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CONTRIBUTIONS TO THE SYSTEMATICS OF ASIAN YPONOMEUTOIDEA (11): A REMARKABLE NEW SPECIES OF THE GENUS *ZELLERIA* STANTON, 1849 (YPONOMEUTIDAE) FROM THAILAND

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Summary. A new species *Zelleria grandipulchra* **sp. n.** is described from Thailand. It is characterized by its large size and forewings with bluish tint. The habitus and genitalia of both sexes of the new species are illustrated.

Key words: moths, Yponomeutinae, taxonomy, new species, South East Asia.

Ч.-Ч. Сон. Вклад в систематику азиатских Yponomeutoidea (11): Замечательный новый вид рода *Zelleria* Stainton, 1849 (Yponomeutidae) из Таиланда // Дальневосточный энтомолог. 2026. N 559. С. 1-5.

Резюме. Из Таиланда описан новый вид *Zelleria grandipulchra* **sp. n.** Новый вид характеризуется крупными размерами и передними крыльями голубоватого оттенка. Иллюстрированы внешний вид и гениталии обоих полов этого вида.

INTRODUCTION

The genus *Zelleria*, belonging to the subfamily Yponomeutinae, consists of moths primarily characterized by their small, narrow wings. Its taxonomic definition remains

unclear, as various researchers define it differently (Friese, 1960). While the genus is distributed nearly worldwide and comprises a total of 46 species (Lewis & Sohn, 2015; Na *et al.*, 2019), it contains heterogeneous members, necessitating a verification of its monophyly. The larvae exhibit diverse feeding habits, such as leaf-tying or leaf-mining (Dugdale *et al.*, 1998). The genus also includes notable pest species, such as the Pine needle sheathminer, *Zelleria haimbachi* Busck, 1915 and the Olive spinner, *Zelleria oleastrella* (Millière, 1864).

Zelleria exhibits relatively low species diversity within the Oriental Region, with only four species currently recorded (Lewis & Sohn, 2015): *Z. coniostrepta* Caradja & Meyrick, 1938 from Yunnan, China; *Z. loranthivora* Meyrick, 1930 from India; *Z. metriopa* Meyrick, 1933 from Java, Indonesia; and *Z. strophaea* Meyrick, 1914 from China and Sri Lanka. In this study, a new congener from Thailand was found. The species is characterized by its exceptionally distinct coloration and represents the largest member of the genus.

MATERIAL AND METHODS

Types designated from this study are deposited in the Natural History Museum, London, UK. Preparation of the slide specimens for genitalia follows Clarke (1941) except chlorazol black and Euparal used as a stain and a mounting medium, respectively. Terms for genitalia follow Moriuti (1977). Verbatim label data are provided for holotype.

DESCRIPTION OF NEW SPECIES

Genus *Zelleria* Stainton, 1849

Zelleria Stainton, 1849: 22. Type species: *Zelleria hepariella* Stainton, 1849.

Eudrymopa Lower, 1908: 118. Type species: *Eudrymopa cyanoleuca* Lower, 1908.

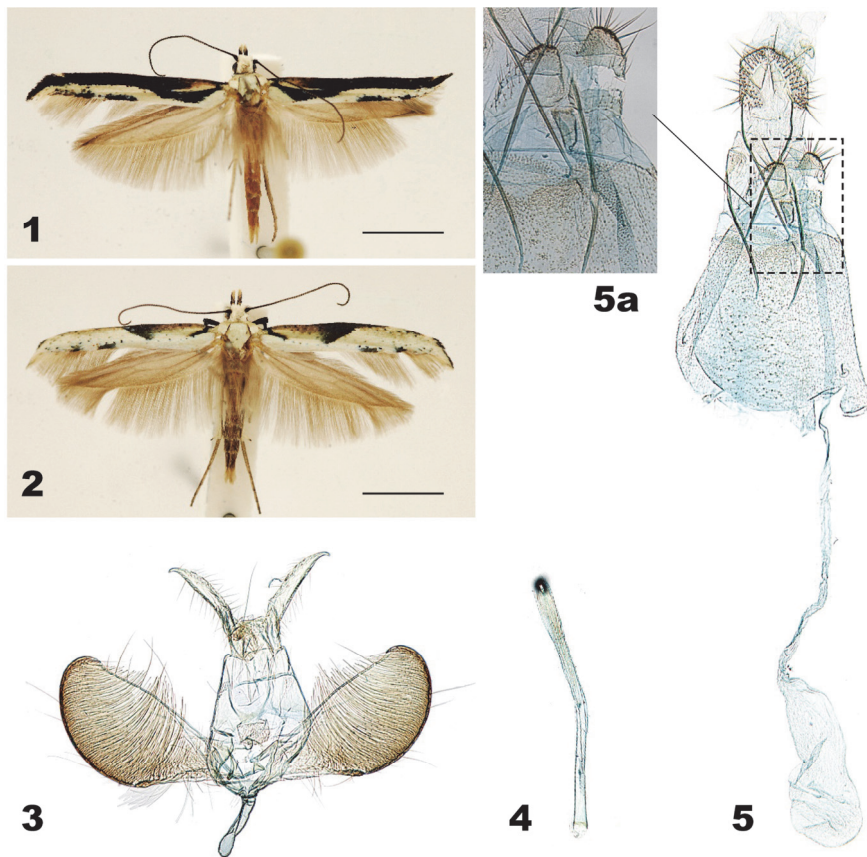
REMARKS. The characteristics of *Zelleria* have been poorly defined. The adult moths usually have the narrow wings and exhibit a resting posture with their head down and body inclined (Dugdale *et al.*, 1998). Moriuti (1977) defined the Japanese congeners by the features of their labial palpi and male genitalia. His generic concept has been followed by the present study.

Zelleria grandipulchra Sohn, sp. n.

<https://zoobank.org/NomenclaturalActs/68F50F62-4070-42C2-9AAE-88BF717A374D>

Figs 1–5

TYPE MATERIAL. Holotype: male, “HOLO- | TYPE” [red-edged circular label], “N. THAILAND: 2450m | Doi Inthanon NP | 22.v.1987 | Col. M.G. Allen”, “M.G. Allen | BM 1986-300”, “HOLOTYPE | *Zelleria* | *grandipulchra* | SOHN 2024” [red label], NHMUK. Paratypes: 1♂, 2♀, same data as holotype, genitalia slide no. 32918 (♂), 32919 (♀), NHMUK.



Figs 1–5. *Zelleria grandipulchra* sp. n. 1–2, habitus, (1 – holotype, male; 2 – paratype, female); 3 – male genital capsule (BM 32918); 4 – aedeagus (BM 32918; originally straight but secondarily bent during preparation); 5 – female genitalia ((BM 32919; a – magnified image of dashed box). Scale bars for figs 1, 2 = 4 mm

DIAGNOSIS. This species is distinguished from other congeners in its large size (wingspan ca. 20 mm in *Z. grandipulchra* vs. less than 15 mm in most species of *Zelleria*) and having the forewings with broad costal patch and blue tint.

DESCRIPTION. HABITUS (Figs 1, 2). *Head*: Vertex white or pale-grayish yellow; frons pale-grayish yellow, tinged with purplish black laterally. Antenna 2/3 as long as forewing; scape purplish black dorsally, pale-grayish yellow ventrally; flagellum purplish black, intermixed with pale-grayish yellow scales in basal 1/3 ventrally. Labial palpus upturned; 1st segment pale-grayish yellow, with dark brown spot laterodistally; 2nd^d segment 3x longer than 1st, purplish black; 3rd segment 4/5 as long as 2nd, obtuse apically, purplish black, tinged with pale-grayish yellow distally.

Thorax: Patagium pale-grayish yellow; tegula and mesonotum lustrous, pale-grayish yellow. Forewing length 9–10 mm, narrow, acuminate in distal 1/4, falcate apically, pale-grayish yellow, with blueish luster, sparsely speckled with black; forewing patterns sexually dimorphic; costa purplish black, broadened at basal 2/5 in females, broadly purplish black along entire area, with pale-grayish yellow spot at distal 1/7 in males; subbasal line present on anterior half, oblique, black, with golden luster, broadened in males; antemedian patch triangular in discal cell, black, with golden luster; subbasal and antemedian line connected to form loop in males; two purplish black bars present along termen; cilia brownish gray, intermixed with pale-grayish yellow hairs on anterior 1/3. Hindwing pale-purplish gray, with golden luster along terminal area; cilia brownish gray, with golden luster basally. Foreleg black, intermixed with few pale-gray scales on ventral area of femur and basal area of tibia. Midleg with coxa pale gray, tinged with dark fuscous distally; femur black, intermixed with pale gray scales ventrally; tibia black, intermixed with pale gray scales on basal 1/3 and subterminal area, with white ring distally; tarsomere pale-grayish yellow, intermixed with grayish brown scales, with dark fuscous ring distally. Hindleg with coxa pale-grayish yellow, tinged with black distally; femur pale-grayish yellow, tinged with pale-grayish brown on distal half and dark fuscous on basal 1/2 of lateral area; tibia pale-grayish yellow, intermixed with pale fuscous scales, with dark fuscous suffusion at middle and distal end of lateral area; anterior spur arising at basal 1/3; tarsomere grayish brown.

Abdomen: Terga dark-grayish brown; sterna purplish black, tinged with pale brownish gray laterally.

MALE GENITALIA (Figs 3, 4). Uncus quadrate, emarginated posteriorly and laterally; socius falcate, setose dorsally, with claw-like process apically. Tegumen trapezoidal. Gnathos as subquadrate bulge, thorny. Valva semi-elliptical, narrowly-round apically, long-hairy; costa narrow, nearly straight; sacculus 1/3 as long as saccular margin, narrow, slightly dilated basally, thorny on distal 1/4. Vinculum U-shaped; saccus 3/4 as long as socius, elongate, digitiform. Aedeagus (Fig. 4) nearly straight, of even width, with narrow basal scape; two cornutal zones 2/5 as long as aedeagus, elongate, spinulate.

FEMALE GENITALIA (Fig. 5) – Papillae anales semi-elliptical, setose, scantily with long seta. Lamella postvaginalis papiliform, granulate, setose. Ostium bursae (Fig. 5a) small. Antrum small, cup-shaped. Ductus bursae 3x longer than corpus bursae, narrow, granulate near ostium bursae. Corpus bursae long-obovate, without signum.

REMARKS. This species exhibits remarkable sexual dimorphism in the forewing patterns. These differences stay stable among the four specimens, consisting two males and two females. Given their origin from the same collecting batch, they are regarded as conspecific.

DISTRIBUTION. Thailand (North).

ETYMOLOGY. The species epithet is derived from two Latin words, ‘*grandis*’ and ‘*pulcher*’, meaning “large” and “beautiful”, respectively and refers to its size and forewing coloration.

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REFERENCES

- Clarke, J.F.G. 1941. The preparation of slide of the genitalia of Lepidoptera. *Bulletin of the Brooklyn Entomological Society*, 36: 149–161.
- Dugdale, J.S., Kristensen, N.P., Robinson, G.S. & Scoble, M.J. 1998. P. 119–130. The Yponomeutidae. In: Kristensen, N.P. (Ed.). *Handbook of Zoology 4. Lepidoptera, Moths and Butterflies, Vol. 1: Evolution, Systematics, and Biogeography*. Walter de Gruyter, Berlin/New York.
- Friese, G. 1960. Revision der Paläarktischen Yponomeutidae unter besonderer Berücksichtigung der Genitalien (Lepidoptera). *Beiträge zur Entomologie*, 1–131.
- Lewis, J.A. & Sohn, J.C. 2015. *World Catalogue of Insects Vol.12. Lepidoptera: Yponomeutoidea I (Argyresthiidae, Attevidae, Praydidae, Scythropiidae, and Yponomeutidae)*. Brill, Leiden. 253 pp.
- Lower, O.B. 1908. New Australian Lepidoptera. No. XXV. *Transactions and Proceedings of the Royal Society of South Australia*, 32, 110–120.
- Moriuti, S. (1977) *Fauna Japonica, Yponomeutidae s. lat. (Insecta: Lepidoptera)*. Keigaku Publishing Co., Tokyo. 327 pp.
- Na, S.-M., Ponomarenko, M.G. & Bae, Y.-S. 2019. Review of the genus *Zelleria* Stainton (Lepidoptera, Yponomeutidae, Yponomeutinae) in East Asia, with description of a new species. *Zootaxa*, 4576, 559–569.
- Stainton, H.T. 1849. *An Attempt at a Systematic Catalogue of the British Tineidae & Pterophoridae*. John van Voorst, London. 32 pp.