sáfián Sz. (NeuAsc385); 1♀ GHANA Eastern Region Bunso Arboretum 6°16'2.66"N

0°27'37.40"W 10-17.09.2010 Leg: Szabolcs Sáfián (NeuAsc386); 1♂ GHANA Western Region Ankasa National Park Nkwanta Camp 5°16'52.24"N 2°38'25.40"W 6-10.10.2009 Leg: Sáfián Sz. (NeuAsc387); 1♀ GHANA Central Region Abrafo Kakum Forest [5°21'26.3"N 1°22'16.6"W] 17-25.02.2002. Leg: Sáfián Sz., Csontos G., Kormos B. (NeuAsc388); 1♂ GHANA Eastern Region Sagyimase Trail, Atewa Range [6°13'41.1"N 0°31'34.9"W] 11.10.2009 Leg: Szabolcs Sáfián (NeuAsc389); 2♂ GHANA Western Region Research Centre, Bia National Park 6°34'51.25"N 3°2'21.39"W 26.09-03.10.2006 Leg: Szabolcs Sáfián, Kwaku Aduse-Poku (NeuAsc390); 6♂ West Africa Republic of GUINEA N'Zerekoré Region Mt. Nimba Ziela 535m N7.71559° W8.35710° 03.12-04.09.2017. Leg: Gergely Petrányi (NeuAsc393); 1♂ West Africa Republic of GUINEA N'Zerekoré Region Mt. Nimba Ziela 535m N7.71559° W8.35710° 03.12-04.09.2017. Leg: Gergely Petrányi (NeuAsc394); 2♀ West Africa Republic of GUINEA N'Zerekoré Region Mt. Nimba Ziela 535m N7.71559° W8.35710° 18.10-03.11.2017. Leg: Gergely Petrányi (NeuAsc396); 1♂ West Africa Republic of MALI Koulikoro Region Kéniéroba (Niger Riverbank) 330m N12.11726° W008.31399° 02.27-03.07.2017. Leg: Gergely Petrányi (NeuAsc395); 1♂ NIGERIA Iita Forest, Ibadan 7°29'46,94"N 3°53'12,43"W 22-31.09.2010 Leg: Szabolcs Sáfián & Ágnes Horváth (NeuAsc392); 2♀ NIGERIA Ibadan Iita Forest [7°29'41.2"N 3°53'28.2"E] 21-30.09.2010 Leg: Szabolcs Sáfián & Ágnes Horváth (NeuAsc382); 1♂ NIGERIA Iita forest, Ibadan 7°29'46.94"N 3°53'12.43"W 22-31.09.2010. g: Szabolcs Sáfián & Ágnes Horváth (NeuAsc463); 1♂ SIERRA LEONE Malema County Mogbaima on Moro River 7°32'21.61"N 10°52'3.22"W 18-22.01.2011 Leg: Szabolcs Sáfián (NeuAsc391).

In coll. ANHRTUK: 1♂ IVORY COAST 40m / Banco National Park / 05°23′3.8″N, 04°03′11.2″W / 29.xi-5.xii.2019 LepiLEDLight / Trap. / Aristophanous, M., / Dérozier, V., / Moretto, P., / Outtara, S. Leg. // (ANHRTUK00189045); 1♂ 1♀ IVORY COAST 174m / Taï National Park, / Taï Research Station (SRET) / 05°50′00″N, 07°20′32.0″W / 25.iii-17.iv.2017 MV Light Trap / Aristophanous, A., / Aristophanous, M., / Geiser, M., Moretto, P. Leg. // (ANHRTUK00189151, ANHRTUK00189407); 6♂ 3♀ GUINEA 771m / Ditinn, Chute de Ditinn (Guinea / Savannah and Gallery Forest) / 10°49′08″N, 12°11′30″W / 18-25.ix.2019 General

Fig. 12: *Dicolpus eurypterus* (Gerstaecker, 1885), A – head in frontal view, B – head, thorax and legs in lateral view, C – male tergal segment 2-3 with long hairs in dorsal view, D – male terminalia in ventral view, E – the same in lateral view

Coll. / Geiser, M., Leno, M., / Koivagui, S., Miles, W., / Mulvaney, L., Safian, Sz. Leg. (ANHRTUK00189535, ANHRTUK00189065, ANHRTUK00189066, ANHRTUK00189068, ANHRTUK00189069, ANHRTUK00189071, ANHRTUK00189072, ANHRTUK00189073, ANHRTUK00189086; 3♂ GUINEA 435m / Geipa Camp, Forêt de Diecké / 7°26′7.06″N, 8°50′47.87″W / 05-14.iv.2019 Light Trap / Blended Bulb (250W) / Sáfián, Sz., Koivogui, S. Leg. // (ANHRTUK00189377, ANHRTUK00189381, ANHRTUK00189388); 1♀ LIBERIA 530m / Foya Proposed Protected Area / Lofa County. 10-19.xi.2017 / 7°56′36″N, 10°16′36″W / MV Light Trap (125w) / Aristophanous, M., Sáfián, / Sz., Simonics, G. & Smith, L. Leg. (ANHRTUK00189037); 1♀ REPUBLIC OF CONGO 349m / Likouala Prov., Nouabalé-Ndoki / National Park, / Makao forest / 02°36'42.5"N, 17°09'23.8"E / 23–29.ix.2022, General Coll. / Dérozier, V., Fouka, B, / Kirk-Spriggs, A., Takano, H. leg. (ANHRTUK00189598); 1♂ 2♀ REPUBLIC OF CONGO 372m / Sangha Prov., Nouabalé-Ndoki / National Park, / Mbeli camp / (Gilbertiodendron forest) / 02°14'23.8"N, 16°23'52.1"E / 1-10.x.2022 MV Light Trap / Dérozier, V., Fouka, B, / Kirk-Spriggs, A., Takano, H. leg. (ANHRTUK00189601, ANHRTUK00189604, ANHRTUK00189599); 1♂ 1♀ REPUBLIC OF CONGO 377m / Nouabalé-Ndoki

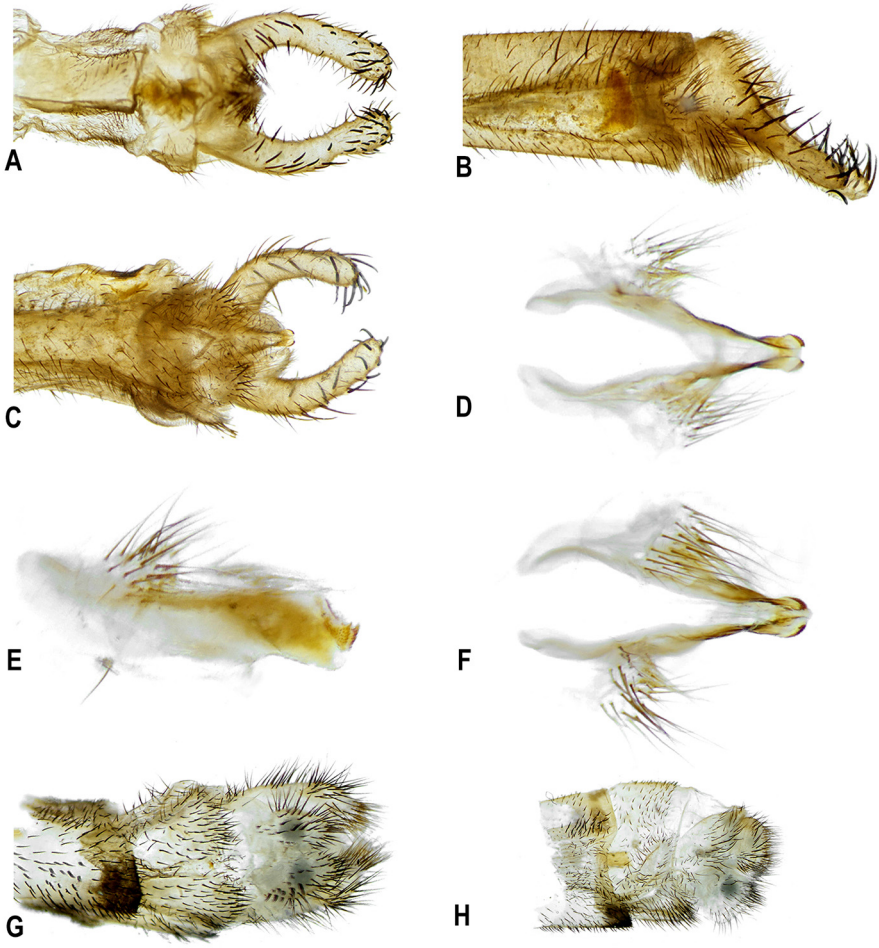

Fig. 13: *Dicolpus eurypterus* (Gerstaecker, 1885), A – male terminalia in dorsal view, B – the same in lateral view, C – the same in ventral view, D – male genitalia in dorsal view, E – the same in lateral view, F – the same in ventral view, G – female terminalia in ventral view, E – the same in lateral view

National Park, / Makao camp / 02°35'42.2"N, 17°10'08.3"E / 15–21.v.2023, MV light trap / Dérozier, V., Kirk-Spriggs, A., / László, G., Mvouende, S. leg. // (ANHRTUK00396467, ANHRTUK00396470); 2♀ ZAMBIA 1400m / Hillwood, Ikelenge / (Miombo / Riverine forest mosaic) / 11°16'02"S, 24°18'59"E / 23-30.xi.2019 LepiLED Light / Trap. Bashford, M., Miles, W., / Mulvaney, L., Smith, R. Leg. // (ANHRTUK00189445, ANHRTUK00189366)

Comment: A new genus was designated by Tjeder (1992: 165) as "*N. gen. type species: Suhpalacsa eurypterus Gerstaecker, 1884*", but due to his advanced age, the description and revision of the genus were delayed. The reference to the new genus name was not found in Tjeder (1992) and Tjeder & Hansson (1992), but during the checking of type specimens in collection of MNMS a female specimen of syntypes of *Dicolpus bicolor* Klapalek, 1906 was labelled and determined by Tjeder in 1981 as "*Adicolpus eurypterus (Gerst.)*". This name has never been published later.

D. eurypterus is the largest *Dicolpus* species; the length of the wing is always longer than 30 mm. Long hairs cover tergites 2-3 of males. Females are usually larger than males (Figs. 11-13). Based on the shape of the hind margin of the male fore wing and the spines on the veins, it can be easily distinguished from *Dicolpus orientalis* van der Weele, 1909, and *D. martoni* **sp. n.** (Figs. 19-20).

Distribution: Cameroon (Gerstaecker 1884, van der Weele 1905, DR Congo (Navás 1923), Benin (Prost 2022), Ghana, Guinea, Mali, Nigeria, Sierra Leone (new records, in coll. SCMK and ANHRTUK). (Fig. 22).

Dicolpus orientalis van der Weele, 1909

Dicolpus orientalis van der Weele, 1909: 266 – (Odescr), van der Weele, 1910 (Rdescr), Navás 1912a (Mon).

Fig. 14: Lectotype of *Dicolpus orientalis* van der Weele, 1909 (Scale: 10 mm)

Type of Dicolpus orientalis (Fig. 14). Female syntypes checked, preserved in RMNH. Lectotype (**present designation**): / Lectotype female / Dicolpus orientalis / van der Weele 1909 / design.: Ábrahám L. [red label with printed letters] /.

Label information: / Mombo / Sjöstedt [white label in printed letters] // Dicolpus ♀ / orientalis / Type vdWeele [white label with Weele's handwritting] /.

In VAN DER WEELE (1909a) "3♀♀ aus Usambara, Juni 1906 von Prof. Y. Sjöstedt gesammelt".

Type condition: Excellent.

Additional material examined:
In coll. SCMK: 1♂ TANZANIA Usambara Mts. Amani 16-17. 12. 1997 Leg. Werner & Lizler.
In coll. ANHRTUK: 1♂ TANZANIA 850m / Mizimu, Mwanihana / Udzungwa Mountains N.P. /07°48'21.8"S, 36°51'09.5"E / 9-11.iv.2011 Light Trap / leg. Smith, R. & Takano, H. (ANHRTUK00189452).

Comment: VAN DER WEELE (1910) initially intended to publish the description of the species in English. Nevertheless, the volume containing the description of the species was published after issuing his monograph in German (VAN WEELE 1909a). In both publications, he described the species as "n. sp.". Consequently, the subsequent publication (VAN DER WEELE 1910) can only be regarded as a redescription (OSWALD 2025).

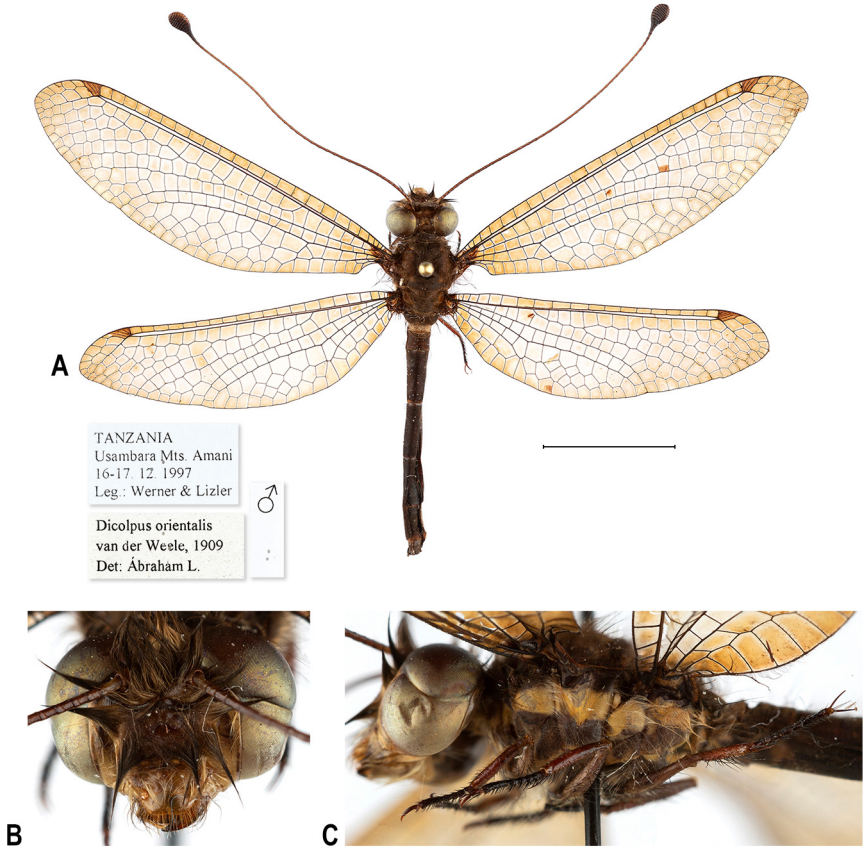

Fig. 15: *Dicolpus orientalis* van der Weele, 1909, A – Male habitus (Scale: 10 mm), B – head in frontal view, C – head, thorax and legs in lateral view

According to the literature and the checked collections, it is a very rare species since the only type specimens have been documented (van der Weele 1909a). For the purposes of the present study, a male specimen was collected at the type locality.

The differential characteristics of the males are given on the basis of the additional material. The species is distinguished by the thoracic pattern in the dorsal view, the presence of small yellow spots on the lateral corner of the prescutum, the lateral side of the scutellum, and the metascutellum. The wings are often tinted. The hind margin of the fore wing, extending beyond the anal area, is straight, and the ambient vein has not got any spine-like microtrichias (Fig. 19). The ventro-caudal processus of the ectoproct is characterised by its robust structure, moderate length, and inward and upward curvature (Figs. 15-16).

Distribution: So far, this species is known only from Tanzania (van der Weele 1909a) (Fig. 21).

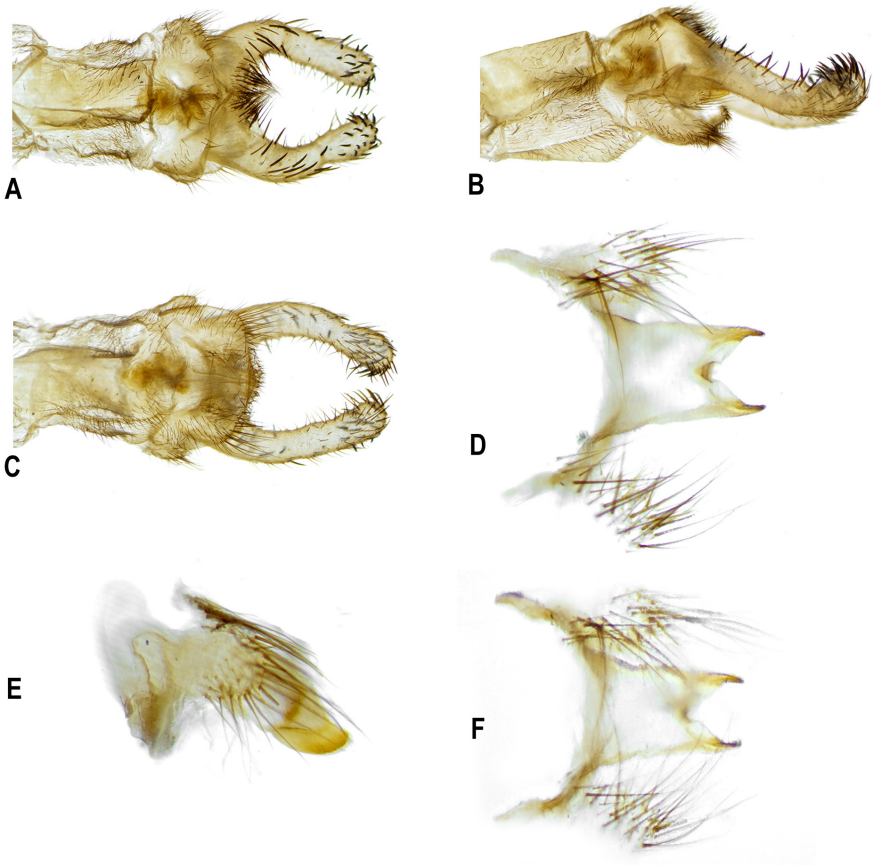

Fig. 16: *Dicolpus orientalis* van der Weele, 1909, male terminalia A – in dorsal view, B – in lateral view, C – in ventral view, D – male genitalia in dorsal view, E – in lateral view, F – in ventral view

***Dicolpus martoni* sp. n.** (Figs. 17-18)

zoobank: LSIDurn:lsid:zoobank.org:pub:67FF5F4B-528A-4522-A7C1-B1A1884B4D9B

Material examined: Holotype ♂: / RSA Free State 20km S / Harrismith, Strekfontein Dam N. R. / 28°23'59"S, 29°23'59"E / 1750m 12.01. 2011 / Sovhivko leg. [white label in printed letters] /.
Paratypes 1♂: / MOZAMBIQUE, Cabo Delgado / Prov. Quirimbas NP. / Tarabitu Reserve / (-12°48.974S, 039°41.725E) / 336m 19-25.03.2018. / Marek Bakowski leg.; 1♂ MOZAMBIQUE, Cabo Delgado, / Prov. Ancuabe district: Quarimbas National Park, / Tarabito Hills, 336 m asl. -12.816233, 39.695417,/ 04-08. 04. 2022 Marek Bakowski leg.

Deposited: Holotype ♂ deposited in the Ripp-Rónai Museum, Kaposvár, Hungary; 1♂ paratype in the Upper Silesian Museum, Bytom, Poland. and 1♂: paratype in the entomological colletion at Adam Mickiewicz University, Poznan, Poland.

Diagnosis: The new species resembles *Dicolpus eurypterus* (Gerstaecker, 1885) and *Dicolpus orientalis* van der Weele, 1909. The male specimens of the new species can be easily recognized by the concave hind margin and pattern of spine-like microtrichia in the anal and cubital margins of the fore wing (Fig. 19., see keys for male species), furthermore the stout and curved caudo-ventral processus of the ectoproct (Fig. 18A–C). It is only known from SE Africa.

Measurements: (n=3♂): Antenna 22-23 mm, Fore wing: 30-31 mm long, 9 mm wide, Hind wing: 26-27 mm long, 7.5 mm wide.

Head (Fig: 17B–C): Vertex brown with long, dense, soft and pale hairs. Frons dark brown with long, dense, soft and brown hairs. Long, dense, soft and pale tufts of hairs intermingled with brown ones on anterior tentorial pits. Gena shining black next to frons but dominantly shining yellow next to eye, with pale hairs. Clypeus yellow with pale hairs on lateral margin. Labrum yellow with sparse shiny brown and ochreous hairs curved to mouthpart. Base of mandible yellow with pale hairs laterally and with dark brown apices and inner margin. Maxillary and labial palpi yellow, basal parts with long pale hairs, distal parts dark with rigid shiny black setae at the joins of last two segments. Occiput and postorbital sclerite yellow, hairless. Eye rather large, divided with a suture-like inflection transversally, lower and upper parts approximately same sizes. Antennae almost reach to pterostigma of fore wing. Scape and pedicel yellow with long, dense, soft and pale hairs intermingled with black ones. Flagellar segments subequal, yellowish-brown, asetose. Club large, subglobular-shaped with flattened apex, brown and with short black setae.

Thorax (Fig: 17A–C): Pronotum narrow with both flexed upwards and brown margins, and yellowish-brown pattern medially. Pubescence on margins moderately long, soft and pale. Lateral projection with long, soft and brown hairs. Notum yellowish to brown with moderately long, sparse and brown hairs. Sides brown with wide, longitudinal and yellow band right below wings covering sparse, white hairs on upper part, and sparse, brown hairs on lower part.

Wings (Fig: 17A and D): Fore wing subtriangular-shaped. Anal area rounded concave beyond anal angle. Membrane transparent. Venation yellow to brown. Microtrichia spine-like on cross-veins next to ambient vein in anal and cubital area. Pterostigma rhomboid-shaped, slightly boarder than deep, opaque and yellow with 4-5 brown cross-veins. Rs with 5-6 branches. Apical area rounded, beyond vein Sc+R with two rows of cells. 7-8 radial cross-veins in front of origin of Rs in fore wing.

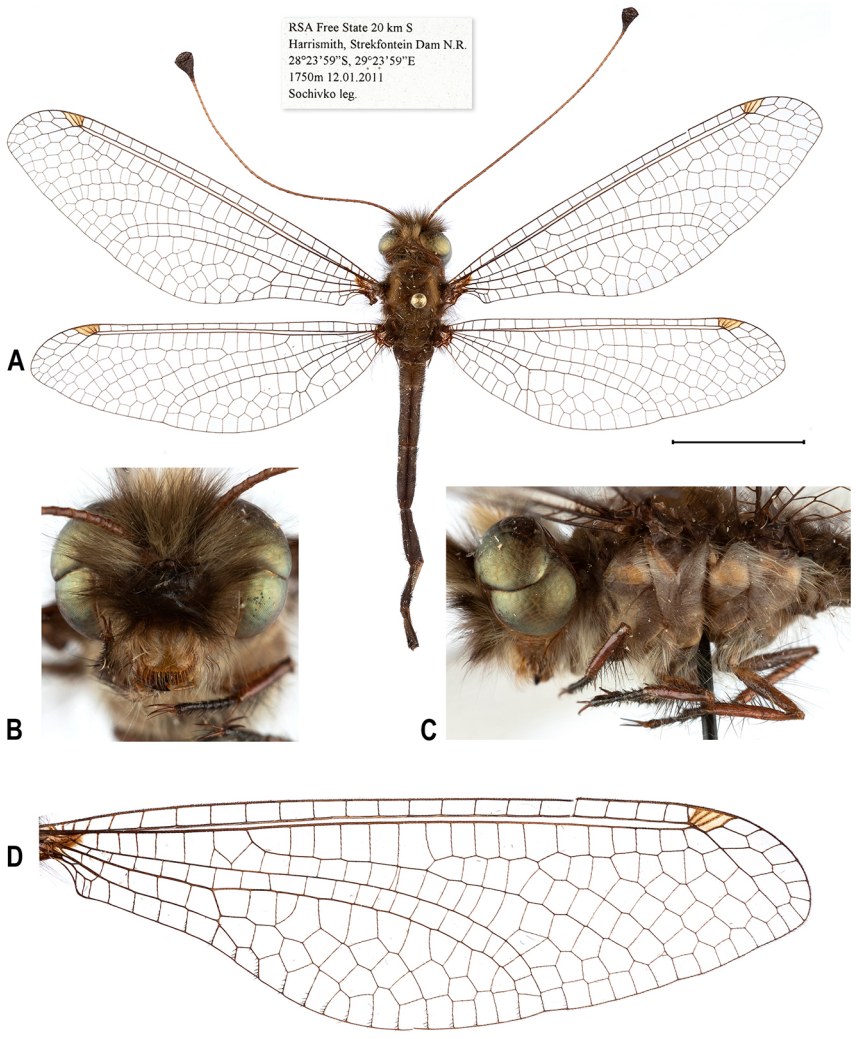

Fig. 17: *Dicolpus martoni* sp. n., A – male habitus (Scale: 10 mm), B – head in frontal view, C – head, thorax and legs in lateral view, D – Forewing in dorsal view (magnified)

Hind wing shape and colourization like fore wing. 4 radial cross-veins in front of origin of Rs. Rs with 5 branches. Apical area rounded beyond vein Sc+R with two rows of cells.

Legs (Fig: 17C): slim, moderately long. Coxae brown with dense white hairs; femora yellow to brown with sparse, long and dark brown hairs. Femora as long as tibiae. Tibiae reddish brown with long, sparse, scattered, stiff and black bristles. Tarsal segment 1-4 equal on fore and middle legs, segment 5 slightly smaller than tarsal segments 1-4 combined. Tarsal segment 1 considerably longer than segment 2-4 together and about half length of tarsal segment 5 on hind leg. Tarsi brown to black with stiff, black bristles. Tibial spurs reddish brown, subequal, as long as segment 1 on fore and middle legs, and somewhat shorter than segment 1 on hind leg. Claws reddish brown.

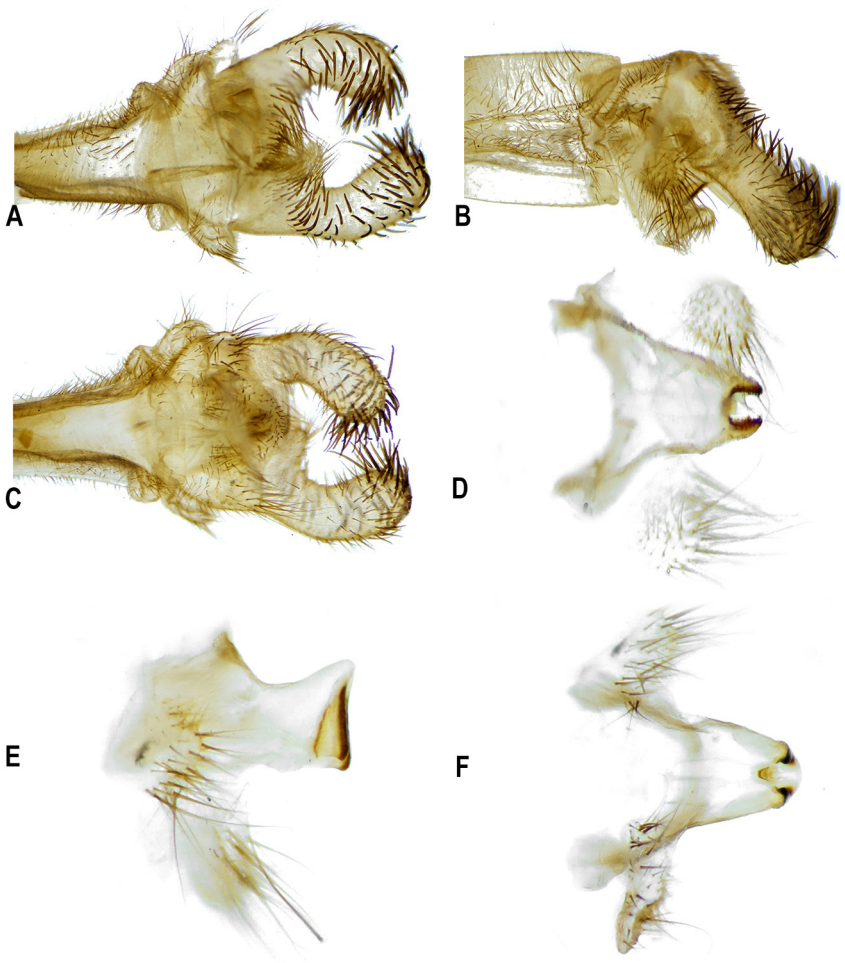

Fig. 18: *Dicolpus martoni* sp. n., A – male terminalia in dorsal view, B – the same in lateral view, C – the same in ventral view, D – male genitalia in dorsal view, E – in lateral view, F – in ventral view

Abdomen: slightly longer than wings. Tergite 1 divided, brown with long, soft and brown hairs. Tergite 2 as long as wide and brown, covered with moderately long, stiff and black setae. Other tergites elongated and brown with same setae as those of tergite 2. Sternite 2 yellowish brown with long, sparse and pale hairs. Sternite 3 brown with short, stiff and black setae laterally.

Terminalia and genitalia (Fig. 18A–F): Male ectoproct brown with stout, curved, inwardly caudo-ventral processus covered with stiff and black bristles, caudal part slightly thickened. Sternite 9 pentagonal-shaped and with three caudal lobes in ventral view. Central lobe not remarkably prominent. Lateral lobes with long, stiff and black bristles. Gonocoxites 9+11 (gonarcus and parameres) as in Fig. 18D–F in dorsal, lateral, and ventral views.

Female. Unknown.

Etymology: The new species name, *martoni* is derived from the Hungarian given name: Márton, (Martinus in Latin), who is a relative of the author.

Distribution: The new species is known only from South Africa and Mozambique (Fig. 22).

Keys for the species

Males

1. Hind margin in fore wing concave beyond anal angle.…..……..**2**
– Hind margin in fore wing straight beyond anal angle, ambient vein without any conspicuous spine-like microtrichia (Fig. 19E–F).....***D. orientalis***
2. Hind margin in fore wing strongly concave, ambient vein only with dense microtrichia (Fig. 19A–B)……..…..……..…….....***D. volucris***
– Hind margin in fore wing only slightly concave……...……**3**
3. Hind margin in fore wing with conspicuous spine-like microtrichia on ambient vein (Fig. 19C–D)…….…….....***D. eurypterus***
– Hind margin in fore wing asetoae on ambient vein but spine-like microtrichia on veins run to ambient vein in anal and cubital areas (Fig. 19G–H).….....***D. martoni* sp. n.**

Females (excluding unknown female of *D. martoni* sp. n.)

1. Length of fore wing longer than 30 mm…..…..…….…**2**
– Length of fore wing always less than 30 mm, hind margin in fore wing straight beyond anal angle (Fig. 20A–B)…...…….……...……..***D. volucris***
2. Hind margin straight beyond anal angle (Fig. 20C–D)……...……***D. eurypterus***
– Hind margin remarkably concave beyond anal angle (Fig. 20E–F).....***D. orientalis***

Excluding species from Dicolpus

Three further species were listed in the genus *Dicolpus* (s.l. van der Weele 1909a) (*Dicolpus primitivus* van der Weele, 1909, *Dicolpus sjostedti* (van der Weele, 1905) *Dicolpus latreillei* Navás, 1911) but according to the previous (Ábrahám 2023) and the current revision, these species do not belong to the genus *Dicolpus*.

Discussion

The first comprehensive summary of *Dicolpus* species was published by van der Weele (1909a), Tjeder (1992) also dealt with revising the genus, but due to his old age and weak eyes, he could not complete that and never published his partial results. However, he left some important notes in the examined and labelled collections. Tjeder (1992) had previously included three new, undescribed genera in the tribe Encyopini (van der Weele, 1909a) (N. gen. 1-3), naming their type species. During the revision of the type specimens of the collections, we found Tjeder's notes, which revealed how he would have modified the classification of van der Weele (1909a).

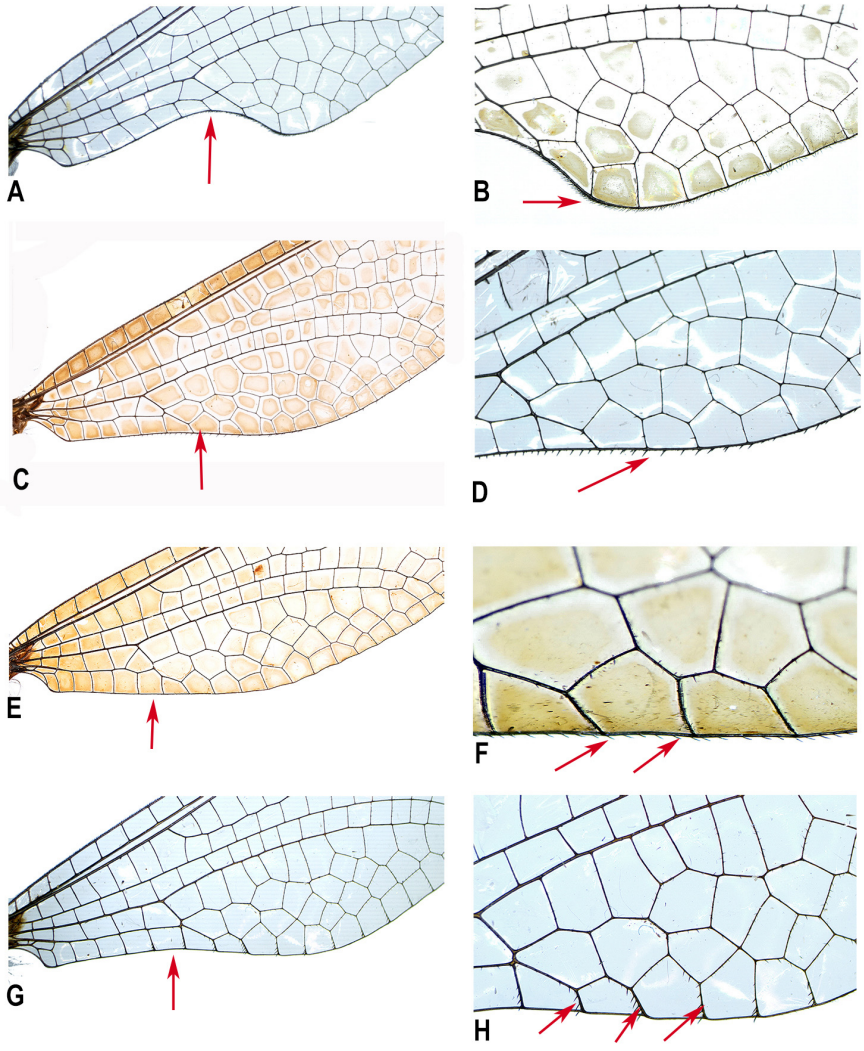

Fig. 19. A – Hind margin of male forewing, A – *Dicolpus volucris* Gerstaecker, 1885, B – the same, magnified, C – *Dicolpus eurypterus* (Gerstaecker, 1885), D – the same, magnified, E – *Dicolpus orientalis* van der Weele, 1909, F – the same, magnified, G – *Dicolpus martoni* sp. n., H – the same, magnified

VAN DER WEELE (1909a) listed five species (*D. primitivus*, D. *eurypterus, D. volucris, D. orientalis, D. sjostedti* in the genus *Dicolpus*. Of course, a new *Dicolpus* species (*D. latreillei* Navás, 1911) was also described after the publication of his monograph (VAN DER WEELE 1909a), but based on current examination of the type specimen, three species must be excluded from the species of *Dicolpus*.

TJEDER (1992) also assigned a new genus to *D. primitivus* in his monograph, whose name (*Apodicolpus*) was found in the collections. To describe the new genus, it will be necessary to collect freshly collected specimens in the future. According to MICHEL

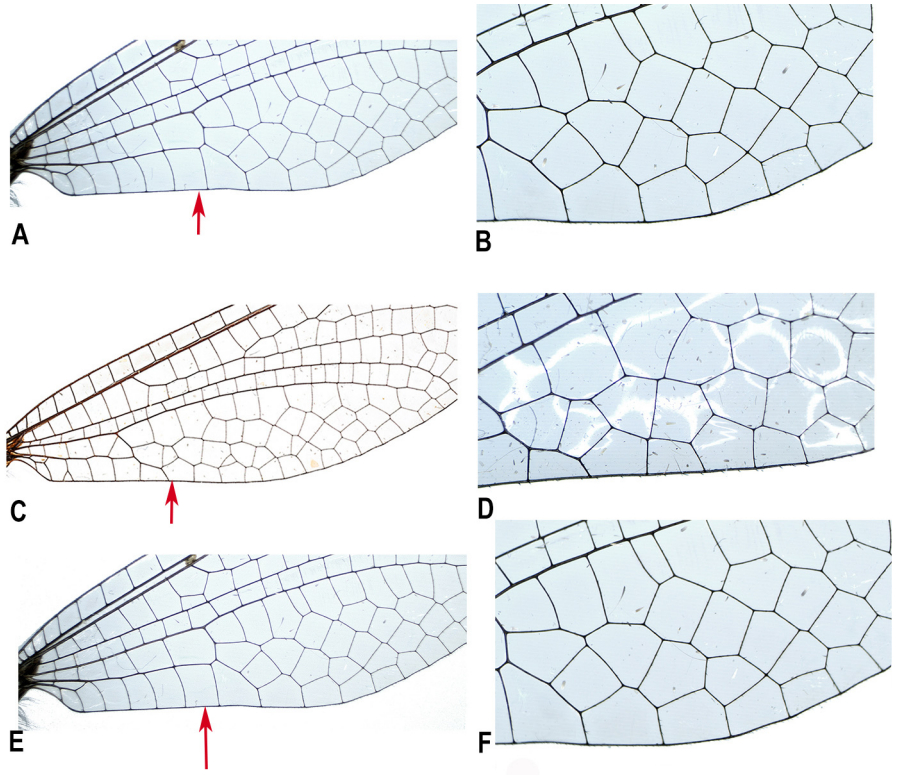

Fig. 20. Hind margin of female forewing A – *Dicolpus volucris* Gerstaecker, 1885, B – the same, magnified, C – *Dicolpus eurypterus* (Gerstaecker, 1885), D – the same, magnified, E – *Dicolpus orientalis* van der Weele, 1909, F – the same, magnified

(2019), the type material *Disparomitus maynei* Navás, 1925 is conspecific with *D. primitivus*, too.

The morphological features of the type specimen of *D. latreillei*, the relatively low number of cross-veins in the costal area, suggest that the type belongs to the genus *Proctarrelabis* Lefébrre, 1842, but freshly collected specimens are also needed to confirm this in the future.

D. sjostedti was also studied by Tjeder (1992), and I confirmed Tjeder's unpublished result (Ábrahám 2023) that it had to be moved to a new genus as *Bellulula* Ábrahám & Tjeder, 2023.

During the current revision, four valid *Dicolpus* species were found. According to Tjeder (1992), based on his collection labels, only the type species (*D. volucris*) belongs to the genus *Dicolpus*, and he would have placed *D. eurypterus* into a new genus (*Adicolpus*), but this division has not been confirmed. *D. volucris* shows significant sexual dimorphism, but the characters of the other species form a transition and can be grouped into a series of characteristics based on the hind margin of the fore wing (*D. eurypterus, D. volucris, D. martoni* sp. n., *D. orientalis*). The male genital organs' morphological features do not provide confirmation of the species being placed in a new genus.

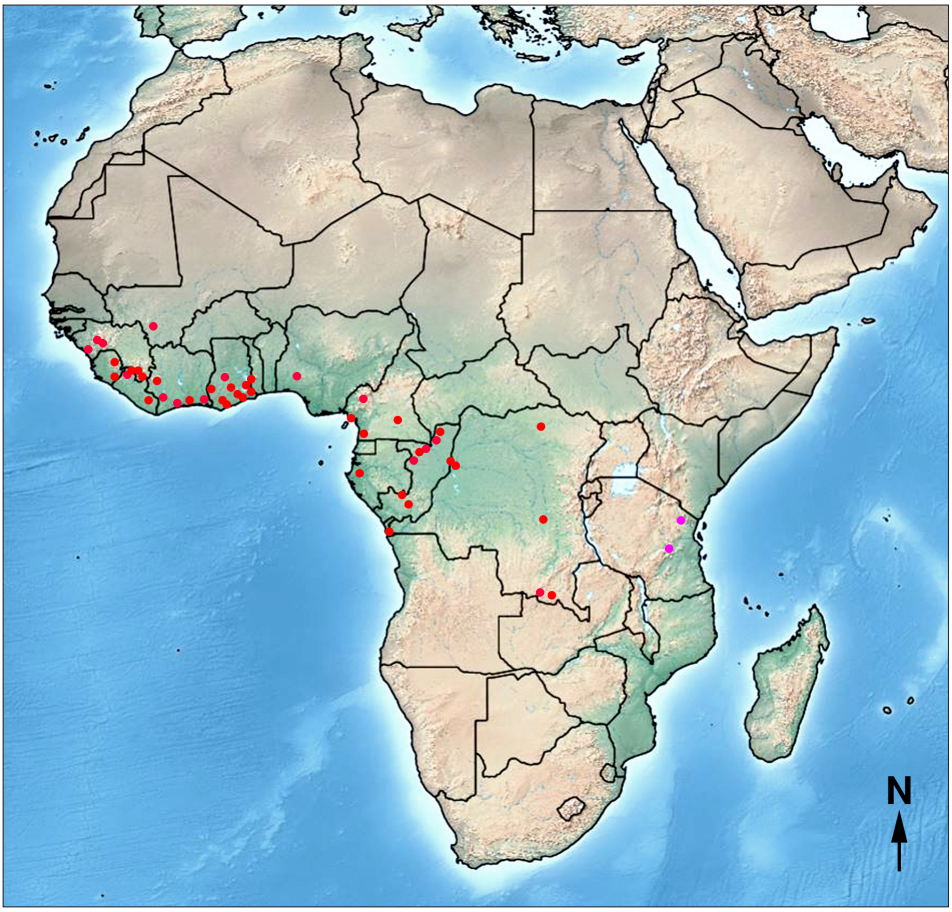

Fig. 21. Distribution of *Dicolpus volucris* Gerstaecker, 1885 (red dots) and *Dicolpus orientalis* van der Weele, 1909 (pink dots) in Africa

Future research may refine the current results because the female of *D. martoni* **sp. n.** is not known, and genetic testing may also give new pieces of information.

According to our current knowledge of the distribution of the genus *Dicolpus* occurs in the Afrotropics. Two species (*D. volucris* and *D. eurypterus*) have a wide distribution in West and Central Africa, one species (*D. orientalis*) comes from East Africa, and a new species (*D. martoni* **sp. n.**) was found in South-East Africa. However, the distribution of the species in the genus is not sufficiently known yet.

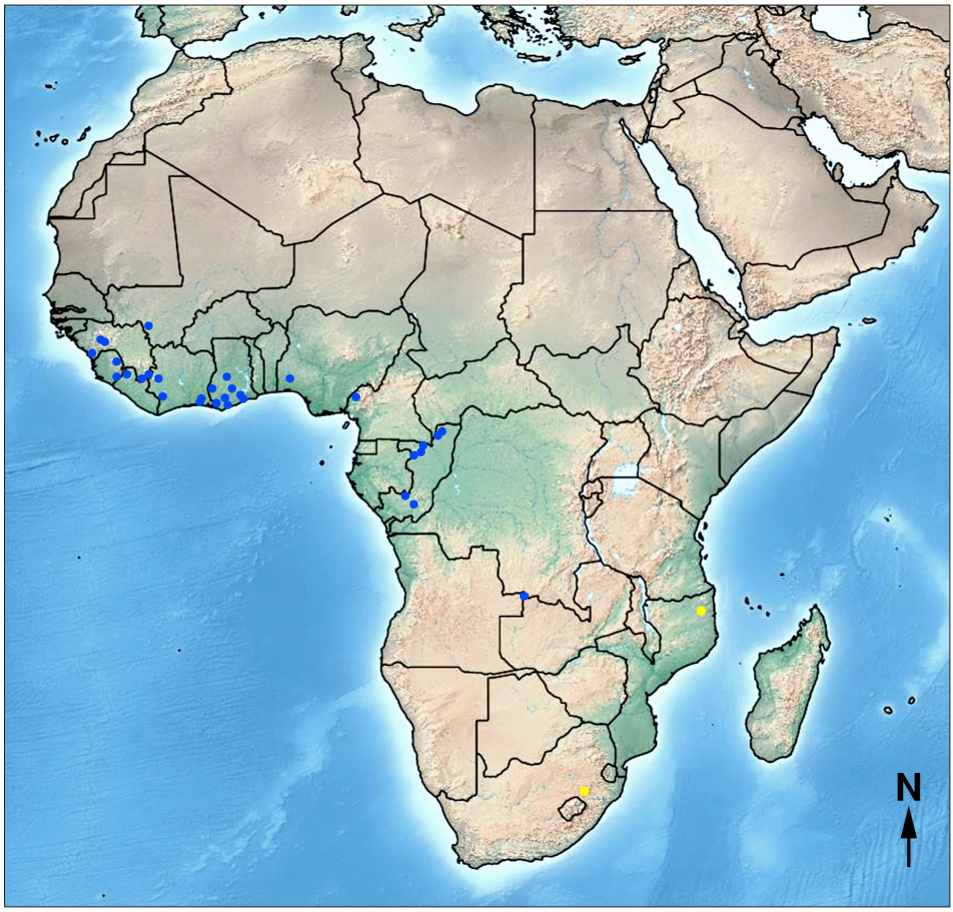

Fig. 22. Distribution of *Dicolpus eurypterus* (Gerstaecker, 1885) (blue dots) and *Dicolpus martoni* sp. n., (yellow dots) in Africa

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References

AISTLEITNER, E.; ÁBRAHÁM, L. 2023: Owlfly data from the EFMEA collection (Neuroptera: Myrmeleontidae: Ascalaphinae). – Mitteilungen der Münchner Entomologischen Gesellschaft,113: 3–19.

ÁBRAHÁM L. 2017: Ascalaphid studies XI. A new owlfly (Neuroptera: Ascalaphidae) from Kenya: Afroasca doboszi gen. and sp. nov. – Annals of the Upper Silesian Museum in Bytom Entomology 26: 1–6.

ÁBRAHÁM, L. 2023: A new owlfly genus from Africa (Neuroptera: Myrmeleontidae: Ascalaphinae). – Natura Somogyiensis 40: 13–22.
https://doi.org/10.24394/NatSom.2023.40.13

BADANO, D., ASPÖCK, H, ASPÖCK, U. & HARING, E. 2017: Eyes in the dark … Shedding light on the antlion phylogeny and the enigmatic genus Pseudimares Kimmins (Neuropterida: Neuroptera: Myrmeleontidae). – Arthropod Systematics & Phylogeny 75: 535–554.
https://doi.org/10.3897/asp.75.e31923

BANKS, N. 1920: Neuroptera, Panorpata, and Trichoptera collected by the American Museum Congo Expedition, with lists of the species known from the Belgian Congo. – Bulletin of the American Museum of Natural History 43:21–33.

GERSTAECKER, [C. E.] A. 1884: Vier decaden von Neuropteren aus der Familie Megaloptera Burm. – Mitt[h] eilungen aus dem Naturwissenschaftlichen Verein für Neu-Vorpommern und Rugen 16: 1–49.
https://doi.org/10.1111/zsc.12382

JONES, J.R. 2019: Total evidence phylogeny of the owlflies (Neuroptera, Ascalaphidae) supports a new higher level classification. – Zoologica Scripta 48: 761–782.
https://doi.org/10.1111/zsc.12382

KLAPÁLEK, F. 1906: Dos Neurópteros de la Guinea Española. – Memorias de la [Real] Sociedad Española de Historia Natural 1: 323–326.

MACHADO, R.J.P., GILLUNG, J.P., WINTERTON, S.L., GARZÓN-ORDUÑA, I.J., LEMMON, A.R., LEMMON, E.M. & OSWALD, J.D. 2019: Owlflies are derived antlions: anchored phylogenomics supports a new phylogeny and classification of Myrmeleontidae (Neuroptera). – Systematic Entomology 44: 418–450.
https://doi.org/10.1111/syen.12334

MCLACHLAN, R. 1868: New genera and species, &c., of neuropterous insects; and a revision of Mr. F. Walker's British Museum Catalogue of Neuroptera, part ii. (1853), as far as the end of the genus Myrmeleon. – Journal of the Linnean Society of London, Zoology 9: 230–281.
https://doi.org/10.1111/zsc.12382

MICHEL, B. 2019: Revision of the genus Disparomitus van der Weele, 1909 with descriptions of four new species (Neuroptera, Ascalaphidae). – Zootaxa 4551:1-39.
https://doi.org/10.11646/zootaxa.4551.1.1

MICHEL, B, CLAMENS, A.L., BÉTHOUX, O., KERGOAT, G.J. & CONDAMINE, F.L. 2017: A first higher-level time-calibrated phylogeny of antlions (Neuroptera: Myrmeleontidae). – Molecular Phylogenetics and Evolution, 107: 103–116.
https://doi.org/10.1016/j.ympev.2016.10.014

NAVÁS, L. 1911: Ascalaphides nouveaux (Neur.). Entomologische Rundschau, Stuttgart 28:12-13, 35-36.

NAVÁS, L. 1912a: Sinopsis de los Ascaláfidos (Ins. Neur.). – Arxius de l'Institut de Ciències, Institut d'Estudis Catalans, Secció de Ciències 1: 45–143.
https://doi.org/10.5962/bhl.title.8510

NAVÁS, L. 1912b: Notes sur quelques Névroptères d'Afrique. II. – Revue de Zoologie Africaines, Bruxelles 1: 401–410.

NAVÁS, L. 1912c: Insectos neurópteros nuevos o poco conocidos. – Memorias de la Real Academia de Ciencias y Artes de Barcelona (3)10: 135–202.

NAVÁS, L. 1914a: Notes sur quelques Névroptères du Congo Belge II. – Revue de Zoologie Africaines, Bruxelles 4: 91–100.

NAVÁS, L. 1914b: Voyage de Ch. Alluaud et R. Jeannel en Afrique Orientale (1911-1912). – Résultats scientifiques. Insectes Névroptères. I. Planipennia et Mecoptera. Paris. 52 pp.

NAVÁS, L. 1916: Neurópteros nuevos o poco conocidos (Séptima [VII] serie). –Memorias de la Real Academia de Ciencias y Artes de Barcelona (3)12: 219–243.

NAVÁS, L. 1919 [1921.04.21]: Comunicaciones entomológicas. 3. – Insectos exóticos. Revista de la [Real] Academia de Ciencias Exactas Fisico-Quimicas y Naturales de Zaragoza (1)4: 287–306.

NAVÁS, L. 1923: Insecta nova. IX Series. – Memorie dell'Accademia Pontifica dei Nuovi Lincei, Rome (2)6: 9–18.

Navás, L. 1924: Névroptères d'Afrique. – Annales de la Société Scientifique de Bruxelles 43(pt. 1): 375–380.
Navás, L. 1925: Insectes du Congo Belge. Série I. – Revue de Zoologie Africaines, Bruxelles 13: 123–132.
Navás, L. 1932. Insectes du Congo Belge. Série VII. – Revue de Zoologie et de Botanique Africaines 22: 269–290.
Oswald, J. D. (chief editor) 2024: Lacewing Digital Library. Lacewing Digital Library module. http://lacewing.tamu.edu/. – Last accessed on 13rd September 2024.
Oswald, J. D.; Penny, N. D. 1991: Genus-group names of the Neuroptera, Megaloptera and Raphidioptera of the world. – Occasional Papers of the California Academy of Sciences 147: 1–94. https://doi.org/10.5962/bhl.part.3428
Philippi, R. A. 1887: Die Tertiären und Quartären Versteinerungen Chiles. iv + 266 pp + 58 pls.. Lepizig: Brockhaus. – https://www.biodiversitylibrary.org/page/14943546
Prost, A.; Péru, L.; Coache, A. 2022: Névroptères du Bénin et du Togo (Insecta Neuroptera). – Entomologiste 78: 33–64.
Tjeder, B. 1992: The Ascalaphidae of the Afrotropical Region (Neuroptera). 1. External morphology and bionomics of the family Ascalaphidae, and taxonomy of the subfamily Haplogleniinae including the tribes Proctolyrini n. tribe, Melambrotini n. tribe, Campylophlebini n. tribe, Tmesibasini n. tribe, Allocormodini n. tribe, and Ululomyiini n. tribe of Ascalaphidae. Entomologica Scandinavica, Supplement 41: 3–169.
Tjeder, B.; Hansson, C. 1992: The Ascalaphidae of the Afrotropical Region (Neuroptera). 2. Revision of the tribe Ascalaphini (subfam. Ascalaphinae) excluding the genus Ascalaphus Fabricius. Entomologica Scandinavica, Supplement 41: 171–237.
van der Weele, H. W. 1905-1907: Über die von Prof. Dr. Y. Sjöstedt auf seiner Reise in Kamerun gesammelten Planipennia. – Arkiv för Zoologi 3(2):1–14. https://doi.org/10.5962/bhl.part.4542
van der Weele, H. W. 1906: Ueber die von Prof. Dr. A. Gerstaecker beschreibenen Ascalaphidae (Neuroptera). – Notes from the Leyden Museum 26: 226–228.
van der Weele H. W. 1909a: Ascalaphiden monographisch bearbeitet. Collection Zoologique Selys Longchamps 8: 1–326.
van der Weele, H. W. 1909b: Catalogue des ascalaphides des collections du muséum. – Bulletin du Muséum National d'Histoire Naturelle, Paris (1)15:170–174.
van der Weele, H. W. 1910: Neuroptera. 2. Planipennia et Panorpata. – Pp. 11–23 in Sjöstedt, Y. (ed.). Wissenschaftliche ergebnisse der Schwedischen Zoologischen expedition nach dem Kilimandjaro, dem Meru und den Umgebenden massaisteppen Deutsch-Ostafrikas 1905-1906.
Whittington, A. E. 2002: Resources in Scottish Neuropterology. – In Sziráki, Gy. (ed.). Neuropterology 2000. Proceedings of the Seventh International Symposium on Neuropterology (6-9 August 2000, Budapest, Hungary). Acta Zoologica Academiae Scientiarum Hungaricae 48(Suppl. 2): 371–387.
Wu, J., Zheng, Y. & Liu, X. 2022: Phylogenetic implications of the complete mitochondrial genome of Ogcogaster segmentator (Westwood, 1847) and first record of the genus Ogcogaster Westwood, 1847 from China (Neuroptera, Myrmeleontidae, Ascalaphinae). – Biodiversity Data Journal, 10 (e85742), 1–18. https://doi.org/10.3897/BDJ.10.e85742

Natura Somogyiensis 45: 99-114. Kaposvár, 2025 https://doi.org/10.24394/NatSom.2025.45.99
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Sawflies from Yeşilırmak Delta, Samsun province, Türkiye (Hymenoptera: Symphyta)

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Can, I. & Haris, A. 2025: *Sawflies from Yeşilırmak Delta, Samsun province, Türkiye (Hymenoptera, Symphyta). - Natura Somogyienis 45: 99-114.*
Abstract: A total of 54 species have been recorded from the Yeşilırmak Delta in Samsun province. *Allantus melanarius* (Klug, 1818), *Pteronidea glutinosae* (Cameron, 1882) and *Calameuta antigae* (Konow, 1894) are represent new records for the Turkish fauna.

Keywords: sawflies, faunistics, new records

Introduction

The study of Türkiye's sawfly fauna began relatively late. The earliest expedition to Anatolia that led to the collection of sawflies was conducted in 1846 by Imre Frivaldszky and János Frivaldszky, Hungarian zoologists and botanists.

Later, Robert Benson made significant contributions to sawfly research, with his work published posthumously by the trustees of the former British Museum of Natural History (now The Natural History Museum, London) (Benson 1968). The investigations initiated by Hungarian, German, Russian, English, and French specialists were subsequently continued by Turkish scientists, including Önder Çalmaşur, Hikmet Özbek, Hasan Başıbüyük, Çetin Mutlu, and Sevda H. Örgen (Çalmaşur & Özbek, 2004a,b, 2006; Çalmaşur 2006, 2019, 2020, Örgen & Başıbüyük 2006, Mutlu 2019).

More recently, our team has undertaken research on Anatolia's sawfly fauna, focusing on the Bingöl and Diyarbakır provinces (Kaplan et al. 2018, Kaplan & Haris 2021, 2022, Kaplan et al. 2024). According to current estimates, the number of recorded Symphyta species in Türkiye stands at 370, based on assessments by Çalmaşur (2006, 2019, 2020).

Among the three biogeographic regions of Türkiye, this study area belongs to the Black Sea (Pontic) Biogeographic Region (Fig. 1), which remains poorly investigated (EEA, 2025).

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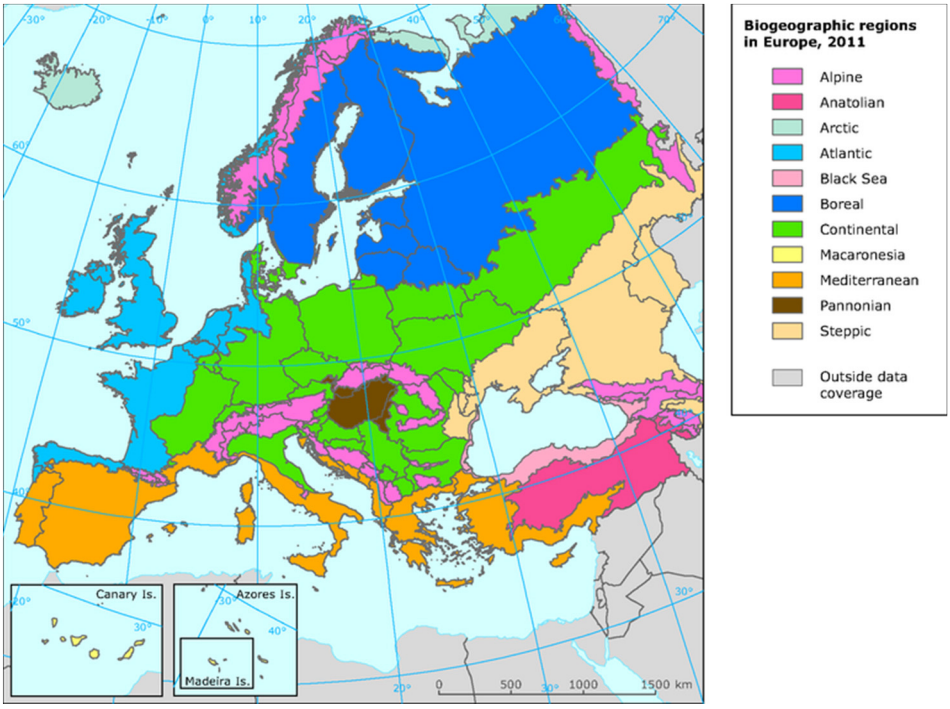

Fig. 1: Biogeographic regions of Europe and Asia Minor

Material and methods

This research was conducted between 2022 and 2023 with the objective of cataloging the wasp fauna (Hymenoptera) in the Yeşilırmak Delta, located in Samsun Province, Türkiye (Fig. 2).

Specimens were primarily collected using Malaise traps (deployed at three locations) and insect nets (used at multiple sites) throughout the Yeşilırmak Delta in northern Türkiye. The collected specimens were preserved in 75% ethanol and submitted to the second author for identification.

The Malaise traps were set up in three different habitat types:

Forest: Tree covered meadow. The Malaise trap was placed in a meadow adjacent to a wooded area. *Alnus* (Alder) is the dominant tree species. The surrounding area also includes habitats with pine and poplar trees (Figs. 3, 4 and 5).

Mixed vegetation: Malaise traps were placed among apple and peach trees. Other plant species in this locality include *Helianthus* sp., *Phaseolus* sp., *Daucus* sp., *Allium* sp., *Fragaria* sp., *Morus* sp., and *Zea* sp.

Corylus Garden: The primary vegetation in this area consists of hazelnut trees (*Corylus*), alongside cultivated poplar trees. Additionally, villagers grow various vegetables such as lettuce, eggplant, tomatoes, peppers, beans, and cucumbers near their homes.

For species identification, we consulted the comprehensive works of ZHELOCHOVTSEV (1988), LACOURT (2020), MACEK et al. (2020), GUSSAKOVSKIJ (1935, 1947) and BENSON

Fig. 2: Map of sampling sites

(1968), complemented by the latest monograph of Prous et al. (2021). For information on the distribution of the species and host plant records, the monographs and books by Sundukov (2017), Lacourt (2020), Macek (2020), Benson (1968), along with numerous other papers on the Turkish fauna, were studied.

Fig. 3: Areal view of Terme, Amazon Nature Park

List of localities

1. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E, 09. 04. 2022, insect net, mixed vegetation
2. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E, 17. 04. 2022, insect net, mixed vegetation
3. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E, 06. 06. 2022, insect net, mixed vegetation
4. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E, 17. 04. - 01. 05. 2022, Malaise trap, mixed vegetation
5. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E, 01. 05. - 14. 05. 2022, Malaise trap, mixed vegetation
6. Terme, Geçmiş,41°15'57"N 36°50'43"E, 15. 05. 2022, insect net, Corylus garden
7. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E, 14. 05. - 05. 06. 2022, Malaise trap, mixed vegetation
8. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E, 05. 06. 2022, insect net, mixed vegetation
9. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E, 05. 06 - 05. 07. 2022, Malaise trap, mixed vegetation
10. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E, 11. 07. 2022, insect net, mixed vegetation
11. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E, 14. 07. 2022, insect net, mixed vegetation
12. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E, 15. 07. - 19. 08. 2022, Malaise trap, mixed vegetation
13. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E, 19. 08. - 03. 09. 2022, Malaise trap, mixed vegetation
14. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E, 03. 09. - 16. 09. 2022, Malaise trap, mixed vegetation
15. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E, 16. 09. - 22. 10. 2022, Malaise trap, mixed vegetation
16. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E,10. 03. - 10. 04. 2023, Malaise trap, mixed vegetation
17. Terme, Amazon Nature Park, 41°15'48.9"N 36°59'14. 0"E, 08. 04. - 30. 04. 2023, Malaise trap, forest
18. Terme, Geçmiş, 41°15'57"N 36°50'43"E,08. 04. - 30. 04. 2023,Malaise trap, Corylus garden
19. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E, 10. 04. - 30. 04. 2023, Malaise trap, mixed vegetation
20. Terme, Amazon Nature Park, 41°15'48.9"N 36°59'14. 0"E, 30. 04. - 28. 05. 2023, Malaise trap, forest21. Terme, Geçmiş, 41°15'57"N 36°50'43"E, 30. 04. - 28. 05. 2023,Malaise trap, Corylus garden
22. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E, 30. 04. - 28. 05. 2023, Malaise trap, mixed vegetation
23. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E, 28. 05. - 19. 06. 2023, Malaise trap, mixed vegetation
24. Terme, Amazon Nature Park, 41°15'48.9"N 36°59'14. 0"E, 28. 05. - 11. 07. 2023, Malaise trap. forest
25. Terme, Geçmiş, 41°15'57"N 36°50'43"E, 28. 05. - 11. 07. 2023, Malaise trap, Corylus garden
26. Terme, Amazon Nature Park, 41°15'48.9"N 36°59'14. 0"E, 11. 07. - 30. 07. 2023, Malaise trap, mixed vegetation
27. Terme, Geçmiş, 41°15'57"N 36°50'43"E,11. 07. - 30. 07. 2023,Malaise trap, Corylus garden
28. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E, 11. 07. - 30. 07. 2023, Malaise trap, mixed vegetation
29. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E, 30. 07. - 25. 08. 2023, Malaise trap, mixed vegetation
30. Terme, Amazon Nature Park, 41°15'48.9"N 36°59'14. 0"E, 30. 07. - 25. 08. 2023, Malaise trap, forest
31. Terme, Geçmiş, 41°15'57"N 36°50'43"E,30. 07. - 25. 08. 2023,Malaise trap, Corylus garden
32. Çarşamba, Hacıbeyli, 41°12'43.2"N, 36°44'07.7"E, 25. 08. - 25. 09. 2023, Malaise trap, mixed vegetation

Results

List of species

Argidae

Arge melanochra (Gmelin, 1790): Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 1 female. Frequent. Hostplant: *Crataegus oxycantha*.

Arge ochropus (Gmelin, 1790): Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 1 female; Terme, Amazon Nature Park, 30. 04. - 28. 05. 2023, forest, 1 female, 2 males. Pest of *Rosa* spp. Frequent.

Tenthredinidae

Dolerus (*Oncodolerus*) *eversmanni* W.F. Kirby, 1882: Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 1 female, 1 male; Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 3 females; Çarşamba, Hacıbeyli, 17. 04. - 01. 05. 2022,

Fig. 4: Seashore, Terme, Amazon Nature Park

Fig. 5: Vegetation in Terme, Amazon Nature Park

mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 01. 05. - 14. 05. 2022, mixed vegetation, 4 females; Çarşamba, Hacıbeyli, 10. 03. - 10. 04. 2023, mixed vegetation, 3 males. Frequent. Larva on *Equisetum arvense* and *E. palustre*.

Dolerus (*Poodolerus*) *haematodes* (Schrank, 1781): Çarşamba, Hacıbeyli, 17. 04. 2022. mixed vegetation, 1 male. Frequent. Larva on *Juncus, Scirpus, Carex* and *Gramineae*.

Dolerus (*Dicrodolerus*) *vestigialis* ssp. *vestigialis* (Klug, 1818): Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 1 female, 1 male; Terme, Geçmiş, 15. 05. 2022, Corylus garden, 1 female; Çarşamba, Hacıbeyli, 10. 03. - 10. 04. 2023, mixed vegetation, 1 female; Terme, Geçmiş, 28. 05. - 11. 07. 2023, *Corylus* garden, 1 male. Common. Host plants: *Equisetum palustre, E. sylvaticum, E. arvense* and *E. pratense*.

Nesoselandria morio (Fabricius, 1781): Çarşamba, Hacıbeyli, 25. 08 - 25. 09. 2023, mixed vegetation, 10 females; Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 2 females; Terme, Amazon Nature Park, 30. 04. - 28. 05. 2023, forest, 5 females; Çarşamba, Hacıbeyli, 10. 04. - 30. 04. 2023, mixed vegetation, 2 females. Frequent. Host plants: *Brachytecium reflexum, Ceratodon purpureus, Chenopodium album, Dicranum scoparium, Fragaria vesca, Hedwigia ciliata, Myosotis arvensis, Plagiomnium cuspidatum, Plagiothecium denticulatum, Polygonum aviculare, Polytrichum commune, Pseudobryum cinclidiodes, Sanionia uncinata, Stellaria media, Veronica chamaedrys* and *V. officinalis*.

Selandria serva (Fabricius, 1793): Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 1 female; Terme, Amazon Nature Park, 30. 04. - 28. 05. 2023, forest, 1 female; Çarşamba, Hacıbeyli, 16. 09 - 22. 10. 2022, mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 10. 04. - 30. 04. 2023, mixed vegetation, 1 female. Frequent. Host plants: Poaceae, *Carex* spp. and *Juncus* spp.

Allantus (*Emphytus*) *cinctus* (Linné, 1758): Çarşamba, Hacıbeyli, 25. 08 - 25. 09. 2023, mixed vegetation, 2 females, 13 males; Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 1 female, 8 males; Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 3 female, 16 males; Terme, Amazon Nature Park, 30. 04. - 28. 05. 2023, forest, 2 females, 3 males; Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 2 females; Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 1 female, 7 males; Çarşamba, Hacıbeyli, 16. 09 - 22. 10. 2022, mixed vegetation, 5 males, 3 females; Çarşamba, Hacıbeyli, 10. 04. - 30. 04. 2023, mixed vegetation, 1 male, 1 female; Terme, Geçmiş, 30. 04 - 28 .05. 2023, Corylus garden, 3 females; Terme, Amazon Nature Park, 08. 04. - 30. 04. 2023, forest, 1 female, 1 male; Çarşamba, Hacıbeyli, 09. 04. 2022. mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 17. 04. 2022. mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 17. 04. - 01. 05. 2022, mixed vegetation, 1 female, 1 male; Çarşamba, Hacıbeyli, 01. 05. - 14. 05. 2022, mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 11. 07. 2022. mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 15. 07. - 19. 08. 2022, mixed vegetation, 2 males; Çarşamba, Hacıbeyli, 03. 09. - 16. 09. 2022, mixed vegetation, 3 males; Çarşamba, Hacıbeyli, 10. 03. - 10. 04. 2023, mixed vegetation, 1 male, 1 female; Terme, Geçmiş, 28. 05. - 11. 07. 2023, Corylus garden, 3 males. Common. Host plants: *Rosa* spp.

Allantus (*Emphytus*) *calceatus* (Klug, 1818): Çarşamba, Hacıbeyli, 25. 08 - 25. 09. 2023, mixed vegetation, 2 males; Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 2 females, 5 males; Terme, Amazon Nature Park, 30. 04. - 28. 05. 2023, forest, 2 females; Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 16. 09 - 22. 10. 2022, mixed vegetation, 1 female, 1 male; Çarşamba, Hacıbeyli, 17. 04. 2022. mixed vegetation, 2 males; Terme, Geçmiş, 15. 05. 2022, Corylus garden, 1 male; Çarşamba, Hacıbeyli, 14. 05. - 05. 06. 2022, mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 05. 06. 2022, mixed vegetation, 3 males; Çarşamba, Hacıbeyli, 05. 06 - 05. 07. 2022, mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 03. 09. - 16. 09. 2022, mixed vegetation, 1 male; Terme, Geçmiş, 28. 05. - 11. 07. 2023, Corylus garden, 1 male. Frequent. Host plants: *Rubus, Sanguisorba, Rosa, Filipendula, Fragaria* and *Alchemilla* spp.

Allantus (*Emphytus*) *melanarius* (Klug, 1818): Çarşamba, Hacıbeyli, 25. 08 - 25. 09. 2023, mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 10. 04. - 30. 04. 2023, mixed vegetation, 1 female; Terme, Geçmiş, 15. 05. 2022, Corylus garden, 1 female; Çarşamba, Hacıbeyli, 05. 06. 2022, mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 10. 03. - 10. 04. 2023, mixed vegetation, 1 female; Terme, Geçmiş, 28. 05. - 11. 07. 2023, Corylus garden, 1 female. Frequent. Host plant: *Cornus sanguinea*.

Allantus (*Allantus*) *viennensis* (Schrank, 1781): Çarşamba, Hacıbeyli, 10. 04. - 30. 04. 2023, mixed vegetation, 3 females. Host plants: *Rosa* spp. Sporadic.

Ametastegia (*Ametastegia*) *equiseti* (Fallén, 1808): Çarşamba, Hacıbeyli, 25. 08 - 25. 09. 2023, mixed vegetation, 2 females, 19 males; Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 4 female, 36 males; Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 26 males; Terme, Amazon Nature Park, 30. 04. - 28. 05. 2023, forest, 2 females, 18 males; Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 2 males; Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 1 female, 6 males; Çarşamba, Hacıbeyli, 16. 09 - 22. 10. 2022, mixed vegetation, 19 males, 4 females; Çarşamba, Hacıbeyli, 10. 04. - 30. 04. 2023, mixed vegetation, 5 males; Çarşamba, Hacıbeyli, 30. 07 - 25. 08. 2023, mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 17. 04. 2022. mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 01. 05. - 14. 05. 2022, mixed vegetation, 3 males; Terme, Geçmiş, 15. 05. 2022, Corylus garden, 1 male; Çarşamba, Hacıbeyli, 03. 09. - 16. 09. 2022, mixed vegetation, 2 males, 2 females; Çarşamba, Hacıbeyli, 10. 03. - 10. 04. 2023, mixed vegetation, 1 male. Common. Larva on *Chenopodium album, Lythrum salicaria, Polygonum persicaria* and *Rumex acetosella*.

Ametastegia (*Protemphytus*) *carpini* (Hartig, 1837): Çarşamba, Hacıbeyli, 25. 08 - 25. 09. 2023, mixed vegetation, 7 females; Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 12 females, 16 males; Terme, Amazon Nature Park, 30. 04. - 28. 05. 2023, forest, 1 female, 2 males; Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 16. 09 - 22. 10. 2022, mixed vegetation, 2 males, 9 females; Çarşamba, Hacıbeyli, 11. 07 - 30. 07. 2023, mixed vegetation, 1 female. Frequent. Host plant: *Geranium* spp.

Ametastegia (*Ametastegia*) *glabrata* (Fallâén, 1808): Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 1 female; Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 2 females; Çarşamba, Hacıbeyli, 05. 06 - 05. 07. 2022, mixed

vegetation, 1 female. Frequent. Larva on *Chenopodiaceae, Polygonaceae, Plantago*, *Salix, Lithrum, Ribes* and *Rubus* spp.

Ametastegia (*Protemphytus*) *pallipes* (Spinola, 1808): Çarşamba, Hacıbeyli, 25. 08 - 25. 09. 2023, mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 17. 04. 2022. mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 05. 06. 2022, mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 03. 09. - 16. 09. 2022, mixed vegetation, 3 females; Çarşamba, Hacıbeyli, 10. 03. - 10. 04. 2023, mixed vegetation, 1 female; Terme, Geçmiş, 28. 05. - 11. 07. 2023, Corylus garden, 1 female. Frequent. Host plants: *Viola* spp.

Ametastegia (*Protemphytus*) *tenera* (Fallén, 1808): Çarşamba, Hacıbeyli, 25. 08 - 25. 09. 2023, mixed vegetation, 17 males; Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 8 males; Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 23 males; Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 9 males; Çarşamba, Hacıbeyli, 16. 09 - 22. 10. 2022, mixed vegetation, 3 males; Çarşamba, Hacıbeyli, 11. 07 - 30. 07. 2023, mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 09. 04. 2022. mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 03. 09. - 16. 09. 2022, mixed vegetation, 2 males. Frequent. Larva on *Rumex* spp.

Athalia cordata Serville, 1823: Çarşamba, Hacıbeyli, 25. 08 - 25. 09. 2023, mixed vegetation, 3 females; Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 2 females, 3 males; Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 11 females, 16 males; Çarşamba, Hacıbeyli, 16. 09 - 22. 10. 2022, mixed vegetation, 7 females; Çarşamba, Hacıbeyli, 11. 07 - 30. 07. 2023, mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 01. 05. - 14. 05. 2022, mixed vegetation, 1 female. Frequent. Larva on *Misopates orontinum, Antirrhinum majus, Ajuga reptans, Teucrium scorodonia* and *Plantago* spp.

Athalia circularis (Klug, 1815): Çarşamba, Hacıbeyli, 25. 08 - 25. 09. 2023, mixed vegetation, 4 males, 6 females; Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 3 females; Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 8 females, 4 males; Terme, Amazon Nature Park, 30. 04. - 28. 05. 2023, forest, 1 male, 4 females; Çarşamba, Hacıbeyli, 16. 09 - 22. 10. 2022, mixed vegetation, 1 male, 7 females; Çarşamba, Hacıbeyli, 10. 03. - 10. 04. 2023, mixed vegetation, 1 female. Frequent. Host plants: *Arctium lappa, Ajuga reptans, Veronica beccabunga, V. longifolia*, *V. officinalis, Alliaria petiolata, Glechoma hederacea, Melampyrum, Capsella* and *Lycopus* spp.

Athalia lugens (Klug, 1815): Terme, Amazon Nature Park, 30. 04. - 28. 05. 2023, forest, 2 females; Terme, Amazon Nature Park, 28.05 - 11. 07. 2023, forest, 1 female. Frequent. Feeding on various *Cruciferae*.

Empria archangelskii Dovnar-Zapolskij, 1929: Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 1 female, 1 male; Çarşamba, Hacıbeyli, 17. 04. - 01. 05. 2022, mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 01. 05. - 14. 05. 2022, mixed vegetation, 1 male. Sporadic. Hostplatn unknown.

Empria sexpunctata (Serville, 1823): Çarşamba, Hacıbeyli, 10. 03. - 10. 04. 2023, mixed vegetation, 1 male. Frequent. Larva on *Geum* spp.

Monostegia abdominalis (Fabricius, 1798): Çarşamba, Hacıbeyli, 25. 08 - 25 . 09. 2023, mixed vegetation, 3 females; Terme, Amazon Nature Park, 30. 04. - 28. 05. 2023, forest, 1 female; Çarşamba, Hacıbeyli, 16. 09 - 22. 10. 2022, mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 10. 04. - 30. 04. 2023, mixed vegetation, 1 female. Frequent. Recorded on *Glaux maritima, Lysimachia numularia* and *L. vulgaris*.

Taxonus sticticus (Klug, 1817): Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 2 males; Terme, Amazon Nature Park, 08. 04. - 30. 04. 2023, forest, 1 male. Sporadic. Host plant unknown.

Eutomostethus ephippium (Panzer, 1798): Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 10. 03. - 10. 04. 2023, mixed vegetation, 1 male; Terme, Geçmiş, 28. 05. - 11. 07. 2023, Corylus garden, 1 male. Frequent. Larva on *Poaceae*.

Eutomostethus gagathinus (Klug, 1816): Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 1 male. Sporadic. Host plant: *Carex paniculata*.

Cladardis elongatula (Klug, 1817): Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 2 females, 2 males; Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 1 male; Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 6 males. Frequent. Larva bores in shoots of *Rosa* spp.

Halidamia affinis (Fallén, 1807): Terme, Amazon Nature Park, 08. 04. - 30. 04. 2023, forest, 1 female. Frequent. Host plants: *Galium aparine* and *G. molugo*.

Caliroa cerasi (Linné, 1758): Terme, Geçmiş, 30. 04 - 28. 05. 2023, Corylus garden, 1 female; Çarşamba, Hacıbeyli, 14. 05. - 05. 06. 2022, mixed vegetation, 1 female. Frequent. Larva on *Pyrus, Malus, Prunus, Crataegus, Sorbus, Rosa, Cydonia, Mespilus, Rubus, Amygdalus, Cerasus, Amelanchier, Pyracantha, Cotoneaster* rarely *Quercus* and *Salix* spp.

Metallus albipes (Cameron, 1875): Çarşamba, Hacıbeyli, 25. 08 - 25. 09. 2023, mixed vegetation, 3 females; Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 1 female; Terme, Amazon Nature Park, 30. 04. - 28. 05. 2023, forest, 2 females; Çarşamba, Hacıbeyli, 10. 04. - 30. 04. 2023, mixed vegetation, 4 females; Çarşamba, Hacıbeyli, 03. 09. - 16. 09. 2022, mixed vegetation, 1 female. Frequent. Larva on *Rubus idaeus*.

Metallus pumilus (Klug, 1816): Çarşamba, Hacıbeyli, 25. 08 - 25. 09. 2023, mixed vegetation, 3 females, 79 males; Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 44 males; Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 1 female, 44 males; Terme, Amazon Nature Park, 30. 04. - 28. 05. 2023, forest, 1 female, 21 males; Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 2 males; Çarşamba, Hacıbeyli, 16. 09 - 22. 10. 2022, mixed vegetation, 23 males; Çarşamba, Hacıbeyli, 10. 04. - 30. 04. 2023, mixed vegetation, 31 males; Çarşamba, Hacıbeyli, 03. 09. - 16. 09. 2022, mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 14. 05. - 05. 06. 2022, mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 03. 09. - 16. 09. 2022, mixed vegetation, 1 male. Frequent. Larva on *Rubus* spp.

Heterarthrus vagans (Fallén, 1808): Terme, Amazon Nature Park, 28.05 - 11. 07. 2023, forest, 1 female; Çarşamba, Hacıbeyli, 10. 03. - 10. 04. 2023, mixed vegetation, 1 male. Sporadic, larva on *Alnus* spp.

Heterarthrus leucomela (Klug, 1818): Çarşamba, Hacıbeyli, 01. 05. - 14. 05. 2022, mixed vegetation, 1 female. Sporadic. Host plants: *Acer pseudoplatanus* and *A. campestre*.

Aglaostigma (*Astochus*) *aucupariae* (Klug, 1817): Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 10. 03. - 10. 04. 2023, mixed vegetation, 1 female. Frequent. Larva on *Galium mollugo* and *G. boreale*.

Macrophya (*Macrophya*) *annulata* (Geoffroy, 1785): Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 4 males; Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 14. 05. - 05. 06. 2022, mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 05. 06. 2022, mixed vegetation, 1 female, 1 male; Çarşamba, Hacıbeyli, 05. 06 - 05. 07. 2022, mixed vegetation, 1 male, 1 female, 1 male. Frequent. Larva on *Potentilla reptans, Origanum vulgare, Euphorbia, Rosa, Rubus* and *Sambucus* spp.

Macrophya (*Macrophya*) *alboannulata* Costa, 1859: Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 3 females, 4 males; Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 2 females, 3 males; Terme, Amazon Nature Park, 30. 04. - 28. 05. 2023, forest, 1 female; Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 11. 07 - 30. 07. 2023, mixed vegetation, 2 females; Çarşamba, Hacıbeyli, 17. 04. - 01. 05. 2022, mixed vegetation, 1 female, 2 males; Çarşamba, Hacıbeyli, 01. 05. - 14. 05. 2022, mixed vegetation, 1 female, 1 male; Terme, Geçmiş, 15. 05. 2022, Corylus garden, 1 male. Frequent, West Palaearctic species. Larva on *Sambucus nigra, S. racemosa* and *S. ebulus*.

Macrophya (*Macrophya*) *diversipes* (Schrank, 1782): Çarşamba, Hacıbeyli, 05. 06 - 05. 07. 2022, mixed vegetation, 1 male. Frequent. Host plant unknown.

Macrophya (*Macrophya*) *duodecimpunctata* (Linné, 1758): Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 1 female; Terme, Geçmiş, 30. 04 - 28 .05. 2023, Corylus garden, 6 males, 1 female; Terme, Geçmiş, 28. 05. - 11. 07. 2023, Corylus garden, 14 males. Frequent. Host plants: *Graminae, Cyperaceae* and *Carex* spp.

Macrophya (*Macrophya*) *postica* (Brullé, 1832): Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 2 females, 3 males; Çarşamba, Hacıbeyli, 14. 05. - 05. 06. 2022, mixed vegetation, 1 female, 2 males; Çarşamba, Hacıbeyli, 05. 06 - 05. 07. 2022, mixed vegetation, 2 males, 3 females; Çarşamba, Hacıbeyli, 11. 07. 2022. mixed vegetation, 1 male. Frequent. Host plant unknown.

Macrophya (*Macrophya*) *rufipes* (Linné, 1758): Terme, Geçmiş, 30. 04 - 28 .05. 2023, Corylus garden, 1 female; Çarşamba, Hacıbeyli, 05. 06 - 05. 07. 2022, mixed vegetation, 1 male. Frequent. Larva on *Agrimonia eupatoria*.

Macrophya (*Macrophya*) *crassula* (Klug, 1817): Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 05. 06 - 05. 07. 2022, mixed vegetation, 1 female. Sporadic. Hostplant unknown.

Rhogogaster (*Rhogogaster*) *chlorosoma* (Benson, 1943): Terme, Geçmiş, 30. 04 - 28 .05. 2023, Corylus garden, 5 female. A widely distributed and abundant species. Host plants: Willows (*Salix*), including goat willow (*S. caprea*) and crack willow (*S. fragilis*).

Tenthredo (*Zonuledo*) *zonula* Klug, 1817: Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 1 female; Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 1 female. Frequent. Host plant: *Hypericum perforatum*.

Cladius (*Priophorus*) *brullei* (Dahlbom, 1835): Çarşamba, Hacıbeyli, 25. 08 - 25. 09. 2023, mixed vegetation, 7 females; Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 2 females; Terme, Amazon Nature Park, 30. 04. - 28. 05. 2023, forest, 15 females; Çarşamba, Hacıbeyli, 10. 04. - 30. 04. 2023, mixed vegetation, 6 females. Frequent. Larva on *Rubus* spp.

Cladius (*Priophorus*) *compressicornis* (Fabricius, 1804): Çarşamba, Hacıbeyli, 25. 08 - 25. 09. 2023, mixed vegetation, 1 females. Frequent. Host plants: *Betula, Cotoneaster, Rubus, Sorbus, Prunus, Crataegus, Corylus, Fragaria* and *Rosa* spp., also *Laurus nobilis* and *Aronia arbutifolia*.

Cladius (*Cladius*) *pectinicornis* (Geoffroy, 1785): Çarşamba, Hacıbeyli, 25. 08 - 25. 09. 2023, mixed vegetation, 15 females, 101 males; Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 2 females, 22 males; Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 4 female, 57 males; Terme, Amazon Nature Park, 30. 04. - 28. 05. 2023, forest, 13 females, 53 males; Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 2 females, 36 males; Çarşamba, Hacıbeyli, 16. 09 - 22. 10. 2022, mixed vegetation, 11 males, 1 female; Çarşamba, Hacıbeyli, 10. 04. - 30. 04. 2023, mixed vegetation, 34 males, 12 females; Çarşamba, Hacıbeyli, 11. 07 - 30. 07. 2023, mixed vegetation, 3 males; Terme, Amazon Nature Park, 08. 04. - 30. 04. 2023, forest, 1 male; Çarşamba, Hacıbeyli, 17. 04. 2022. mixed vegetation, 3 males; Çarşamba, Hacıbeyli, 17. 04. - 01. 05. 2022, mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 01. 05. - 14. 05. 2022, mixed vegetation, 1 female, 3 males; Çarşamba, Hacıbeyli, 14. 05. - 05. 06. 2022, mixed vegetation, 2 males; Çarşamba, Hacıbeyli, 05. 06. 2022, mixed vegetation, 1 female; Çarşamba, Hacıbeyli, 05. 06 - 05. 07. 2022, mixed vegetation, 3 males, 1 female; Çarşamba, Hacıbeyli, 14. 07. 2022, mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 15. 07. - 19. 08. 2022, mixed vegetation, 4 males, 2 females; Çarşamba, Hacıbeyli, 19. 08. - 03. 09. 2022, mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 03. 09. - 16. 09. 2022, mixed vegetation, 2 males, 1 female; Çarşamba, Hacıbeyli, 16. 09 - 22. 10. 2022, mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 10. 03. - 10. 04. 2023, mixed vegetation, 1 male. Common. Host plant: *Rubus* spp.

Craesus alniastri (Scharfenberg, 1805) [*Nematus alniastri* (Scharfenberg, 1805)]: Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 1 female. Larva on *Alnus* spp. Sporadic.

Nematus lucidus (Panzer, 1801): Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 1 male; Terme, Amazon Nature Park, 08. 04. - 30. 04. 2023, forest, 1 male; Çarşamba, Hacıbeyli, 10. 03. - 10. 04. 2023, mixed vegetation, 1 male. Frequent. Larva on *Crataegus* and *Prunus spinosa*.

Pteronidea glutinosae (Cameron, 1882) [*Euura glutinosae* (Cameron, 1882)]: Terme, Geçmiş, 30. 04 - 28 .05. 2023, Corylus garden, 1 male; Terme, Geçmiş, 28. 05. - 11. 07. 2023, Corylus garden, 2 males. Frequent. Host plant: Alder (*Alnus*).

Pteronidea myosotidis (Fabricius, 1804) [*Euura myosotidis* (Fabricius, 1804)]: Çarşamba, Hacıbeyli, 25. 08 - 25. 09. 2023, mixed vegetation, 2 females, 10 males; Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 29 males; Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 6 females, 41 males; Terme, Amazon Nature Park, 30. 04. - 28. 05. 2023, forest, 1 female, 5 males; Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 20 males; Çarşamba, Hacıbeyli, 16. 09 - 22. 10. 2022, mixed vegetation, 18 males, 5 females; Çarşamba, Hacıbeyli, 10. 04. - 30. 04. 2023, mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 17. 04. 2022. mixed vegetation, 1 male, 1 female; Çarşamba, Hacıbeyli, 17. 04. - 01. 05. 2022, mixed vegetation, 1 male; Terme, Geçmiş, 15. 05. 2022, Corylus garden, 1 female, 1 male; Çarşamba, Hacıbeyli, 14. 05. - 05. 06. 2022, mixed vegetation, 2 males; Çarşamba, Hacıbeyli, 19. 08. - 03. 09. 2022, mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 03. 09. - 16. 09. 2022, mixed vegetation, 2 males; Çarşamba, Hacıbeyli, 10. 03. - 10. 04. 2023, mixed vegetation, 1 male; Terme, Geçmiş, 28. 05. - 11. 07. 2023, Corylus garden, 1 male. Common. Larval hosts: *Onobrychis* and *Trifolium* spp.

Pristiphora pallidiventris (Fallén, 1808): Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 1 female; Terme, Amazon Nature Park, 30. 04. - 28. 05. 2023, forest, 3 females; Terme, Amazon Nature Park, 11. 07. - 30. 07. 2023, mixed vegetation, 1 female; Terme, Geçmiş, 30. 04 - 28 .05. 2023, Corylus garden, 1 female; Terme, Amazon Nature Park, 28.05 - 11. 07. 2023, forest, 1 female; Çarşamba, Hacıbeyli, 10. 03. - 10. 04. 2023, mixed vegetation, 1 female. Frequent. Larva on *Geum, Potentilla, Rubus* and *Filipendula* spp., *Filipendula ulmaria, Geum urbanum, G. rivale, Rubus chamaemorus, R. idaeus, R. fruticosus* and *R. ulmifolius*.

Stauronematus platycerus (Hartig, 1840): Çarşamba, Hacıbeyli, 25. 08 - 25. 09. 2023, mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 1 male; Çarşamba, Hacıbeyli, 10. 04. - 30. 04. 2023, mixed vegetation, 1 female, 1 male; Çarşamba, Hacıbeyli, 30. 07 - 25. 08. 2023, mixed vegetation, 1 male. Host plants: *Populus tremula* and *Salix* spp. The only European sawfly, whose larva erects a palisade of dried saliva around its feeding place. Frequent.

Cephidae

Calameuta (*Calameuta*) *antigae* (Konow, 1894): Çarşamba, Hacıbeyli, 28. 05 - 19. 06. 2023, mixed vegetation, 1 female. Sporadic. Hostplant unknown.

Calameuta (*Calameuta*) *grombczewskii* (Jakowlew, 1891): Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 1 female. Frequent. Host plant unknown.

Janus compressus (Fabricius, 1793): Çarşamba, Hacıbeyli, 30. 04. - 28. 05. 2023, mixed vegetation, 1 male. Host plants: Pear trees (*Pyrus*), apple trees (*Malus*), rowans (*Sorbus*), hawthorns (*Crataegus*). Eggs are laid individually on young shoots. Before oviposition, the female uses her ovipositor to create 10-26 spiral incisions 4-5 cm below the shoot tip, disrupting the conductive tissues. This process causes the shoot to wilt prematurely. Larvae mine within the wilting shoots over a period of 10-15 days.

Discussion

New species for the fauna of Türkiye

Calameuta antigae (Konow, 1894)

The species, originally thought to be West-Palearctic and previously known only from Barcelona, Spain, was recorded in the Caucasus in 2022. Given this, its presence in Türkiye is not unexpected. It is a North Mediterranean species, and its host plant remains unknown.

Allantus melanarius (Klug, 1818)

Its larvae feed on *Cornus sanguinea*. This species is widely distributed across the Western Palearctic, including Europe, the southern Caucasus, and northern Iran. Although it is not considered rare, it is surprising that no records of its presence in Türkiye have been reported so far.

Pteronidea glutinosae (Cameron, 1882) [*Euura glutinosae* (Cameron, 1882)]

This species was originally known as *Nematus viridissimus* Möller, 1882. However, Cameron's article was published in February 1882, whereas Möller's article was published no earlier than mid-December 1882. The seniority of the name *glutinosae* has previously been overlooked. It is a Western Palearctic species, distributed from the British Isles through Central, Northern, and Eastern Europe to the Caucasus. Host plant: Alder (*Alnus*).

Zoogeographic analysis

In zoogeographic point of view, most of the species (51 from the 54 species) have wide geographic distribution, i.e. Holarctic, Palaearctic and West Palaearctic; their proportion is 94%. Three species have limited distribution areas: Ponto-Caspian-Central Asian, North Mediterranean and Ponto-Caspian-East Mediterranean. These species are: *Calameuta grombczewskii* (Jakowlew, 1891) (Ponto-Caspian-Central Asian species), *Calameuta* (*Calameuta*) *antigae* (Konow, 1894) (originally it was ranked as West Mediterranean species, now it seems a North Mediterranean species) and *Empria archangelskii* Dovnar-Zapolskij, 1929 (Ponto-Caspian, East Mediterranean). Their proportion is 6%.

Flight Period of Sawflies

The dynamics of the flight period resemble the pattern observed in the Pannonian biogeographic region. Both species richness and population density follow a multiple-events category, characterized by a single-type, univariable pattern (Kaplan et al., 2023) (Figs. 6 and 7).

From another perspective, considering the low species richness and reduced population density, the pattern also shows similarities to the Mediterranean type, as observed in Sicily (Haris and Józan 2018).

The flight period began in mid-March, reaching an initial culmination peak before experiencing a temporary decline in August. Subsequently, a second peak was detected, featuring some species with a third generation emerging in early autumn.

Endangering factors

Agriculture and animal husbandry are conducted intensively in the region. In particular, the heavy use of agricultural chemicals such as pesticides and herbicides can have negative impacts on the ecosystem.

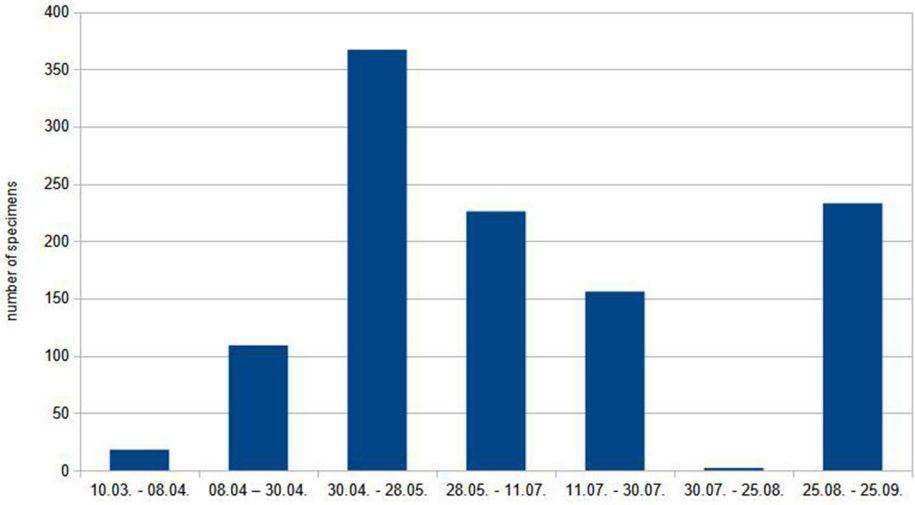

Fig. 6: Change in population numbers of sawflies in 2023

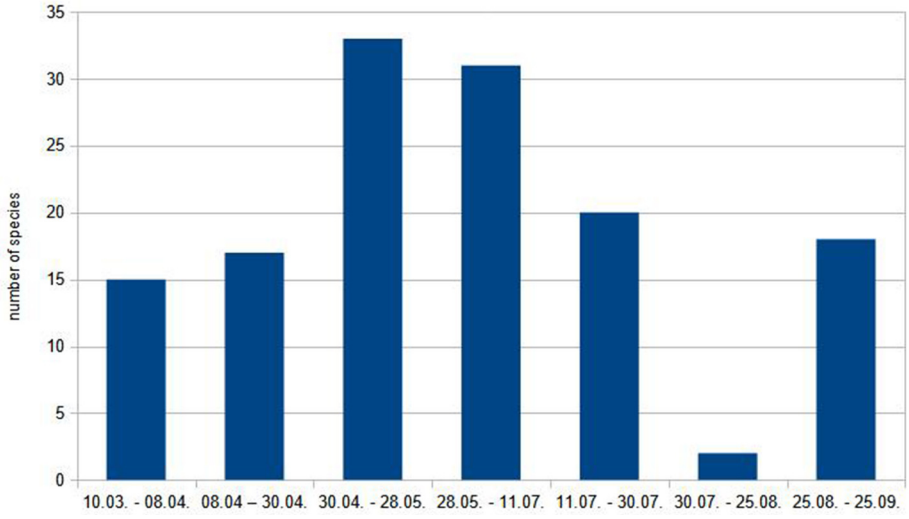

Fig. 7: Change in species richness of sawflies in 2023

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References

Benson, R. B. 1968: Hymenoptera from Turkey, Symphyta. – Bulletin of the British Museum (Natural History). – Entomology series, London 22(4): 111-207. https://doi.org/10.5962/bhl.part.9952

Çalmaşur, Ö. 2006: Four new records for the Turkish Tenthredinidae. – Türkiye Entomoloji Dergisi 30 (3): 201-207.

Çalmaşur, Ö. & Özbek, H. 2004a: A contribution to the knowledge of the Tenthredinidae. (Symphyta, Hymenoptera) fauna of Turkey. Part I: The subfamily Tenthredininae. – Türkish Journal of Zoology 28: 37-54.

Çalmaşur, Ö. & Özbek, H. 2004b: A contribution to the knowledge of Tenthredinidae (Symphyta, Hymenoptera) fauna of Turkey Part II: Subfamilies Blennocampinae, Dolerinae, Nematinae and Selandrinae. – Türkish Journal of Zoology 28: 55-71.

Çalmaşur, Ö. & Özbek, H. 2006: Check-list of the Argidae fauna (Hymenoptera: Symphyta) of Turkey. – Zoology of the Middle East 39: 89-96. https://doi.org/10.1080/09397140.2006.10638187

Çalmaşur, Ö. 2006: Four new records for the Turkish Tenthredinidae. – Türkiye Entomoloji Dergisi 30(3): 201-207.

Çalmaşur, Ö. 2019: New records and some new distribution data to the Turkish Allantinae, Blennocampinae, Heterarthrinae, and Selandrinae (Tenthredinidae, Symphyta, Hymenoptera) fauna. – Munis Entomology and Zoology 14(1): 96-103.

Çalmaşur, Ö. 2020: New records and some new distribution data for the Turkish Nematinae (Hymenoptera: Symphyta: Tenthredinidae) fauna. – Türkiye Entomoloji Dergisi 44 (3): 413-422. https://doi.org/10.16970/entoted.715181

European Environment Agency (EEA) Biogeographical regions in Europe. Available online: https://www.eea.europa.eu/data-and-maps/figures/biogeographical-regions-in-europe-2 (accessed on 19. 04. 2025).

Gussakovskij, V. 1935: Insectes Hyménoptéres, Chalastogastra 1. – Fauna SSSR, Moskva, Leningrad, Academie des Sciences de l'URSS, Moscou, Leningrad 2(1): 1-453.

Gussakovskij, V. 1947: Insectes Hyménoptéres, Chalastogastra 2. – Fauna SSSR, Moskva, Leningrad, Academie des Sciences de l'URSS, Moscou, Leningrad 2(2): 1-235.

Haris, A. & Józan, Zs. 2018: Data to the Hymenoptera fauna of Sicily (Hymenoptera: Symphyta and Aculeata). – Natura Somogyiensis 31: 63-76. https://doi.org/10.24394/NatSom.2018.31.63

Kaplan, E., Mart, A., Haris, A. & Yildrim, E. 2018: Contribution to the knowledge of the Megalodontesidae, Argidae, Cimbicidae, Cephidae and Tenthredinidae (Symphyta: Hymenoptera) fauna from Bingöl and Diyarbakır provinces of Turkey. – Natura Somogyiensis 32: 109-120. https://doi.org/10.24394/NatSom.2018.32.109

Kaplan, E. & Haris, A. 2021: Contribution to the knowledge of the sawflies (Hymenoptera: Symphyta) from Turkey. – Natura Somogyiensis 37: 11-24. https://doi.org/10.24394/NatSom.2021.37.11

Kaplan, E. & Haris, A. 2022: Third contribution to the knowledge of the Symphyta (Hymenoptera) from Turkey. – Natura Somogyiensis 38: 47-54. https://doi.org/10.24394/NatSom.2022.38.47

Kaplan, E., Efil, L., & Haris, A. 2024: Some sawflies from Turkey with description of a new species. – Natura Somogyiensis 42: 151-158. https://doi.org/10.24394/NatSom.2024.42.151

Kaplan, E., Haris, A. & Kiliç, H. 2023: Seasonal flight activity and temporal dynamics of species richness of sawflies (Hymenoptera: Symphyta) in the Anatolian and Pannonian biogeographic regions. – Munis Entomology & Zoology 18(1):600-608.

Lacourt, J. 2020: Sawflies of Europe: Hymenoptera of Europe 2 N. A. P. Editions. Verriéres-le-Buisson 876 pp.

Macek, J., Roller, L., Beneš, K., Holý, K. & Holuša, J. 2020: Blanokřídlí České a Slovenské republiky II. Širopasí. – Academia Praha. 669 pp.

Mutlu, C. 2019: Wheat Stem Sawflies in the Southeast Anatolia Region of Turkey. – Entomological News 128 (3): 267-283. https://doi.org/10.3157/021.128.0307

ÖRGEN, S. H. & BASIBÜYÜK, H. H. 2006: Member of the Sawfly Family Argidae (Hymenoptera) from Turkey. 393-399. – In Blank, S. M., Schmidt, S. and Taeger, A. Recent Sawfly Research: Synthesis and Prospects. Goecko & Evers, Keltern. Pp. 701.

PROUS, M., LISTON, A. & MUTANEN, M. 2021: Revision of the West Palaearctic Euura bergmanni and oligospila groups (Hymenoptera, Tenthredinidae). – Journal of Hymenoptera Research 84: 187–269. https://doi.org/10.3897/jhr.84.68637

SUNDUKOV, Y. Y. 2017: Suborder Symphyta. – sawflies and wood wasps. In: LELEJ A. S. (ed.). Annotated catalogue of the Hymenoptera of Russia. Volume I. Symphyta and Aculeata. – Proceedings of the Zoological Institute RAS. Supplement 6: 20-117.

ZHELOCHOVTSEV, A. N. 1988: Otryad Hymenoptera – Pereponchatokrylye, Podotryad Symphyta – Sidyachebryukhie, 7-234. In: MEDVEDEV, K.H. (ed.) Opredelitel nasekomykh evropeiskoi chasti SSSR, Vol. 3 Hymenoptera, Part 6, Nauka, Leningrad. https://doi.org/10.5962/bhl.title.46334