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Belgian Journal of Entomology

Microrestes gen. nov., a new genus in the Oriental stick insect tribe Datamini Rehn & Rehn, 1939 with a new species and a new combination (Phasmida: Heteropterygidae: Dataminae)

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Published: Brussels, 27 November 2020

Citation: BRESSEEL J. & CONSTANT J., 2020. - *Microrestes* gen. nov., a new genus in the Oriental stick insect tribe Datamini Rehn & Rehn, 1939 with a new species and a new combination (Phasmida: Heteropterygidae: Dataminae). *Belgian Journal of Entomology,* 106: 1–19.

ISSN: 1374-5514 (Print Edition)

ISSN: 2295-0214 (Online Edition)

The Belgian Journal of Entomology is published by the Royal Belgian Society of Entomology, a non-profit association established on April 9, 1855.

Head office: Vautier street 29, B-1000 Brussels.

The publications of the Society are partly sponsored by the University Foundation of Belgium.

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Front cover: *Microrestes robustus* sp. nov. maiting pair. © R. Krijns.

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Abstract

The genus *Microrestes* gen. nov. is erected to accommodate the new species *Microrestes robustus* sp. nov. from North Vietnam. *Pylaemenes trapezius* Ho, 2016 from southern China is transferred to *Microrestes* and the new combination *M. trapezius* (Ho, 2016) comb. nov. is proposed. A third species of *Microrestes* is recorded from northern Thailand based on photographs.

The genus is compared with the other genera of Dataminae. *Microrestes robustus* sp. nov., the type species, is described and figured from both sexes and the egg. The genus is recorded from Vietnam, China and Thailand. A key and distribution map are provided for its species. A standardized nomenclature of the cephalic armature for *Microrestes* gen. nov. is proposed.

Keywords: Global Taxonomy Initiative, Indochina, *Orestes*, Phasmatodea, *Pylaemenes*, Zootaxonomy

Introduction

Dataminae are small, robust stick insects predominantly living near the forest floor. They resemble small pieces of wood, bark or sticks. Their distribution ranges from Japan, Taiwan and China to the north over the entire Sundaland as far southeast as Seram and Halmahera in Wallacea (HENNEMANN *et al.*, 2016).

During the study of Dataminae specimens collected in the framework of the Global Taxonomy Initiative project "A step further in the entomodiversity of Vietnam", a particularly small species could not be attributed to any known genus and is closely related to the Chinese species currently known as *Pylaemenes trapezius* Ho, 2016. Hence the new genus *Microrestes* gen. nov. is created to accommodate both these species.

The tribe Datamini Rehn & Rehn, 1939 currently comprises eight genera including the here newly described genus. HENNEMANN *et al.* (2016a) provided characters like the lack of a beak-like ovipositor, no medio-apical spine on the area apicalis, paired sensory areas on the prosternum and an additional central sensory area on the profurcasternum. The new genus violates one of the key characters of Dataminae by having three sensory areas on the prosternum instead of two, a trait unique within the entire family Heteropterygidae.

A single female of the newly described species *Microrestes robustus* gen. et sp. nov. was collected in Ngọc Sơn-Ngổ Luông Nature reserve in Hoa Binh province, Vietnam. During a

visit to MNHN, the authors located a second female from Hoa Binh province (collected in 1934) in that collection. Additional material was acquired by captive breeding.

The present paper aims to describe the genus *Microrestes* gen. nov., to describe the new species *Microrestes robustus* sp. nov., to transfer *Pylaemenes trapezius* Ho, 2016 to *Microrestes* and to differentiate the new genus from other genera in Dataminae. It is part of an ongoing study aiming a comprehensive insight on the relationships between the different taxa of Dataminae. (see also BRESSEEL & CONSTANT, 2018).

Material and methods

Due to their nocturnal behaviour, as typical for most Phasmida, the female specimen of *Microrestes robustus* sp. nov. was collected at night. A light-weight and water-proof head torch (Petzl MYO RXP) was used during collecting. The female was kept alive in a plastic box for producing eggs. Eggs were collected and hatchlings were reared to adulthood by Rob Krijns (Netherlands) and Daniel Dittmar (Germany). The wild caught specimen was euthanized in a killing jar with etylacetate (EtOAc) fumes. The specimen was then stored in an airtight plastic "zip"-bag in wood chips (used in rodent cages) and sprinkled with etylacetate (EtOAc) to prevent rotting, moulding and to keep the specimen flexible. The specimen was mounted later on.

For each picture of the new species, a number of photographs were taken with a Canon 700D camera equipped with a Sigma 50 mm Macro lens (for adults), or with a Leica EZ4W stereomicroscope with an integrated camera (for eggs). The pictures were stacked with CombineZ software and optimized with Adobe Photoshop CS3. The distribution map was produced with SimpleMappr (SHORTHOUSE, 2010). Observations were done with a Leica EZ4W stereomicroscope and measurements were taken with an electronic calliper.

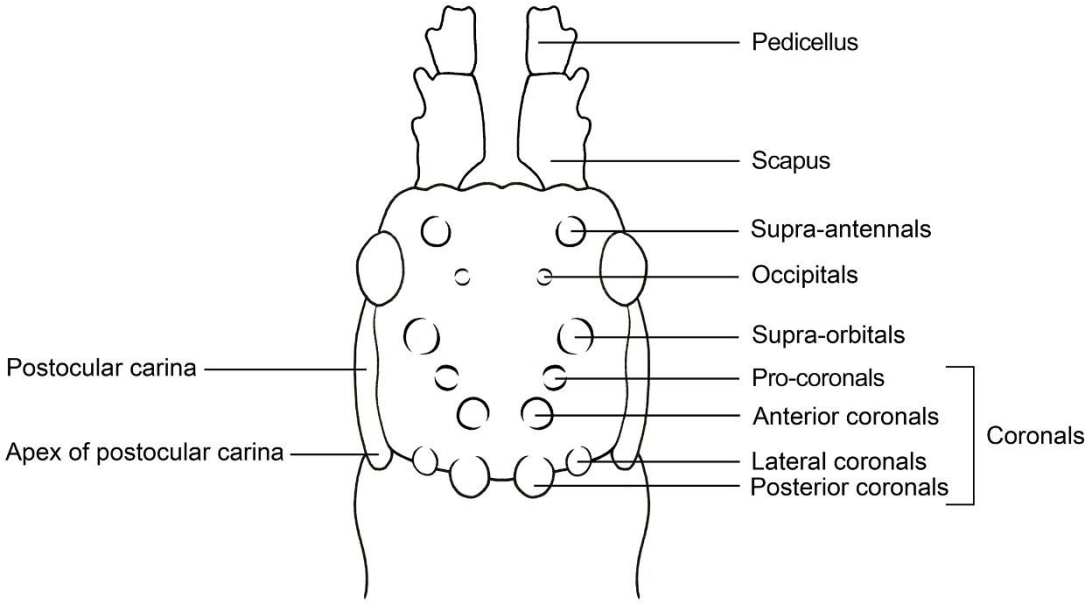

Fig. 1. *Microrestes* gen. nov., nomenclature of cephalic armature.

The nomenclature of the armature of the head (Fig. 1) is adapted from the one proposed for *Orestes* Redtenbacher, 1906 by BRESSEEL & CONSTANT (2018a). It contains the following addition:

- *pro-coronals* = a pair of small spines or granules positioned between the supra-orbitals and the anterior coronals.

For other morphological characters we follow BRAGG (2001) and for the egg morphology we follow CLARCK-SELLICK (1997; 1998). The description of the colouration is based on live and dried specimens.

Acronyms used for the collections:

MNHN = Museum National d'Histoire Naturelle, Paris, France.

RBINS = Royal Belgian Institute of Natural Sciences, Brussels, Belgium.

VNMN = Vietnam National Museum of Nature, Hanoi, Vietnam.

Abbreviations:

N.P.: National Park

N.R.: Nature Reserve

HT: holotype

PT: paratype

Taxonomy

Family Heteropterygidae Kirby, 1869
Subfamily Dataminae Rehn & Rehn, 1939
Tribe Datamini Rehn & Rehn, 1939

Genus *Microrestes* gen. nov.

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TYPE SPECIES: *Microrestes robustus* sp. nov. by present designation.

ETYMOLOGY. The genus name is formed by the combination of "*Micr*-" derived from the greek word μικρός (micros) meaning small and "-*orestes*", the name of another genus in Dataminae. It refers to the small size of the new genus and its close relationship with *Orestes* Redtenbacher, 1906. Gender masculine.

DIAGNOSIS. Differing from all other known genera of Dataminae by the following combination of characters:

1) Body length of females < 40mm, males < 35mm.
2) Scapus with two spines and pedicellus with one spine on the outer lateral margin.
3) Pronotum trapezoidal with anterior margin narrower than posterior margin.
4) Prosternum with three sensory areas and profurcasternum with one sensory area (Fig 2.).
5) Mesonotum trapezoidal with anterior margin wider than posterior margin.
6) Meso- and metanotum with lateral margins thickened and with a distinct mediolongitudinal carina.
7) Poculum in males more or less bowl-shaped, apical portion flattened and notched.
8) Anal segment in females more or less rectangular in dorsal view, not distinctly tapering towards the posterior.
9) Egg capsule smooth and minutely pitted, micropylar plate with anterolateral arms reaching ventral surface.

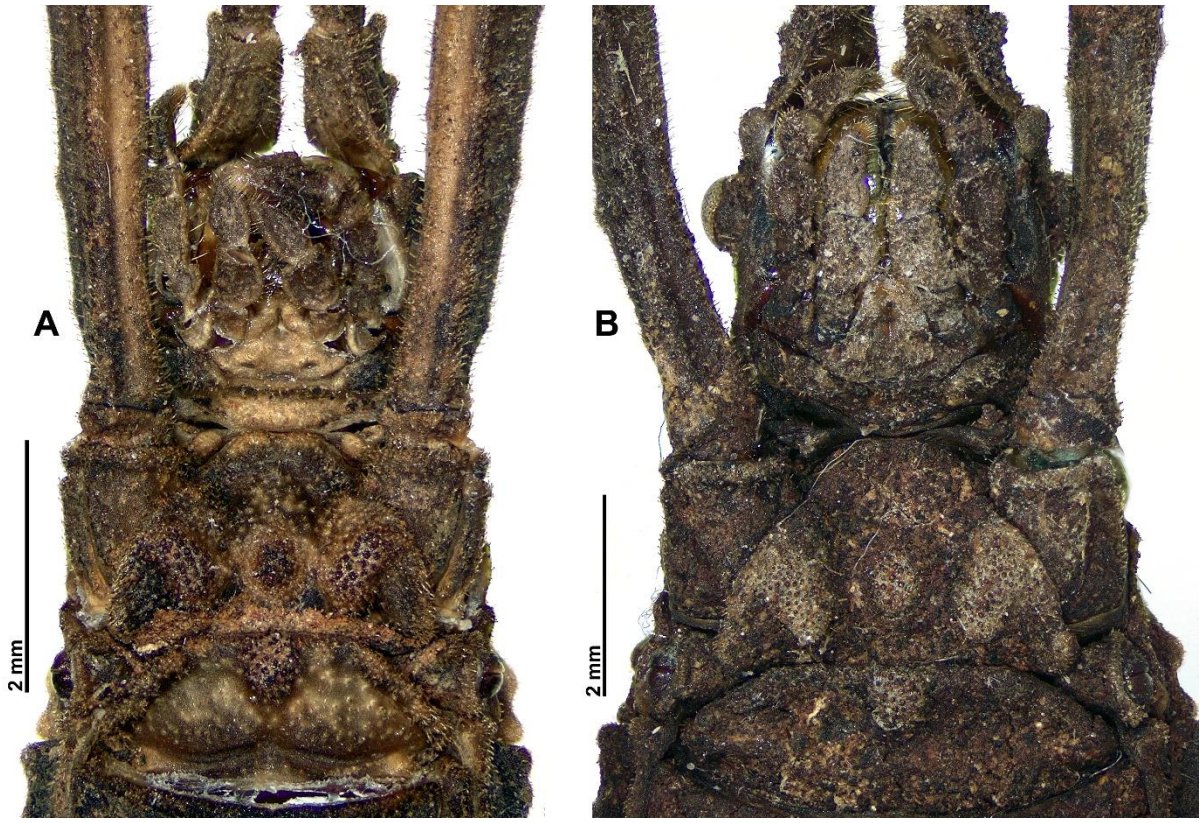

Fig. 2. *Microrestes robustus* sp. nov., prosternal sensory organs. A, paratype ♂. B, holotype ♀.

DIFFERENTIAL DIAGNOSIS. The new genus shows close relationship with *Orestes* Redtenbacher, 1906 and *Pylaemenes* Stål, 1875. With *Pylaemenes* it shares the trapezoidal pronotum but differs by the posteriorly straight anal segment and by the not laterally expanding abdominal terga VIII–IX. With *Orestes* it shares the almost parallel-sided anal segment which is dorsally flattened in females and has two distinct tuberculose oblique carinae, but can be differentiated by the trapezoidal meso- and metanotum. Eggs can readily be differentiated from those of *Orestes* and *Pylaemenes* by completely lacking setae on capsule.

DESCRIPTION

MALE AND FEMALE

Body: Males mainly brown to almost black, females colouration more variable, but predominantly brown, sometimes with some light brown mottling.

Head: Supra-antennals and supra-occipitals present, supra-occipitals not split into anterior and posterior supra-occipitals. Vertex raised and slightly projecting over anterior margin of pronotum. Supra-orbitals, pro-coronals and anterior coronals present, spinose in males, lamellate and carinate in females. Posterior coronals and lateral coronals present. Postocular carina distinct with a definite blunt spine apically. Eyes relatively small, almost circular and projecting laterally. Antennae shorter than front legs; scapus strongly flattened dorsally, carinate laterally and with a central and a subapical blunt spine on outer lateral carina; pedicellus with a blunt spine on outer lateral margin. Third antennomere longer than following two antennomeres combined.

Thorax: Pronotum transverse, trapezoidal and widening towards the posterior; anterior margin concave. Posterior margin distinctly wider than anterior margin and straight. Mesonotum trapezoidal with anterior margin wider than posterior margin and with an anterolateral granule or spine; anterior margin raised medially, lateral margins thickened; mediolongitudinal carina

distinct; in lateral aspect, anterolateral margin distinctly lower than posterolateral margin. Prosternum with three sensory areas, lateral areas elongate oval, central area small and circular. Sensory area on profurcasternum small and circular.

Abdomen: Median segment rugose, strongly transverse and with posterior margin more or less straight; medially with raised longitudinal carina, diverging near posterior margin. Abdominal terga rugose and transverse; terga II–IV gradually widening towards the posterior, tergum IV and V more or less parallel-sided. Females with anal segment dorsally flattened, sublaterally with oblique row of minute tubercles that reaches up to the posterolateral angles; posterior margin straight. Subgenital plate with posterior portion strongly rounded in lateral view; ventral portion with three longitudinal carinae, one medially and two submedially; not reaching apex of tergum X. Males with anal segment somewhat flattened, incised posteromedially and posterolaterally; posterolateral angles indistinctly raised. Poculum with anterior portion rounded and medially keeled; posterior portion distinctly flattened and notched apically. Cerci very small, dorsoventrally flattened, not reaching apex of abdomen.

EGG. Capsule blackish and spherical, capsule surface minutely pitted. Micropylar plate distinct, dorsal portion narrow and nearly reaching to operculum; posteriorly diverging with posterolateral arms surrounding capsule and reaching ventral surface of capsule with apices rounded or merging. Micropylar cup small, with a short median line that reaches the polar area. Operculum slightly convex, almost circular.

DISTRIBUTION. Currently known from North Vietnam, southwest China and northern Thailand (Fig. 3).

SPECIES INCLUDED:

M. robustus sp. nov.	[Vietnam: Ngoc Son-Ngo Luong N.R.]
M. trapezius (Ho, 2016) comb. nov.	[China: Xishuangbanna]

Key to the species of *Microrestes* gen. nov.

- Metanotum with a definite spine anterolaterally .....*Microrestes trapezius* **comb. nov.**
- Metanotum without a distinct spine anterolaterally..... *Microrestes robustus* **sp. nov**.

***Microrestes robustus* sp. nov.**

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(Figs 2–8)

ETYMOLOGY. The species epithet *"robustus"* (adjective, Latin) means firm, solid or robust and refers to the general shape of this species.

TYPE MATERIAL. VIETNAM. **Holotype** ♀: Hoa Binh prov., Ngo Luong Nat. Res., 20°26'16"N 105°20'15"E, 25-30.VII.2016, GTI Project, Leg. J. Constant & J. Bresseel, I.G.:33.282 (RBINS).

Paratypes (3♂♂, 3♀♀): 1♀: Tonkin, Région de Hoa-Binh, A. De Cooman, 1934 (MNHN); 1♂: same data as holotype, ex breeding R. Krijns 2018 (RBINS); 2♂♂, 2♀♀: same data as holotype, ex breeding D. Dittmar 2020. (1♂, 1♀: RBINS; 1♂, 1♀: VNMN).

ADDITIONAL MATERIAL. 5 eggs: same data as holotype, ex breeding D. Dittmar 2020 (RBINS).

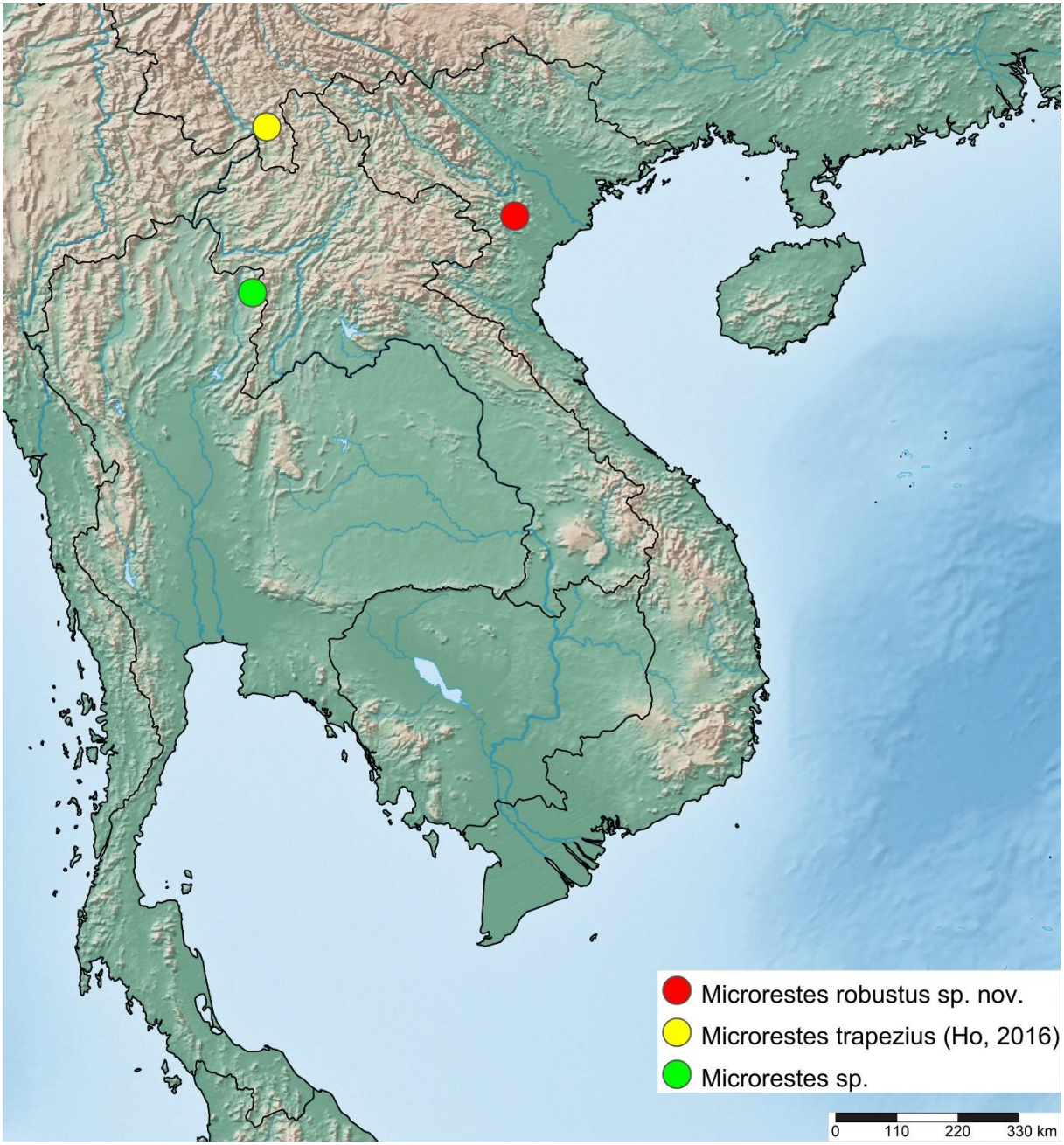

Fig. 3. *Microrestes* spp. distribution map.

DIAGNOSIS. The new species resembles the only other species in the genus *M. trapezius* (Ho, 2016) comb. nov., but is slightly smaller and has the body and leg armature much less developed. The anterolateral margins of the mesonotum are only armed with an indistinct tubercle, while they are distinctly spinose in *M. trapezius*.

DESCRIPTION

MALE (Figs 2A, 4, 7 E–F).

MEASUREMENTS: see table 1.

Head: Supra-antennals and occipitals present as small, blunt spines. Vertex raised and slightly elongated. Supra-orbitals, pro-coronals and anterior coronals present as small, blunt spines; supra-orbitals slightly laterally flattened and larger than pro-coronals and anterior coronals.

Posterior coronals about the same size as anterior coronals. Lateral coronals indistinct and only represented as minute elevations. Postocular carina with a definite blunt spine apically. Eyes relatively small, almost circular in outline and projecting laterally. Antennae shorter than front legs, consisting of 18 segments (*n*=3); scapus strongly flattened dorsally, laterally carinate and with a median and a subapical blunt spine on outer lateral carina; pedicellus slightly flattened dorsoventrally, indistinctly narrowing towards the posterior and with a blunt spine on outer lateral margin. Third antennomere longer than following two antennomeres combined. Segment XIII with minute spine anterolaterally. Apical antennomere elongated, club-shaped and distinctly longer than preceding segments. Apical five antennomeres yellowish.

Thorax: Pronotum transverse and trapezoidal, widening towards the posterior; anterior margin concave. Lateral margin with small lobe anteriorly, indistinctly undulate towards the posterior. Prozona elevated centrally and with four conical tubercles. Metazona elevated centrally and with two carinae that are armed with four conical tubercles. Posterior margin distinctly wider than anterior margin and straight. Mesonotum trapezoidal with anterior margin wider than posterior margin, anterolateral margin with indistinct granule; anterior margin triangularly raised medially; lateral margin thickened. Mediolongitudinal carina distinct, indistinctly diverging posteromedially; posterior margin concave; anterolateral margin distinctly lower than posterolateral margin in lateral view. Mesopleura widest above coxae; widened portion notched laterally. Metanotum slightly longer than wide, anterior margin slightly wider than posterior one; anterior margin convex, not raised anteromedially; otherwise armed as mesonotum. Metapleura laterally expanding. Prosternum with three sensory areas, lateral ones elongate-oval, central one small, circular and not reaching lateral margins of segment. Sensory area on profurcasternum raised, small and circular.

Legs: Femora somewhat rugose with carinae present; dorsal carinae more distinct than ventral ones, medioventral carinae absent. Profemora indistinctly curved basally; dorsal carinae with very faint undulation; with blunt spine posteromedially and unarmed ventrally. Mesofemora slightly shorter than profemora, dorsally with two to three faint, evenly spaced and rounded elevations; ventrally unarmed. Metafemora slightly longer than profemora, armed as mesofemora. Tibiae with carinae indistinct, unarmed ventrally; dorsal carinae with minute, evenly spaced rounded elevations; shorter than or as long as corresponding femora. Tarsomeres very short with a square posteromedian hump dorsally. Claws very small.

Abdomen: Median segment short and distinctly transverse with an obtuse mediolongitudinal carina; posteriorly diverging, forming an inverted Y-shaped elevation; anterior margin convex, posterior margin straight. Abdominal terga rugose and transverse. Terga II–IV gradually narrowing; IV–VII more or less parallel-sided; II–VIII with carina as in median segment; VIII widening towards the posterior with posterior margin concave; IX with mediolongitudinal carina gradually raising towards the posterior but not diverging posteriorly; posterior margin with two granules medially and one submedially; posterolateral angles slightly extended. Anal segment somewhat flattened, incised posteromedially and posterolaterally. Posterolateral angles indistinctly raised and rounded. Poculum with anterior portion rounded and keeled medially, posterior portion distinctly flattened and notched apically. Vomer well projecting over posterior margin of poculum, with a single up-curving distal point. Cerci very small, flattened dorsoventrally and not reaching apex of abdomen. Epiproct short and broadly rounded, only visible in ventral aspect.

Fig. 4. *Microrestes robustus* sp. nov., paratype ♂ (RBINS). A, habitus, dorsal view. B, habitus, ventral view. C, head and thorax, dorsal view. D, head and thorax, ventral view. E, terminalia, lateral view. F, terminalia, dorsal view. G, habitus, lateral view. H, habitus, dorsolateral view. I, terminalia, ventral view. J, head and thorax, lateral view. K, area apicalis and tarsi.

FEMALE (Figs 2B, 5–6, 7 C–G).

MEASUREMENTS: see table 1.

Head: Supra-antennals and occipitals present as small blunt spines. Vertex raised and slightly elongated. Supra-orbitals, pro-coronals and anterior coronals almost continuous, merged into two undulate carinae. Carinae almost touching posteromedially. Posterior- and lateral coronals reduced to rounded tubercles. Postocular carina slightly more raised towards the posterior with a triangular tubercle apically and a smaller one subapically. Eyes relatively small, oval and projecting laterally. Antennae shorter than legs with 19 segments (*n*=2); scapus strongly flattened dorsally; carinate laterally and with central and subapical, blunt spines on outer lateral carina; pedicellus slightly flattened dorsoventrally, narrowing towards the posterior and with blunt spine on outer lateral margin; third antennomere longer than following two antennomeres combined; segment XV with minute spine anterolaterally; apical antennomere elongated, club-shaped and distinctly longer. Apical antennomere and preceding segment yellowish.

Thorax: Pronotum transverse, trapezoidal and widening towards the posterior; anterior margin concave; lateral margins with small lobe anteriorly, undulate towards the posterior; prozona elevated centrally and with four granules; metazona elevated centrally and with two carinae armed with four granules to tubercles; posterior margin distinctly wider than anterior one and straight. Mesonotum with only few granules dorsally; anterior margin distinctly raised, anteromedially with a pair of granules and anterolateral angles with two small granules; medially with a raised longitudinal carina, diverging near posterior margin; widest anteriorly, laterally carinate and narrowing towards the posterior; anterolateral margin distinctly lower than posterolateral one in lateral view; posterior margin slightly concave. Mesopleura widest above coxae; widened portion undulate laterally. Metanotum with anterior margin concave; distinctly wider than long, more or less parallel-sided with lateral margins carinate; medially with raised longitudinal carina, diverging near posterior margin; portions more or less smooth. Metapleura widest medially, lateral margin undulate. Sensory areas as in male.

Legs: femora with carinae present, anterodorsal carina of profemora slightly raised; apex with medial small granule. Profemora rugose, indistinctly curved basally with posterior part of anterodorsal carina slightly undulate; posterodorsal carina with three evenly spaced minute elevations; ventrally unarmed. Mesofemora slightly shorter than profemora, dorsally with two to three evenly spaced, rounded elevations, ventrally unarmed. Metafemora slightly longer than profemora, armed as mesofemora. Tibiae with carinae indistinct, unarmed ventrally; dorsal carinae with evenly spaced rounded elevations; shorter than corresponding femora. Tarsomeres very short with square posteromedian hump dorsally. Claws very small.

Abdomen: median segment rugose, strongly transverse and with posterior margin more or less straight; medially with raised longitudinal carina, diverging near the posterior margin. Abdominal terga rugose. Terga II–IV gradually widening towards the posterior; IV–V more or less parallel-sided; II armed as median segment; III–V with x-like carinae medially that have the posterior arms more diverging than anterior ones, posterolateral edges triangularly elevated, slightly elongated and thickened with sometimes a small submedial granule posteriorly; VI–X gradually narrowing; VI–VII very short, armed as tergum II. Tergum VIII distinctly longer than VII and slightly ascending, posterolaterally with a spinose granule, centrally with short carina, with pair of granules posteromedially and with two small submedial granules posteriorly, with posterior margin strongly concave; IX distinctly ascending with a well-defined posteromedian

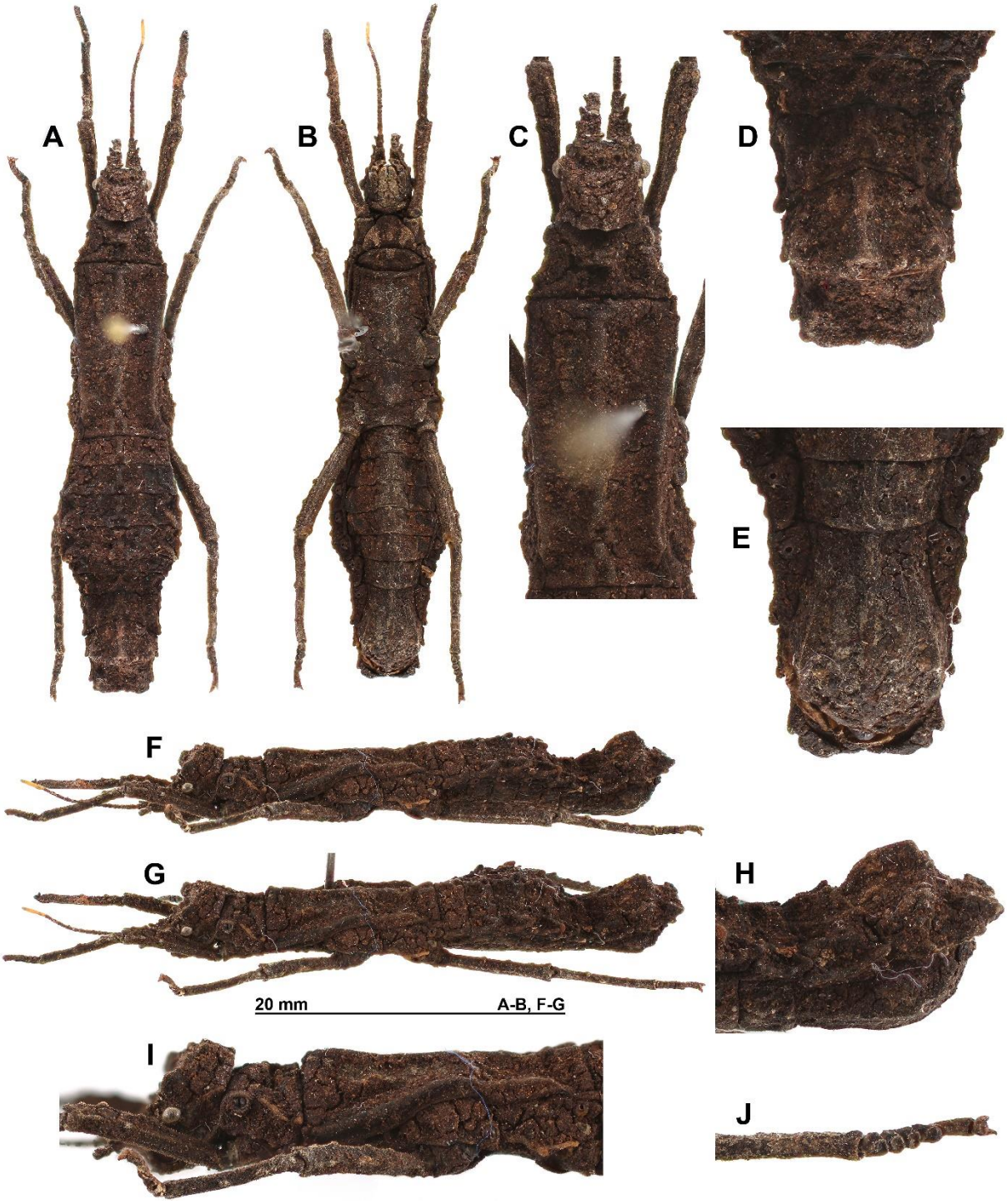

Fig. 5. *Microrestes robustus* sp. nov., holotype ♀ (RBINS). A, habitus, dorsal view. B, habitus, ventral view. C, head and thorax, dorsal view. D, terminalia, dorsal view. E, terminalia, ventral view. F, habitus, lateral view. G, habitus, dorsolateral view. H, terminalia lateral view. I, head and thorax, lateral view. J, area apicalis and tarsi.

crest formed by two converging carinae, anterior and posterior margins rounded with conical tubercle laterally and sublaterally. Anal segment dorsally flattened; anteriorly with minute median tubercle, sublaterally with oblique row of minute tubercles reaching posterolateral angles, posterior margin straight and granulose, lateral margins with a minute blunt spine medially. Subgenital plate with posterior portion strongly rounded in lateral view, boat-shaped; ventral portion with three longitudinal carinae, one medially and two submedially; widest part

Fig. 6. *Microrestes robustus* sp. nov., holotype ♀, in situ. A, dorsal view. B, dorsolateral view.

at median portion; posterior margin short, dorsoventrally flattened and rounded apically; not reaching margin of tergum X. Sterna with a mediolongitudinal carina.

NYMPH (Fig. 7 A–D). Newly hatched nymphs fairly broad; coloured brown with lateral margins of body paler; paler margins more distinct on abdomen; legs with pale markings; head with complete cephalic armature present (Fig. 1); pronotum trapezoidal; meso- and metanotum with lateral edges thickened and with mediolongitudinal carina; abdominal terga gradually narrowing towards the posterior; median segment and terga II–VIII with posteriorly diverging mediolongitudinal carina.

Fig. 7. *Microrestes robustus* sp. nov., living specimens. A, newly hatched nymph, lateral view. B, newly hatched nymph, dorsal view. C, female nymph colour variation, dorsal view. D, adult females and nymphs at different stages. E, mating pair, lateral view. F, male and female, dorsal view. G, female, dorsolateral view.
A–E, © R. Krijns, F–G, © D. Dittmar.

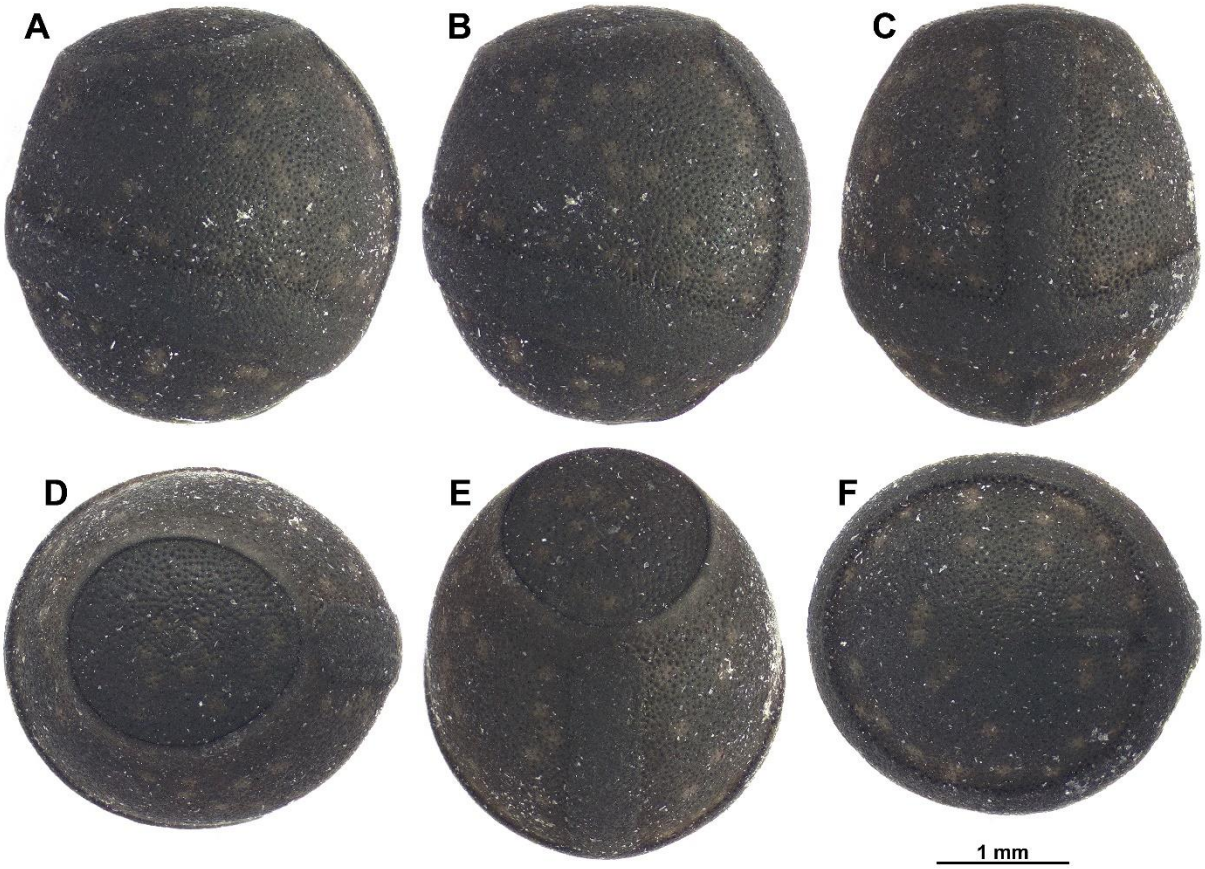

Fig. 8. *Microrestes robustus* sp. nov., egg. A, lateral view. B, dorsolateral view. C, dorsal view. D, operculum. E, anterodorsal view. F, polar area.

Table 1. Measurements [mm] of *Microrestes robustus* sp. nov.

Length of	**HT** ♀	**PT** ♂♂	**PT** ♀♀
Body:	34.0	29.5	33.9
Head:	5.6	4.1	5.7
Pronotum:	3.1	2.4	3.3
Mesonotum:	6.5	5.6	6.7
Metanotum:	3.4	2.8	3.4
Median segment:	1.6	1.3	1.8
Profemora:	6.5	5.0	5.9
Mesofemora:	5.8	4.6	5.4
Metafemora:	6.8	5.6	7.3
Protibiae:	5.7	4.9	5.3
Mesotibiae:	5.0	4.1	5.0
Metatibiae:	7.1	5.6	6.8

EGG (Fig. 8). MEASUREMENTS [mm]. Length: 3.1; width: 2.8; height: 3.1.

Egg capsule almost spherical; blackish with minute, brown round markings. Operculum sub-circular and slightly convex; capsule and operculum minutely pitted. Micropylar plate slightly raised, trilobate with one anterior expansion and two posterior expansions. Anterior expansion

parallel-sided, reaching to margin of operculum and rounded anteriorly. Posterior expansions projecting laterally, slightly directed towards the anterior and merging ventrally. Micropylar cup indistinct and cup-shaped; median line somewhat raised, reaching polar area.

BIOLOGY. The female holotype of *M. robustus* sp. nov. was collected on the forest floor in tropical evergreen rainforest. The specimen was found on a narrow trail running through a large, closed patch of Araceae. In captivity nymphs and adults also feed on a variety of Araceae (e.g. *Epipremnum* spp., *Arum* sp.); but hazel, *Corylus avellana* L. (Betulaceae) and firethorn, *Pyracantha coccinea* M. (Rosaceae) are also accepted as substitute food-plants (pers. com. R. Krijns and D. Dittmar).

Microrestes trapezius (Ho, 2016) comb. nov.

Pylaemenes trapezius HO, 2016: 3, figs. 1–6, 11–14 [described and figured].

Pylaemenes trapezius – BRESSEEL & CONSTANT, 2018a: 61 [retained in *Pylaemenes*]. – HO, 2018: 277 [related to *Pylaemenes abramovi* Ho, 2018].

COMMENTS

HO (2016) described this species in the genus *Pylaemenes* Stål, 1875 and differentiated it from the other members of the genus by the trapezoidal mesonotum of both sexes, a generic character of *Microrestes* gen. nov. The head armature as well as the shape of the last abdominal segments also agree with *Microrestes* gen. nov., and the species is therefore transferred from *Pylaemenes*. Unfortunately, the sensory areas of pro- and profurcasternum were not described. Hence, it remains unknown whether this species also has three sensory-areas on the prosternum as seen in *M. robustus* sp. nov.

This species occurs in Xishuangbanna Autonomous Prefecture in China, bordering Laos and Myanmar. The region has a subtropical to tropical climate.

Microrestes sp.
(Fig. 9)

PHOTOGRAPHIC RECORD. THAILAND: ♂: Nan province, Doi Phu Kha N.P., 17.VII.2016, K. Jiaranaisakul.

COMMENTS

This species is only known from photographic records of a single male from Doi Phu kha National Park, Nan Province in northern Thailand. The typical head armature (Fig. 1), the trapezoidal mesonotum and fairly shallow, bowl-shaped poculum as well as the small size of the male, all agree with the generic characters of *Microrestes* gen. nov. In addition to *Orestes* Redtenbacher, 1906 and *Dares* Stål, 1875 (BROCK *et al.*, 2020), *Microrestes* gen. nov. is the third genus of Dataminae known recorded from Thailand. However, *Dares* is most probably endemic to Borneo and Palawan and the taxonomic position of *Dares ziegleri* Zompro & Fritzsche, 1999 from Thailand needs to be re-evaluated.

Discussion

REHN & REHN (1939) erected the tribe Datamini and differentiated it from Obrimini, the only other tribe they included in Obriminae, by having in addition to the intercoxal specialized area of the prosternum, a similarly "specialized area" on the anterior portion of the mesosternum. The authors referred to what would later be known as the "sensory areas" on the prosternum and profurcasternum (ZOMPRO, 2004; BRADLER, 2009; HENNEMANN et al., 2016a). Sensory

areas are raised and round to oval in shape and are covered with minute "mushroom-shaped" extensions. The function of these "sensory" areas currently remains unknown. ZOMPRO (2004) raised Datamini to subfamily level as Dataminae, based on the position of these sensory areas, as well as the absence of a spine on the area apicalis and the absence of a beak-like ovipositor in females.

Prior to the present publication, 55 valid species and three subspecies of Dataminae were known (BROCK *et al.*, 2020) and all of them possess two sensory areas on the prosternum and one on the profurcasternum. *Microrestes* gen. nov. shows an additional median sensory area on the prosternum (Fig. 2), which is unique in Dataminae. In all other morphological aspects the new genus completely agrees with the Dataminae body morphology, including the lack of a medio-

Fig. 9. *Microrestes* sp., ♂, living specimen from Thailand, Nan province, Doi Phu Kha N.P., 17.VII.2016. A, lateral view. B, head and thorax, dorsolateral view. C, head and thorax, dorsal view. D, terminalia, dorsal view. E, terminalia, ventral view. F, terminalia, lateral view. © K. Jiaranaisakul.

apical spine in the area apicalis and the absence of an ovipositor. The additional sensory area present in this genus must therefore be regarded as an autapomorphy. This feature could unfortunately not be confirmed for *Microrestes trapezius* Ho, 2016 comb. nov. Prosternal sensory organs have also been observed in not closely related taxa like *Neooxyartes* Ho, 2018 in Lonchodidae (described by BRESSEEL & CONSTANT (2018b) for the junior synonym *Pterohirasea* Bresseel & Constant, 2018) and the neotropical *Pterinoxylus* Serville, 1838 in Phasmatidae (BRADLER, 2009; HENNEMANN *et al*., 2016b)

The armature of the head is an important character for distinguishing between species and genera of Datamini (BRESSEEL & CONSTANT, 2018a). The number and arrangement of the cephalic spines and tubercles seem to represent useful generic characters, whereas their shape and size (e.g. whether developed as spines or just tubercles) seems species-specific. The different parts of the head morphology are easier to observe in males as they are often merging into lamellae in females. Ongoing molecular research will provide more insight on the phylogenetic placement of the new genus.

More than one third of the species in Dataminae were described in the last decade (BROCK *et al*. 2020) and the number of taxa in this subfamily exceeds far beyond previous expectations (Bresseel & Constant, unpublished data). The documented distribution of the genus *Microrestes* gen. nov. suggests more species awaiting their description as the different localities of the three species encircle the northern part of Laos.

Acknowledgements

We thank Dr Hong Thai Pham (VNMN) and his colleagues for all their help and friendship during the collecting trip; the authorities of Ngoc Son-Ngo Luong N.R. for supporting our studies. We are deeply indebted to Rob Krijns (The Netherlands) and Daniel Dittmar (Germany) for breeding and photographing the species and providing additional material and data. Mr Emmanuel Delfosse and Dr Tony Robillard (MNHN) are thanked for their help during our visit to MNHN; Miss Mado Berthet (RBINS) for improving the illustrations and Mr Kawin Jiaranaisakul (Rabbit in the Moon Foundation, Thailand) for providing the photographs of the specimen from Thailand. Dr Patrick Grootaert, Dr Yves Samyn and Dr Marie-Lucie Susini (RBINS) are thanked for their permanent support to our projects in Vietnam. This paper results out of the projects "A step further in the Entomodiversity of Vietnam" (2010–2019) supported through a grant issued by the capacity building Programme of the Belgian Global Taxonomy Initiative National Focal Point that runs under the CEBioS programme with financial support from the Belgian Directorate-General for Development Cooperation (DGD).

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