

**A new species of the genus *Oxyartes* Stål, 1875 from Vietnam
(Phasmida: Diapheromeridae: Necrosiinae)**

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ABSTRACT

A new species, *Oxyartes vietnamensis* sp. nov., from Vietnam is described.

Key words: Stick insects, *Oxyartes*, new species, Vietnam

越南刺異蝻屬一新種 (蝻目: 笛蝻科: 長角枝蝻亞科)

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摘要: 本文記述越南刺異蝻屬1新種: 越南刺異蝻 *Oxyartes vietnamensis* sp. nov.。

關鍵字: 竹節蟲, 刺異蝻屬, 新種, 越南

INTRODUCTION

The genus *Oxyartes* Stål, 1875 consists of nine species and is a small Necrosiinae genus in the Oriental region (Otte and Brock, 2005; Chen and He, 2008; Hennemann et al., 2008; Ho, 2017; Brock et al., 2018). This genus is characterized by a slender and elongate body, partially armed or unarmed thorax and abdomen, scale-like tegmina and rudiment-like alae. Chen and He (2008) provided the first taxonomic study for the Chinese species with the descriptions of three new species and one newly recorded species. Latter Ho (2017) revised the Chinese species with the descriptions of two new species.

In Vietnam, only two species are known including *O. lamellatus* Kirby, 1904 and *O. spinipennis* Carl, 1913, and both are restricted to the northern region closer to China. No *Oxyartes* species were found in central Vietnam until the present author examined several Vietnamese *Oxyartes* specimens from the phasmid collection of the Manchester Museum in the University of Manchester in U.K. and observed an undescribed *Oxyartes* species that was collected from central Vietnam. This new species is described as *Oxyartes vietnamensis* sp. nov. in this paper. A checklist of Vietnamese species and a key to species included from Vietnam are provided.

MATERIALS & METHODS

Both sexes of the type material are described. No egg material can be extracted from the abdomen of female adults. Measurements of adults are given in mm. Illustrations (Figures 1-5) are based on type material that is dried and pinned and deposited in the Manchester

Museum, University of Manchester, U.K. (MMUE) and Hong Kong Entomological Society, Hong Kong (HKES).

RESULTS

Oxyartes Stål, 1875

Type-species: *Phasma (Acanthoderus) despectum* Westwood, 1848: 80, pl. 39, by subsequent designation of Kirby, 1904: 324.

Description: Body medium to large sized, slender and elongate, mainly brown, female robust than male. Head oval. Mesonotum usually granulated and wrinkled, unarmed or armed with tubercles and/or spines. Abdomen wrinkled. Female's seventh sternum rarely with praeopercular organ with a scoop-shaped subgenital plate tapering posteriorly and with a pointed posterior margin. Male poculum small and cup-shaped. Anal segment with emargination on posterior margin. Cerci short, cylindrical, and straight or weakly curved inwards. Legs lacking noticeable armature, usually with small spines or serrations near apices of anteroventral and posteroventral carinae of femora. Tegmina minute and scale-like. Alae short and rudiment-like. Egg capsule oval and tapering posteriorly. Micropylar plate oval.

Distributions: China, Bangladesh, India, Laos and Vietnam.

Notes: Currently ten species are recognized from this Oriental genus and three species are known from Vietnam.

Species included from Vietnam

1. *Oxyartes lamellatus* Kirby, 1904: 374
= *Oxyartes honestus* Redtenbacher, 1908: 475, synonymized by Dohrn, 1910: 410
= *Oxyartes spinulosus* Redtenbacher, 1908: 475, synonymized by Dohrn, 1910: 410
= *Oxyartes spinosissimus* Carl, 1913: 46, synonymized by Hennemann et al., 2008: 18
Distribution: China (Guangxi) and Vietnam
2. *Oxyartes spinipennis* Carl, 1913: 47
Distribution: Vietnam
3. *Oxyartes vietnamensis* sp. nov.
Distribution: Vietnam

Key to the species of *Oxyartes* from Vietnam

Female:

1. Body robust, mesonotum with spines. *O. lamellatus*
- Body slender, mesonotum granulated and lacking spines. **2**
2. Alae lanceolate, posterior margin of anal region emarginated. *O. spinipennis*
- Alae oval, posterior margin of anal region rounded. *O. vietnamensis* **sp. nov.**

Male:

1. Mesonotum with spines. *O. lamellatus*
- Mesonotum granulated and lacking spines. **2**
2. Alae lanceolate, posterior margin of anal region emarginated. *O. spinipennis*
- Alae oval, posterior margin of anal region rounded. *O. vietnamensis* **sp. nov.**

Oxyartes vietnamensis **sp. nov.** (Figs. 1-7)

Type: Holotype, ♀, 1020 m asl, Kon Chu Rang Nature Reserve, c. 40 km N of K' Bang Town, Gia Lai Province, Vietnam, 14°30'19"N, 108°32'28"E, 24.V-2.VI.2016, A. V. Abramov, F3476.6 (MMUE); Paratypes, 2♀ & 2♂, same data as holotype, F3476.7-8 & F3476.41-42 (MMUE & HKES).

Differentiation: *Oxyartes vietnamensis* **sp. nov.** is related to *O. spinipennis* Carl, 1913, but can be easily separated by oval alae, a rounded posterior margin of the anal region of the alae in both sexes, absence of a praeopercular organ on the seventh abdominal sternum in females and an apically pointed vomer in males.

Etymology: The name of this new species is derived from the type locality, Vietnam.

Description of female (Figs. 1-2, 6): Body slender, distinctly thicker than male. General colouration of body brown.

Head: Oval, as long as pronotum and sparsely covered with small granules. Vertex flat and unarmed. Occiput flat, with distinct median and lateral longitudinal furrows. Posterior margin of occiput with six distinct posterior swellings. Compound eyes elliptical and small, their lengths about four times length in that of genae. Antennae long and filiform, with dense short bristles; apices surpassing apices of protarsi. Scapus longer than pedicellus, and longer than third segment.

Thorax: Wrinkled and sparsely covered with small granules. Pronotum rectangular, indistinctly emarginated medially, with anterior margin gently incurved, posterior margin rounded and transverse and longitudinal sulci just crossing at middle area. Mesonotum slender and

elongate, longer than combined length of pronotum, metanotum and median segment, with indistinct mediolongitudinal carina. Metanotum shorter than median segment.

Abdomen: Cylindrical, sparsely granulated, and wrinkled. Second or third to sixth tergites with a small posterior spine that gradually increase in size posteriorly. Seventh tergum with or without a crest on posterior area. Seventh sternum lacking praeopercular organ. Eighth tergum longer than ninth tergum and longer than anal segment. Anal segment longer than ninth tergum, medially constricted posteriorly, and with a small emargination on posterior margin. Supra-anal plate indistinct. Subgenital plate scoop-shaped, mediolongitudinally carinate, tapering posteriorly and with a pointed apex reaching middle area of anal segment. Cerci cylindrical and straight, with rounded apices and not surpassing posterolateral angles of anal segment.

Legs: Slender, long, maculated and sparsely covered with short bristles. All femora shorter than mesonotum. Profemora curved basally and roughly as long as protibiae, with posterodorsal carina weakly waved. Mesofemora roughly as long as mesotibiae. Metafemora shorter than metatibiae. Posteroventral carina of mesofemora and metafemora with two small serrations near apices. Protibiae and mesotibiae shorter than mesonotum, metatibiae almost as long as mesonotum. Medioventral carina of all tibiae indistinctly raised basally.

Wings: Tegmina minute and scale-like. Alae short and small, rudiment-like, shorter than head, and with posterior margin of anal region rounded.

Male (Figs. 3-5, 7): Medium-sized. Body slender, slimmer and smaller than female. General colouration of body and legs brown.

Head: Oval, as long as pronotum, flattened, and with sparse small granulations. Compound eyes elliptical, their lengths about two times length in that of genae. Occiput with distinct median and lateral longitudinal furrows. Posterior margin of occiput with eight small swellings. Antennae long and filiform; apices surpassing apices of protarsi. Scapus longer than pedicellus and as long as third segment.

Thorax: Wrinkled and sparsely covered with small granules. Pronotum rectangular, weakly emarginated medially, with anterior margin weakly incurved, posterior margin rounded and transverse and longitudinal sulci crossing at middle area. Mesonotum slender and elongate, almost parallel-sided, with a faint median longitudinal line, and longer than combined length of pronotum, metanotum and median segment. Metanotum roughly as long as median segment.

Abdomen: Wrinkled and sparsely covered with small granules. Second or third to sixth tergites with a posterior

spine that gradually increase in size posteriorly. Seventh tergum with or without a crest on posterior area. Eighth tergum longer than ninth tergum. Anal segment as long as ninth tergum, with a broad V-shaped emargination on posterior margin. Poculum cup-shaped, tapering posteriorly and, reaching anterior area of anal segment, with pointed posterior margin. Cerci short, cylindrical and straight, with apices rounded and not surpassing posterior margin of anal segment. Vomer almost symmetrical, constricted apically, with pointed apex.

Legs: Slender, long, maculated, unarmed, and sparsely covered with short bristles. All femora shorter than mesonotum. Profemora curved basally, roughly as long as protibiae, with posterodorsal carina weakly wavy. Mesofemora roughly as long as mesotibiae. Metafemora shorter than metatibiae. Posteroventral carina of mesofemora and metafemora with two small serrations near apices. Protibiae and mesotibiae shorter than mesonotum, metatibiae almost as long as mesonotum.

Wings: Tegmina minute and scale-like. Alae oval, rudiment-like, and shorter than metanotum.

Measurements: See Table 1.

Distribution: Gia Lai, Vietnam.

DISCUSSION

In this study, a new species, *Oxyartes vietnamensis* **sp. nov.**, from central Vietnam is described and illustrated. The discovery of *O. vietnamensis* **sp. nov.** further extends the genus' known range in Vietnam from the northern region to the central region. All three Vietnamese species can be well distinguished from each other by their unique traits. *Oxyartes lamellatus* Kirby, 1904 is widely distributed over northern Vietnam and southern China, but the other taxa are restricted to a few of localities in Vietnam. Although *O. vietnamensis* **sp. nov.** is morphologically similar to *O. spinipennis* Carl, 1913, the former can be easily diagnosed from the latter by oval alae and the rounded posterior margin of anal region of the alae in both sexes. *O. vietnamensis* **sp. nov.** is also similar to *O. lamellatus*, but can be separated by slender body and unarmed thorax in both sexes. Further collecting of specimens in different Vietnamese nature reserves may discover more new taxa for the genus in Vietnam.

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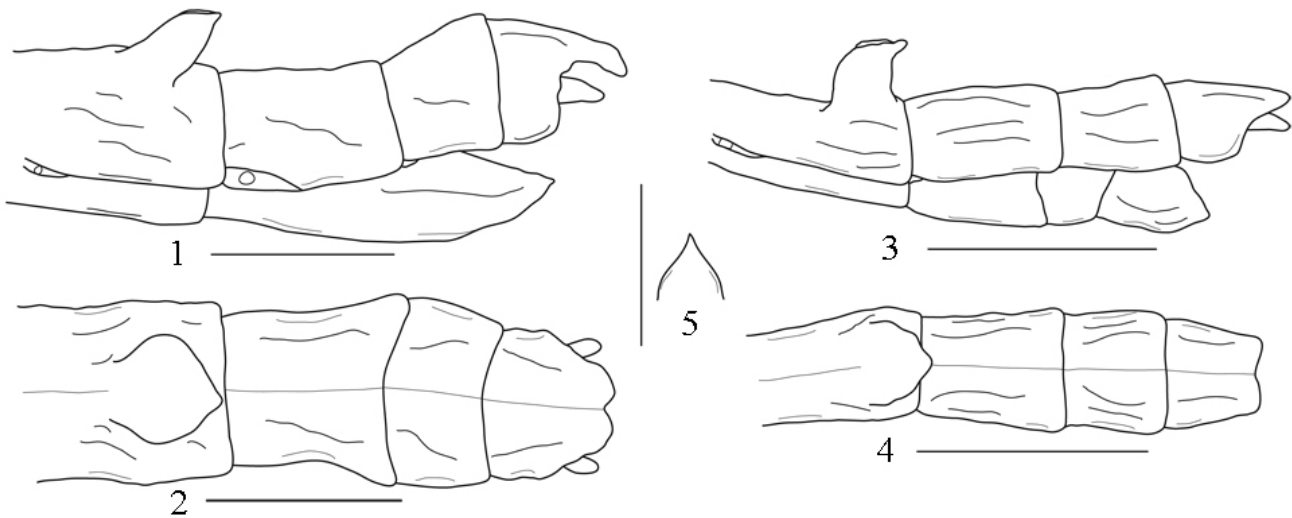
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TABLE & FIGURES

	Holotype Female	Paratype Females	Paratype Males
Body	97.0	94.0-95.0	74.0-80.0
Head	6.0	5.5-6.0	3.5-4.0
Antennae	54.0	51.0-55.0	54.0-65.0
Pronotum	6.0	6.0	4.0-4.5
Mesonotum	25.0	24.0-25.0	20.0-22.0
Metanotum	5.0	5.0	4.5-5.0
Median segment	7.0	6.0	4.0
Profemora	18.0	20.0	18.0-19.0
Mesofemora	15.0	15.0-16.0	13.0-15.0
Metafemora	20.0	21.0-22.0	19.0-21.0
Protibiae	18.0	21.0	21.0
Mesotibiae	14.0	14.0-15.0	13.0-15.0
Metatibiae	24.0	24.0-26.0	22.0-24.0
Tegmina	1.0	1.0	0.5
Alae	4.0	4.0	2.5

Table 1. Measurements of *Oxyartes vietnamensis* sp. nov. (mm)

Figures 1-5. *Oxyartes vietnamensis* sp. nov. [scale bars 5 mm] (Drawings by author). 1. Female, end of abdomen, lateral view. 2. Female, end of abdomen, dorsal view. 3. Male, end of abdomen, lateral view. 4. Male, end of abdomen, dorsal view. 5. Male, vomer, ventral view.



Figures 6-7. Habitus of *Oxyartes vietnamensis* sp. nov. [scale bar 5 mm] (Photo by author). 6. Female. 7. Male.