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## NEW DATA ON THE GENUS *VARTIANIA* YAKOVLEV, 2004 (LEPIDOPTERA: COSSIDAE, COSSINAE)

R. V. Yakovlev<sup>1, 2, 3)</sup>

1) *Altai State University, pr. Lenina 61, Barnaul, 656049, Russia.*

2) *PaleoData Lab, Institute of Archaeology and Ethnography SB RAS, Novosibirsk, Russia.*

3) *Tomsk State University, Lenina pr. 36, Tomsk, 634050, Russia. E-mail: yakovlev\_asu@mail.ru*

**Summary.** Two new species, *Vartiania belli* sp. n. from India (Karnataka State: Kanara) and *V. gallagheri* sp. n. from Oman (Al Wusta Region), are described. The redescription of a little known species *V. muscula* (Rothschild, 1912) from Central Asia is given.

**Key words:** carpenter moths, taxonomy, new species, India, Oman, Kazakhstan, Uzbekistan.

**Р. В. Яковлев. Новые сведения о роде *Vartiania* Yakovlev, 2004 (Lepidoptera: Cossidae, Cossinae) // Дальневосточный энтомолог. 2021. N 429. С. 1-7.**

**Резюме.** Описаны два новых для науки вида: *Vartiania belli* sp. n. из Индии (штат Карнатака: Канара) и *V. gallagheri* sp. n. из Омана (регион Эль-Вуста). Приводится переописание малоизвестного вида *V. muscula* (Rothschild, 1912) из Средней Азии.

### INTRODUCTION

The carpenter moths genus *Vartiania* Yakovlev, 2004 (Cossidae: Cossinae) was established for *Vartiania zaratustra* Yakovlev, 2004 from southern Iran (Hormozgan

Prov., Beshagerd Mts.) (Yakovlev, 2004). Currently, the genus includes six species, distributed in the subtropical and tropical arid regions of the south of the Western Palaearctic and in the zones of the Arabian Peninsula transitional with the Palaearctic region, in the south of Pakistan, and the Makran coast of Iran and Kashmir (Yakovlev, 2011; Yakovlev & Dubatolov, 2013; Yakovlev & Saldaitis, 2016). The morphological description of *Vartiania muscula* (Rothschild, 1912) has not been published until present. Additionally, in the collections of the Natural History Museum (London) two new species of *Vartiania* from southern India and Oman are discovered; their descriptions are provided below.

## MATERIAL AND METHODS

The studied specimens are deposited in follow two museums: NHMUK – Natural History Museum (London, Great Britain) and ZISP – Zoological Institute of Russia Academy of Science (St. Petersburg, Russia).

Male genitalia were mounted in euparal on slides following Lafontaine (2004) and examined with an Olympus SZX16 microscope. The images were taken with the Olympus SZX16 camera. Images of imago were taken by the digital camera of Apple iPhone 7, illuminated in Lightbox. The images were processed using CorelDraw software.

## TAXONOMY

### *Vartiania muscula* (Rothschild, 1912)

Figs 1–3, 6

*Holcocerus musculus* Rothschild, 1912: 452 (holotype – male, Kazakhstan: Syr-Daria, Baigacum; deposited in NHMUK; examined).

TYPE MATERIAL EXAMINED. **Kazakhstan**: male (holotype), [Southern Kazakhstan: Kyzyl-Orda Region], Syr-Daria, Baigacum [44.312917° N, 66.479320° E], leg. Koshantschikoff (NHMUK).

OTHER MATERIAL EXAMINED. **Kazakhstan**: Kyzyl-Orda Region, Syr-Daria, Baigacum, 4 ♂, leg. Koshantschikoff (ZISP, slides: Coss/ZISP/2020-1; Coss/ZISP/2020-2); **Uzbekistan**: Nukus, 13.VIII, 1 ♂, leg. Fisher (ZISP).

REDESCRIPTION. Size medium. Length of fore wing 11–12 mm. Antenna simple, belt-like, not pectinate. Fore wing wide, apically blunt. Fore wing grey, wide blurred brown band discally, poorly expressed pattern of brown strokes postdiscally and submarginally. Fringe mottled, grey between veins, brown at veins. Hind wing grey, without pattern, with thin brown border and mottled fringe.

Male genitalia. Uncus conical, apically semicircular; gnathos arms short, thick, gnathos large with small spikes of surface; valve strongly sclerotized, cup-like, distal end of valve membranous, lanceolate; juxta saddle-like with long (about 1/3 of valve in length) strongly sclerotized lateral processes, diverged at an angle of 50°; saccus robust, semicircular; phallus thick, straight, of equal thickness throughout its

length, slightly shorter than valve, apex obliquely cut, distal end strongly sclerotized abdominally, with small spike directed abdominally, strongly sclerotized spiky processes on dorsal surface (along borders of vesica aperture), vesica aperture in dorso-apical position, equals to 1/2 of phallus in length.

DIAGNOSIS. *V. muscula* differs clearly from the other species of the genus in the poorly modified blurred pattern of the fore wing (in the other species, the reticulated pattern is distinctively expressed on the fore wing). Externally, the species is most close to the south-Iranian species *V. senganensis* (Daniel, 1949), from which it differs in the male genital structure: the shorter membranous distal ends of the valves, the smaller juxta and the shorter phallus.

DISTRIBUTION. Southern Kazakhstan, Uzbekistan, Turkmenistan (?).

### *Vartiania belli* sp. n.

<http://zoobank.org/NomenclaturalActs/4DB4EB17-6AEE-41E6-8A17-052BDE67A946>

Figs 4, 7

TYPE MATERIAL. Holotype – male, **India**: Kanara [?Karwar, Karnataka State], leg. T.R. Bell, B. M. 1934-394 (NHMUK; individual number NHMUK: 012832466, slide: 010315497).

DESCRIPTION. Length of fore wing 16 mm. Antenna simple, belt-like, not pectinate. Fore wing wide, apically blunt, light-brown, with pattern of thin undulated transverse brown lines postdiscally and submarginally. Hind wing light-brown with poorly expressed undulated pattern in anal angle zone.

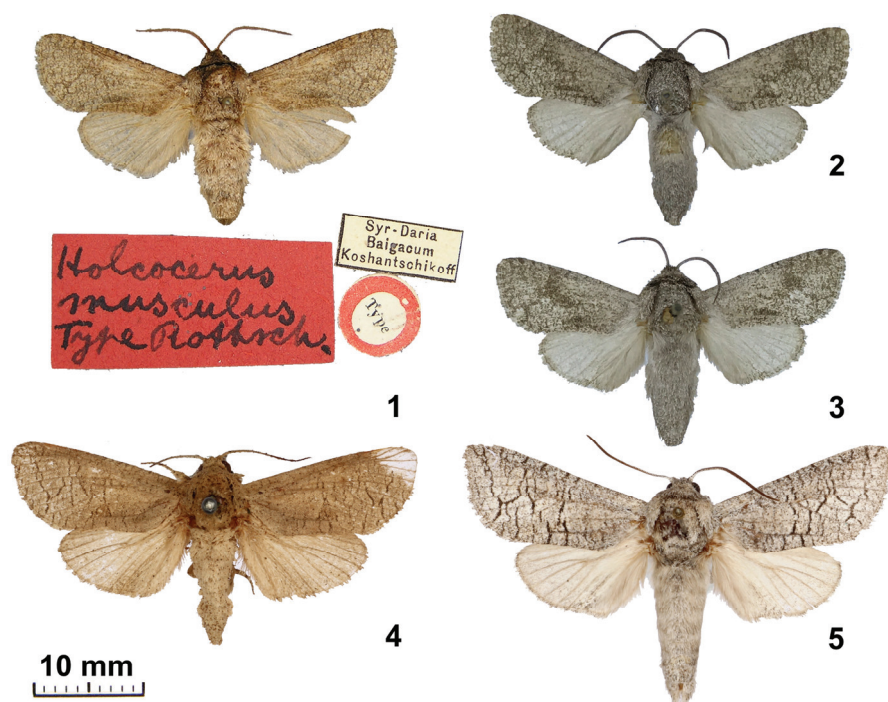
Male genitalia. Uncus relatively long, conical, slightly narrowing from base to apex, apically semicircular; gnathos arms short, thin; gnathos two-bladed, large; valve cup-like with membranous semicircular apex, small sclerotized crest on costal edge of valve (in zone of transition of sclerotized basal part into membranous caudal part); juxta large, saddle-like, with robust lateral processes diverged at an angle of 180°; saccus very big, semicircular; phallus thick, straight, with strongly widened caudal end, abdominal edge spear-like sharpened, spiky processes on vesica aperture edges, vesica aperture in dorso-apical position, equals to 1/3 of phallus in length.

DIAGNOSIS. The new species is most similar to *V. beludzhi* Yakovlev et Saldaitis, 2016, from which it differs in the following characters: the lateral processes of the juxta are diverged at an angle of 180° (at an acute angle in *V. beludzhi*), the gnathos is big (the gnathos is very small in *V. beludzhi*), the caudal end of the phallus is strongly widened (the phallus is of even thickness throughout its length in *V. beludzhi*).

DISTRIBUTION. Southern India, Kanara.

NOTES. It is known that T.R. Bell in 1930s lived and collected mainly in the vicinity of Karwar City (Karnataka State), which belongs to the region Karnataka Coast or Kanara. This species is the only representative of the genus *Vartiania* in the Palaetropical zoogeographical region.

ETYMOLOGY. The new species is named after the prominent British entomologist, Indian Forestry administrator, Thomas Reid Davys Bell (1863–1948). He gave his entire collection of insects to the NHMUK. It had 3000 specimens of butterflies, 12000 moths, 1900 Coleoptera, 1720 Hymenoptera and 20 Orthoptera. Most of Bell's specimens originated from southern Pakistan and south-western India.



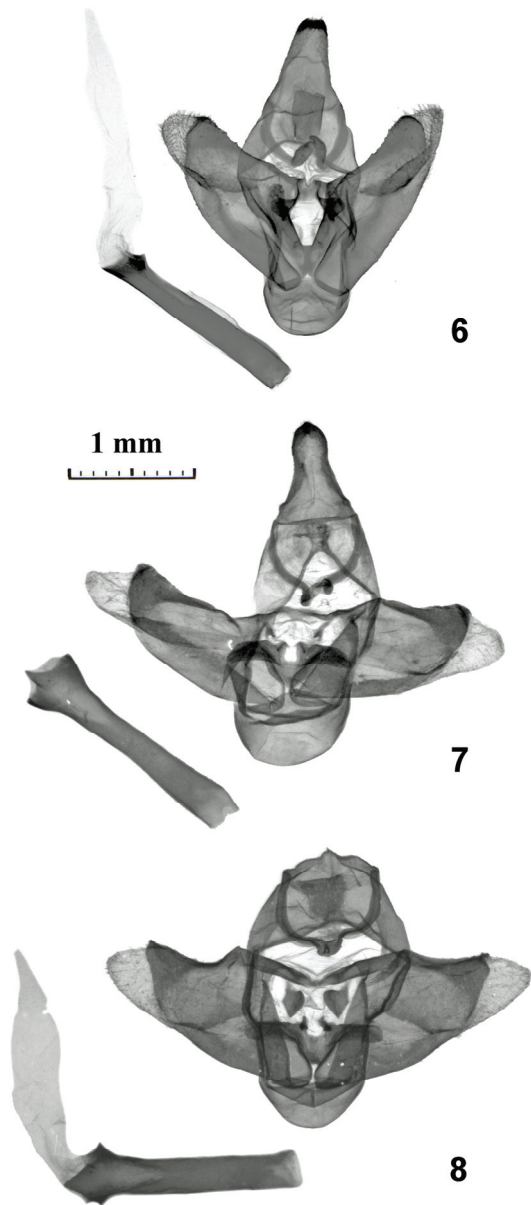
Figs 1–5. Adult males of *Vartiania* spp. 1–3 – *V. muscula* (Rothschild, 1912): 1 – holotype (NHMUK); 2, 3 – specimens from Baigacum (ZISP); 4 – *V. belli* sp. n., holotype (NHMUK); 5 – *V. gallagheri* sp. n., holotype (NHMUK).

***Vartiania gallagheri* sp. n.**

<http://zoobank.org/NomenclaturalActs/DE392597-A458-42D5-A072-35C35BB471BA>

Figs 5, 8

TYPE MATERIAL. Holotype – male, **Oman**: 5917, Khor Barr All, Aikman, 20°40' N, 58°40' E, 2.XI [19]79, M.D. Gallagher (NHMUK; individual number NHMUK: 012832467, slide: 010315498).



Figs 6–8. Male genitalia of *Vartiania* spp. 6 – *V. muscula* (Rothschild, 1912) from Baigacum (ZISP); 7 – *V. belli* sp. n., holotype (NHMUK); 8 – *V. gallagheri* sp. n., holotype (NHMUK).

DESCRIPTION. Length of fore wing 17 mm. Antenna simple, belt-like, not pectinate. Fore wing light-grey with thin pattern of black undulated transverse lines postdiscally and submarginally. Hind wing of milk-and-coffee color, without pattern, only in anal angle area poor sputtering of black scales.

Male genitalia. Uncus absent, probably due to a mechanical damage of the caudal end of dry specimen abdomen. Gnathos arms thin, relatively short, gnathos compact, covered with small spikes; valve with membranous lanceolate caudal end, with small denticle of costal edge (in zone of transition of sclerotized basal part into membranous caudal part); juxta robust, saddle-like, with short thick lateral processes diverged at an angle of 180°; saccus very robust, semicircular; phallus very thick, straight, of almost even thickness throughout all length, abdominal end spear-likely sharpened, spiky processes on vesica aperture edges, vesica aperture in dorso-apical position, equals to 1/3 of phallus in length.

DIAGNOSIS. The new species is most similar to the south-Iranian *V. zaratustra* Yakovlev, 2004, from which it clearly differs in a series of characters in the male genitalia: the relatively long membranous caudal end of the valve (the membranous edge is very short in *V. zaratustra*), the lateral processes of the juxta diverged at an angle of 180° (lateral processes in *V. zaratustra* diverged at an acute angle).

DISTRIBUTION. Oman (Al Wusta Region).

ETYMOLOGY. The new species is named after its collector, the British officer Michael Desmond Gallagher (1921–2014), a well-known nature explorer of the Arabian Peninsula, preferably, birds of Oman, the director of Natural History Museum in Muscat, author of several monographs and articles about the animal world of the region (Eriksen, 2014).

### CONCLUSION

Thus, the genus *Vartiania* currently includes eight species, distributed in the south of the western Palaearctic (south-western Kazakhstan, Uzbekistan, Pakistan, Iran and Oman) and Indostan (Karnataka State).

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