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## New species of genus *Tarsozeuzera* Schoorl, 1990 (Lepidoptera: Cossidae: Zeuzerinae) from Andaman Islands (India) with world catalogue of the Genus

ROMAN V. YAKOVLEV<sup>1,2</sup> & RAMON HULSBOSCH<sup>3</sup>

<sup>1</sup>Altai State University, Lenina pr. 61, Barnaul, 656049, Russia.

E-mail: [yakovlev\\_asu@mail.ru](mailto:yakovlev_asu@mail.ru);  <https://orcid.org/0000-0001-9512-8709>

<sup>2</sup>Tomsk State University, Lenina pr. 36, 634050, Tomsk, Russia.

<sup>3</sup>Maasbrachterweg 83, 6101 XV Echt, Netherlands.

Received 4 June 2023 | Accepted by V. Pešić: 27 June 2023 | Published online 29 June 2023.

### Abstract

The article describes a new species, *Tarsozeuzera pricki* Yakovlev & Hulsbosch, sp. n. (Lepidoptera, Cossidae, Zeuzerinae) from Andaman Islands (India) and presents the world catalogue of the genus *Tarsozeuzera* Schoorl, 1990.

**Key words:** biodiversity, species richness, Coccoidea, Oriental Region, Paleotropics, taxonomy.

### Introduction

Coccoidea (Lepidoptera) of Andaman Islands are relatively well studied. In total, there are nine known species of the family Cossidae (Chandra & Kumar 1992; Yakovlev 2005, 2011) and one species of Metarbelidae (Yakovlev et al. 2022).

In the recently obtained materials, we have found a representative of the genus *Tarsozeuzera* Schoorl, 1990 (type species, by original designation – *Zeuzera kochi* Semper, 1896), previously unknown for the Andaman islands. The genus *Tarsozeuzera* is widely spread in the tropics of the Old World and is currently represented by seven species (Yakovlev et al. 2018; Yakovlev 2020).

### Material and methods

The materials for the study were the adult Cossidae specimens deposited in private collection of second author and in the different museums:

NHMUK — Natural History Museum (London, G.B.);

CMNH — Carnegie Museum of Natural History (Pittsburg, USA);

MNHN — Muséum National d'Histoire Naturelle (Paris, France);

MWM — Museum of Thomas Witt (Munich, Germany);  
NWAFU – collection of North-Western Agrarian and Forestry University (Yangling, China).

The specimens were photographed with a digital Canon EOS 1000D camera with Rodenstock Rodagon 1.4, f=80mm lens. The male genitalia were mounted in euparal on slides following Lafontaine & Mikkola (2004). The digital photographs of the genitalia were made with a Olympus X-TR binocular microscope and a digital Canon EOS 1000D camera. The images were processed using CorelDraw software.

## Taxonomical part

Description of new species

### *Tarsozeuzera pricki* Yakovlev & Hulbosch, sp. n.

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Figures 1–2

**Material.** Holotype, male, Indien, Andaman Islands, [North Andaman], Ramnagar, [ $\sim 13.30677^\circ\text{N}$  /  $92.94105^\circ\text{E}$ ], 25–30.iv.2008 (private collection of Ramon Hulbosch, Echt). Paratypes: 2 males, same locality and data (private collection of Ramon Hulbosch, Echt).

**Description.** Male. Antennae goblet-like, proximal half with double long setae, distal half simple, filiform. Tegulae and patagia with silver-greyish sputtering. Length of fore wing 19 mm. Fore wing elongated, light-grey throughout all wing area, outer and rear margins light-creamy with thin black reticulated pattern. Hind wing short, grey, anal angle with small light-creamy portion with thin black reticulated pattern.

Male genitalia are typical for this genus. Uncus trapezoidal, gradually narrowing from base to apex, apically slightly elongated, semicircular; gnathos arms short, ribbon-like; gnathos reduced; valve very narrow basally, strongly extended distally, leaf-like, abdominal edge (in medium third) with small semicircular notch; juxta saddle-like with leaf-like lateral processes, strongly fused with lateral surfaces of phallus; saccus very wide, semicircular; phallus slightly shorter than valve, very thick, strongly curved on border between medium and distal thirds, distal third of phallus with strongly expressed folds, vesica with robust finger-like cornutus.

Female unknown.

**Diagnosis.** In the external characters and size, the new species is mostly close to *T. fuscipars*, widely spread in South and South-Eastern Asia, from which it differs in a series of characters:

- the trapezoidal uncus, gradually narrowing from the basal end to apex (in *T. fuscipars*, the uncus has parallel edges);
- the phallus, slightly shorter than valve (in *T. fuscipars*, the phallus is longer than valve).

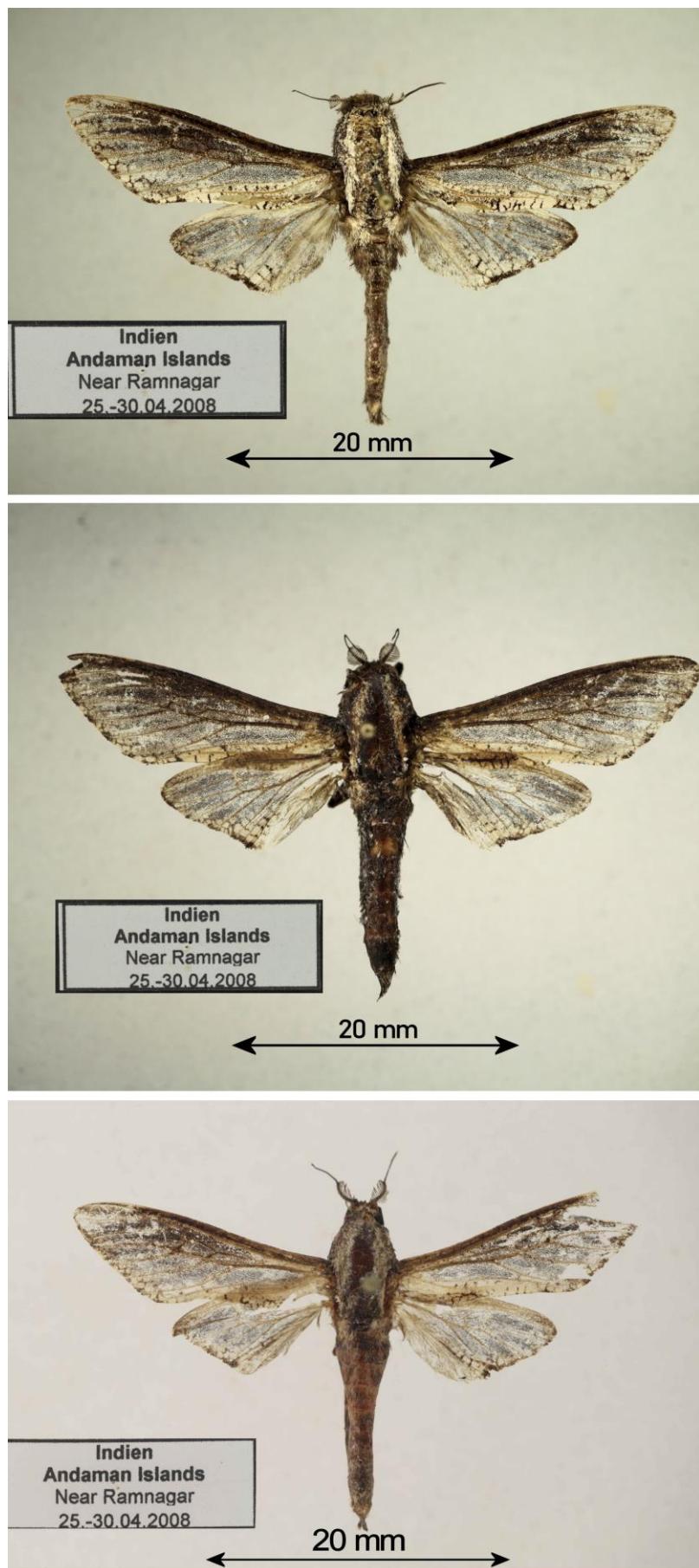
**Etymology.** New species named after Mr. Marcel Prick (Heerlen, the Netherlands) well known amateur entomologist and a collector of European butterflies and moths since 1965.

**Distribution.** India, Andaman Islands.

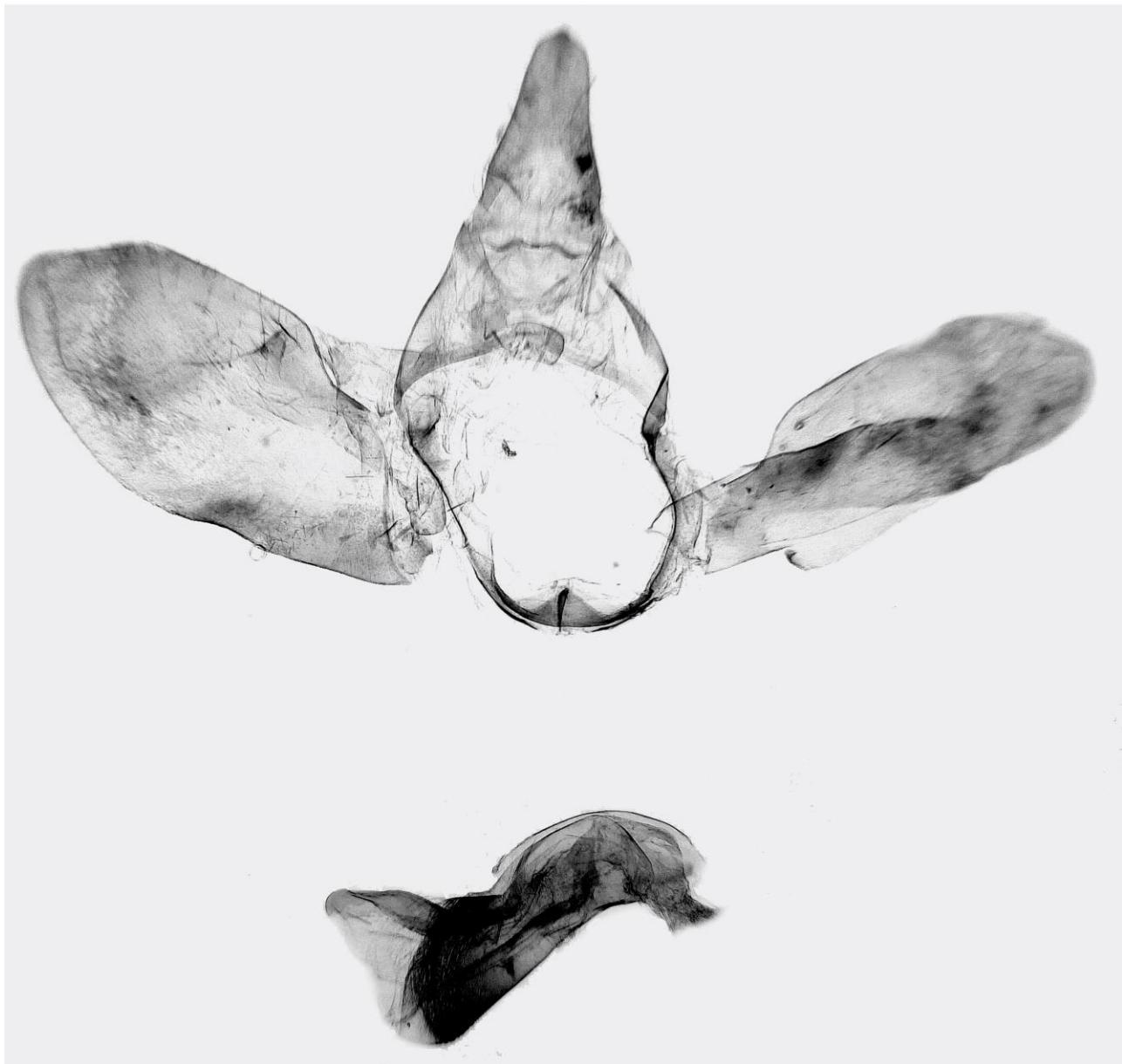
## Catalogue of the Genus

*Tarsozeuzera* Schoorl, 1990

Type species, by original designation – *Zeuzera kochi* Semper, 1896.



**Figures 1–3.** *Tarsozeuzera pricki* Yakovlev & Hulsbosch, sp. n., adult males: 1. Holotype; 2. Paratype; 3. Paratype.



**Figure 4.** Male genitalia of *Tarsozeuzera pricki* Yakovlev & Hulsbosch, sp. n. (paratype).

***Tarsozeuzera fuscipars* (Hampson, 1892)**

*Duomitus fuscipars* Hampson, 1892: 309.

Type locality: Sikkim (India, Sikkim).

Type material (holotype) in NHMUK, examined.

= *Xyleutes xanthitarsus* Hua, Chou, Fang et Chen, 1990: 110–111.

Type locality: Manghuai, Yunxian, Yunnan.

Type material (holotype) in NWAFU, examined.

= *Tarsozeuzera fuscipans* — Yakovlev, 2004: 342. An incorrect subsequent spelling of *Tarsozeuzera fuscipars* (Hampson, 1892)

Distribution: Northern India, Myanmar, Laos, Borneo, Vietnam, Thailand, Southern China (Yunnan, Hubei) (Arora, 1976; Yakovlev, 2004, 2014).

***Tarsozeuzera kochi* (Semper, 1896)**

*Zeuzera kochi* Semper, 1896: 439–440.

Type locality: Mittel Luzon.

Type material (61 syntypes) in Senckenberg Mus., Frankfurt and CMNH.  
Distribution: Philippines.

***Tarsozeuzera livingstoni* Yakovlev, 2006**

Yakovlev, 2006: 211.

Type locality: Rep. Pop. Congo, Dimonica.

Type material (holotype) in MNHN, examined.

Distribution: Angola, Cameroon, Congo, Democratic Republic Congo, Côte d'Ivoire, Gabon, Kenya, Malawi, Sierra Leone, Tanzania, Zimbabwe, Zambia (Yakovlev, 2006, 2011; Yakovlev & Murphy, 2013; Yakovlev et al. 2018, 2019a, b, c).

***Tarsozeuzera miklukhomaklayi* Yakovlev, 2011**

Yakovlev, 2011: 64.

Type locality: Indien, Andaman Islands, [North Andaman], Ramnagar.

Type material (holotype) in NHMUK, examined

Distribution: New Guinea.

***Tarsozeuzera prashkevitchi* Yakovlev, 2020**

Yakovlev, 2020: 207–209.

Type locality: Indonesia, Sulawesi Utara, Dumoga Bone NP.

Type material (holotype) in NHMUK, examined.

Distribution: Indonesia, Sulawesi Island.

*Tarsozeuzera pricki* Yakovlev & Hulsbosch, sp. n.

Type locality: Indien, Andaman Islands, [North Andaman], Ramnagar.

Type material (holotype) in private collection of Ramon Hulsbosch (Echt), examined.

Distribution: India, Andaman Islands.

***Tarsozeuzera ustjuzhanini* Yakovlev, 2011**

Yakovlev, 2011: 64.

Type locality: S. Afrika, Kwazulu Natal, Vernon-Crookes NP, 60 km SW Durban.

Type material (holotype) in MWM, examined.

Distribution: South Africa (KwaZulu-Natal Province).

***Tarsozeuzera vavizola* Yakovlev, 2006**

Yakovlev, 2006: 211.

Type locality: 20 km O. Krabi, S. Thailand

Type material (holotype) in ZSM, examined.

Distribution: Southern Thailand.

## Discussion

The Coccoidea fauna (Cossidae and Metarbelidae) of Andaman Islands is characterized by a high endemism. The subfamily Cossinae is represented by one endemic species *Pygmeococcus tonga* Yakovlev, 2005. In the subfamily Zeuzerinae there are nine species; two of them are endemic: *Skeletophyllum andamani* Yakovlev, 2011 and *Rapdalus kapuri* (Arora, 1976). The family Metarbelidae is represented by one endemic species *Stueningeria bretschneideri* Yakovlev & Hulsbosch, 2022. Thus, the level of endemism constitutes 27.5%. In the other Lepidoptera groups, the endemism level is also high, for example, in Papilionoidea, it is about 50% on the subspecies level, however, on the species level it is much smaller, less than 2% (Khatri 1996; Soubadra Devy et al. 1998). In the other groups it is too early to speak about any endemism, as in the recent years the endemic species of various families have been described (Singh et al. 2020; Volynkin 2022a, b).

## Acknowledgment

The authors are grateful to Anna Ustjuzhanina (Tomsk, Russia) for the help in translation of the paper.

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