



<http://dx.doi.org/10.11646/zootaxa.3915.3.9>

<http://zoobank.org/urn:lsid:zoobank.org:pub:6C7DBD10-D600-4FA2-8422-9B95E53091F6>

## *Mustilia (Smerkata) zolotuhini*, a new species (Lepidoptera: Endromidae) from China

AIDAS SALDAITIS<sup>1</sup>, POVILAS IVINSKIS & JOLANTA RIMSAITE

Nature Research Centre, Akademijos 2, LT-08412 Vilnius, Lithuania.

E-mail: saldrasa@gmail.com; ivinskis@ekoi.lt; jolanta@ekoi.lt;

<sup>1</sup>Corresponding author

The genus *Mustilia* Walker subgenus *Smerkata* Zolotuhin 2007 was revised by Zolotuhin (2007) to include seven species from the South–Palearctic to Oriental regions: (*Mustilia (Smerkata) phaeopera* Hampson (type species), *Mustilia (Smerkata) fusca* Kishida, *Mustilia (Smerkata) craptalis* Zolotuhin, *Mustilia (Smerkata) soosi* Zolotuhin, *Mustilia (Smerkata) brechlini* Zolotuhin, *Mustilia (Smerkata) tzarica* Zolotuhin, and *Mustilia (Smerkata) ulliae* Zolotuhin. An unanticipated discovery of a new species from Sichuan Province, China adds an eighth species to this subgenus.

Abbreviations for personal and institutional collections used herein: AFM = Alessandro Floriani (Milan, Italy); ASV = Aidas Saldaitis (Vilnius, Lithuania); MWM = Entomological Museum of Thomas J. Witt (Munich, Germany); SCAU = South China Agricultural University (Department of Entomology, Guangzhou City, Guangdong, China); WIGJ = World Insect Gallery (Joniškis, Lithuania); ZFMK = Zoologisches Forschungsmuseum Alexander Koenig, Bonn, Germany.

### *Mustilia (Smerkata) zolotuhini* Saldaitis & Ivinskis sp. n.

(Figs 1, 2, 11, 12)

**Type material. Holotype:** male (Fig. 1), China, West Sichuan, road Bamei/Danba, Taizangou valley, h–3700 m, N 30°28.693", E 101°38.863", 09. x. 2010, leg. A. Saldaitis, coll. ASV; (Slide No. MWM 20.929; DNA 2013–29).

**Paratypes:** 6 males (Fig. 2), China, North Sichuan, near Barkam, Zhe Gu Shan pass, h–3300 m, N 31°55.625", E 102°39.290", 21. ix. 2011, leg. A. Floriani, 2 males, China, West Sichuan, near Moxi, h–3954 m, N 29°53.097", E 102°00.459", 07. x. 2012, leg. Floriani & Saldaitis, 2 males, China, West Sichuan, near Ba Mei, h–3689 m, N 30°28.693", E 101°38.866", 09. x. 2012, leg. Floriani & Saldaitis, 1 male, the same, but h–3500 m, 22. viii. 2014, 1 male, China, West Sichuan, near Ba Mei, h–3500 m, N 30°28.693", E 101°38.866", 22. viii. 2014, leg. Floriani & Saldaitis, in the collections of AFM, ASV, SCAU and WIGJ. Slide No. MWM 19.788.

**Diagnosis.** All members of the *Smerkata* subgenus are very similar but the yellow brown rather than dark brown or dark brownish-grey ground colour and genitalia of *M. (S.) zolotuhini* sp.n. (Figs 1, 2) are distinctive. The new species is superficially closest to *M. (S.) craptalis* (Figs 3, 4), but that species has a smaller wingspan (42–43 mm), an even lighter ground color and different genitalia (Figs 11, 12). The coloration is somewhat similar to *M. (S.) ulliae* (Fig. 5) but that has an even smaller wingspan (39–42 mm), a chain of silver-blue spots in the preapical part of forewing and different genitalia. All other *Smerkata* subgenus species including *M. (S.) phaeopera*, *M. (S.) fusca*, *M. (S.) soosi*, *M. (S.) brechlini* and *M. (S.) tzarica* have dark, often blackish-brown forewings and are not recorded (except *M. (S.) fusca*) from China. **Male genitalia.** Compared to *M. (S.) zolotuhini* (Figs 11, 12) in *M. (S.) craptalis* (Fig. 13) genitalia with tegumen lobes shorter, twice narrowed; gnathos branches more robust; valvae broader and shorter, with distinct protruded inner lobes; ventral margin of valvae angled in middle (in *M. (S.) zolotuhini* valvae elongated, inner side without setose lobes or harpe-like processes); cuiller wheel developed (in *M. (S.) zolotuhini* cuiller not developed); eighth sternite with very deep incision (in new species eighth sternite weakly modified); aedeagus “S” shaped (in *M. (S.) zolotuhini* aedeagus tubular). Compared to *M. (S.) ulliae* the *M. (S.) zolotuhini* male genitalia is twice as long with wider tegument lobes, has more robust gnathos branches, has more narrow and valvae rounded distally, undeveloped cuiller and eighth sternite with strong and deep mediocaudal cut with short angle dents.

brown discal spot, light but distinct bluish suffusion in apical field, brown prominent obfuscation on submarginal field; external margin of hindwing widely rounded; hindwing brighter than forewing with costal field monochromatic creamy yellow, anal part darker with indistinct brown transverse band; fringes monochromatic yellow-brown; fore tibia (Fig. 11 d) with long ellipsoid epiphysis. **Male genitalia** (Figs 11, 12). Valvae elongated, ellipsoid, with rounded apex, without setose lobes or harpe-like processes but a short, narrow band of strong spines on inner side, basally with short triangular lobe covered with strong cheta; juxta a sclerotized band attached to the aedeagus and widened basally with foundation bearing two membranose short lobes along the lateral sides of the aedeagus with a few apical setae; tegumen narrow with pair of lyre-formed outgrowths from uncus; pair of boomerang formed gnathos branches; coalescence of tegumen and gnathos visible as suture; vinculum band shaped with small wide rounded saccus; aedeagus tubular, with coecum developed and tubular short vesica basally ringed with short needle-shaped numerous cornuti; eighth sternite weakly modified, with strong and deep mediocaudal cut bearing short dents on the angles.

Female unknown.

**Bionomics and distribution.** The new species is known only from a few localities of China's Sichuan Province on the eastern edge of the Tibetan plateau. All specimens were collected from the end August through October at altitudes ranging from 3300 to 3900 m; males were attracted to light during cold, rainy or sometimes freezing nights and appear to have a local distribution, as they were discovered in only three valleys near Bamei Town, Moxi Town and Maerkang County. The new species was collected in virgin mixed mountain forests, dominated by various broad-leaved trees, rhododendron and bamboo. It flies there sympatrically in autumn with *Bombyciella antra* Saldaitis, Benedek, Behounek & Stüning, 2014, *Charierges brunneomedia* Draudt, 1950, *C. nigralba* Draudt, 1950 and other Noctuidae.

**Etymology.** The species is named after eminent lepidopterologist Vadim Zolotuhin (Uljanovsk, Russia) who has contributed much to our understanding of this subgenus.

## Acknowledgements

The authors would like to express their sincere thanks to Mr. Robert Borth (Milwaukee, United States) for his linguistic review, Mr. Tomas Zubacikas (Vilnius, Lithuania) for photographic assistance, Mr. Thomas Witt (Munich, Germany) for permission to work with specimens from MWM, Mrs. Wang Xing (Chang City, China) for manuscript review and Mr. Alessandro Floriani (Milan, Italy) for material and companionship in the field.

## References

- Draudt, M. (1950) Beiträge zur Kenntnis der Agrotiden-Fauna Chinas aus den Ausbeuten Dr. H. Höne's. *Mitteilungen der Münchner Entomologischen Gesellschaft*, 40 (1), 1–174.
- Saldaitis, A., Benedek, B., Behounek, G. & Stüning, D. (2014) A revision of the genus *Bombyciella* Draudt, 1950, with description of a new species and a new genus (Lepidoptera, Noctuidae: Xyleninae). *Zootaxa*, 3893 (4), 551–561. <http://dx.doi.org/10.11646/zootaxa.3893.4.4>
- Zolotuhin, V.V. (2007) A revision of the genus *Mustilia* Walker, 1865, with descriptions of new taxa (Lepidoptera, Bombycidae). *Neue entomologische Nachrichten*, 60, 187–205.