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## *Monochroa cleodora* (MEYRICK), comb. n. (Lepidoptera, Gelechiidae) and its Allied New Species from Japan

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**Abstract** *Aristotelia cleodora* MEYRICK, 1935, is newly transferred to the genus *Monochroa* with its redescription. A new species, *Monochroa cleodoroides*, allied to it is described.

**Key words:** Gelechiidae; *Aristotelia*; *Monochroa cleodora* comb. n.; *M. cleodoroides* sp. n.; Japan.

In the course of taxonomic studies on gelechiid moths occurring in Japan I have recognized two species identifiable with *Aristotelia cleodora* MEYRICK, 1935. These species are easily distinguished from one another by female genitalia, though their male genitalia are very similar except for the arrangement of cornuti. The figure of aedeagus in the lectotype of *A. cleodora* given by Clarke (1969, pl. 140, fig. 2 a) is rather obscure in this point. Moreover, the female genitalia of *A. cleodora* have been neither described nor illustrated so far. Therefore, to identify the two species I requested Dr. K. SATTLER of the Natural History Museum at London to compare the sketches of their genitalia with the slides of the type series of *A. cleodora*. According to his kind comparison, one species at hand is surely identified with *A. cleodora*. Consequently, I conclude that the other species is an undescribed one.

*Aristotelia cleodora* MEYRICK, 1935, has not been revised since it was originally described from Chuzenji, Honshu, Japan. I propose it to place in the genus *Monochroa* HEINEMANN, 1870, because its male genitalic features fit with diagnoses of the genus given by PIERCE and METCALFE (1935), PISKUNOV (1981) and POVOLNÝ (1979). In this paper, *Monochroa cleodora* is redescribed in detail to clear the taxonomic position, and the other species allied to it is described as new to science.

### *Monochroa cleodora* (MEYRICK, 1935), comb. n.

*Aristotelia cleodora* MEYRICK, 1935, *Exotic Microlep.*, 4: 583; CLARKE, 1969, *Cat. type specim. Microlep. in Br. Mus. Nat. Hist.* described by E. MEYRICK, 6: 282, pl. 140, figs. 2, 2 a–b; MORIUTI, 1982, *Moths Japan*, 1: 276, 2: 212, pl. 13, fig. 48.

Original description: “♂♀. 11–14 mm. Head, thorax pearly white. Palpi white, second joint with dark fuscous lateral streak, terminal joint with dark grey supramedian band. Forewings brownish-ochreous, dark towards apex; dorsal

area suffused white on basal third; a very oblique white fascia from costa at 1/5 to dorsum beyond middle, plical stigma appearing as minute black speck on its anterior edge; a parallel suffused white fascia from costa before middle to disc, its apex enclosing a large black dot (second discal stigma); a parallel white streak from costa at 2/3 to middle of termen; three white dots on costa between this and apex, one on termen below it, and one on tornus: cilia grey-whitish, a gery-whitish, a grey subbasal line. Hindwings grey; cilia whitish-ochreous."

Additional description: Length of forewing, 5.2–5.8 mm. Labial palpus white; outside of 2nd segment pale fuscous except at apex, inside with a pale fuscous band in supramedium; terminal segment with a dark brownish supramedian band. Antenna filiform, a little shorter than forewing, whitish, ringed with pale fuscous except for 3rd, 5th, 6th, 7th, 9th, and 11th segments from apex, these segments being wholly dark fuscous.

Wing venation (Fig. 3 A): In forewing vein CuP absent, veins  $R_4$  and  $R_5$  stalked; in hindwing with veins  $R_s$  and  $M_1$  closely approximated toward base, anal vein weak.

Male genitalia (Fig. 1 A, B): Valva elongated; sacculus broad, insidely with numerous long setae; basal lobe digitate, ventrally with some short setae. Uncus slightly elongated, weakly sclerotized, with four long and four short bristles. Gnathos absent. Saccus pointed, medium in size. Aedeagus a little longer than four times length of saccus, sigmoid, on apical half with a strongly sclerotized triangular plate, which has numerous minute processes on its basal margin; numerous minute cornuti arranged irregularly.

Female genitalia (Fig. 1 C, D): Papilla analis weakly sclerotized, short, covered with minute spines in caudal half; some long and short setae occurring on almost whole surface; apophysis posterioris long, slender. Eighth abdominal segment sclerotized, with a pair of V-shaped hollows ventrally; apophysis anterioris slender, shorter than apophysis posterioris. Vaginal plate separated into paired lobes, mesal margin of each lobe strongly sclerotized. Ostium bursae membranous; ductus bursae moderate in length, caudal half sclerotized into an internal tube, cephal half spinulate; cestum shortly sclerotized, incompletely ring-shaped; corpus bursae pyriform, membranous, with an oblong signum, which has a quadrified process and two small spines on the cephalic margin.

*Specimens examined.* 3 ♂♂ & 1 ♀. 1 ♂, Jojusha, Ehime Pref., Shikoku, 5/viii/1959, M. OKADA leg.; 1 ♂ & 1 ♀, Mt. Ishizuchi, Ehime Pref., Shikoku, 20/vii/1961, M. OKADA leg.; 1 ♂, Mt. Hikosan, Soeta Town, Fukuoka Pref., Kyushu, 15/vii/1957, M. OKADA leg.

*Distribution.* Japan (Honshu, Shikoku, Kyushu).

*Remarks.* The present identification follows the decision of Dr. K. SATTLER. According to his letter, the sketches of genitalia of both sexes examined here agree with the genitalia of the lectotype ♂ and paralectotype ♀ of *Aristotelia cleodora*. This species is surely referable to the genus *Monochroa* on the basis of the following

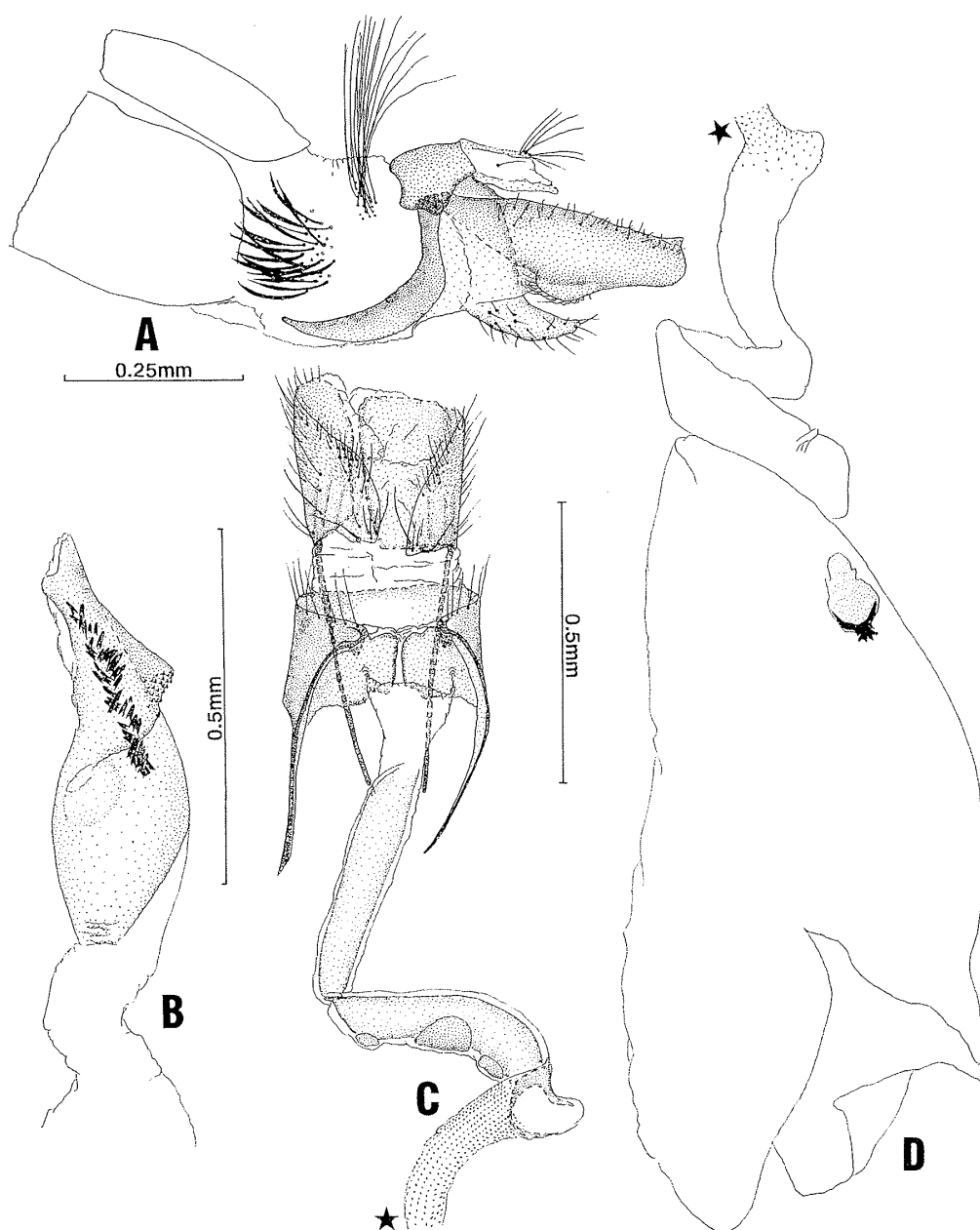


Fig. 1. *Monochroa cleodora* (MEYRICK). A: Male genitalia in lateral view, aedeagus omitted [Gel-93025, Mt. Ishizuchi, Ehime Pref., 20/vii/1961, M. OKADA leg.]. B: Aedeagus [ditto]. C: Female genitalia in ventral view, apical part of bursa copulatrix omitted [Gel-93026, ditto]. D: Apical part of bursa copulatrix [ditto].

genitalic characters: valva with broad sacculus and digitate basal lobe, rudimentary uncus, absence of gnathos, and sigmoid aedeagus with numerous cornuti.

*Monochroa cleodora* is distinguished from the other members of *Monochroa* by the weakly sclerotized internal tube of the ductus bursae and by the signum with a

quadrifid process.

*Monochroa cleodoroides* sp. n.

♂♀. Expanse of wings: 9.3–11.4 mm. Length of forewing: 4.4–5.2 mm.  
Face and head brilliant white. Labial palpus white; outside of 2nd segment

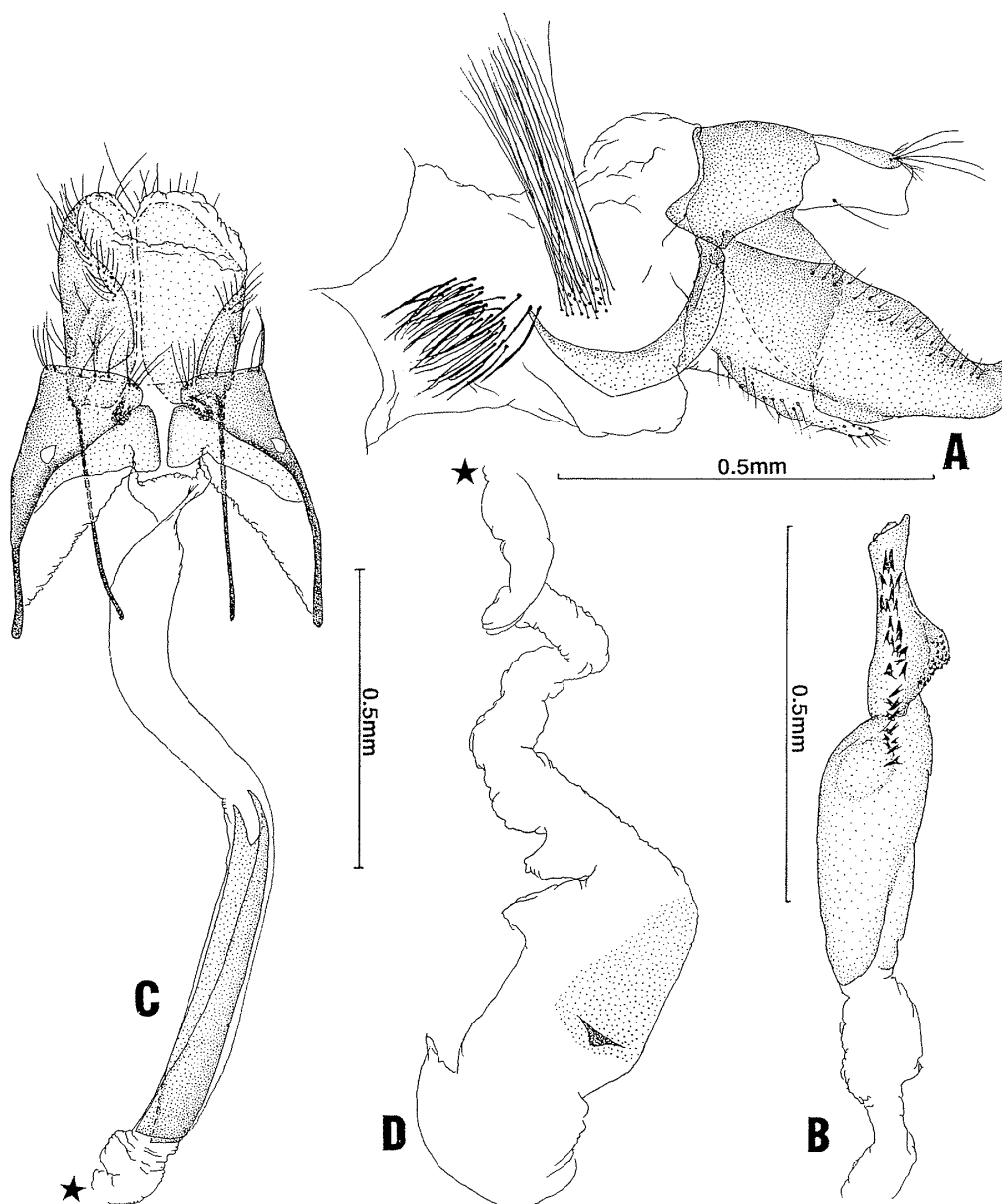


Fig. 2. *Monochroa cleodoroides* sp. n. A: Male genitalia in lateral view, aedeagus omitted [Gel-93020, holotype]. B: Aedeagus [ditto]. C: Female genitalia in ventral view, apical part of bursa copulatrix omitted [Gel-92039, Kisofukushima Town, Nagano Pref. 8/vii/1975, T. KUMATA leg.]. D: Apical part of bursa copulatrix [ditto].

with two dark brownish obscure bands in supra- and inferomedium, inside with a pale fuscous band in supramedium; terminal segment with a dark brownish supra-median band. Antenna filiform, a little shorter than forewing, whitish, ringed with dark fuscous except for 3rd, 5th, 6th, 7th, 9th and 11th segments from apex, these segments being wholly dark fuscous. Thorax smooth; prothorax yellowish ochre; mesothorax white with a few yellowish ochre scales; tegula white; metathorax brilliant yellowish ochre. Legs whitish; basal margin of fore femur brownish ochre, tibia and tarsus pale brownish ochre; middle and hind legs scattered with brownish ochre scales, but apices and calcaria of both tibiae brownish ochre.

Forewing variegated in ground colour from brownish ochre to pale brownish ochre; dorsal area suffused with white on basal fourth; three very oblique white fasciae running in parallel to each other, the first fascia from costa at basal fifth to middle of dorsum, with a plical stigma missing or rudimentary; the second from costa beyond middle to disc, with its apex enclosing a small black discal stigma (ca. 0.1 mm in diameter); the third from costa at two-thirds to middle of termen, much narrower than the formers; three white minute dots on costa between third fascia

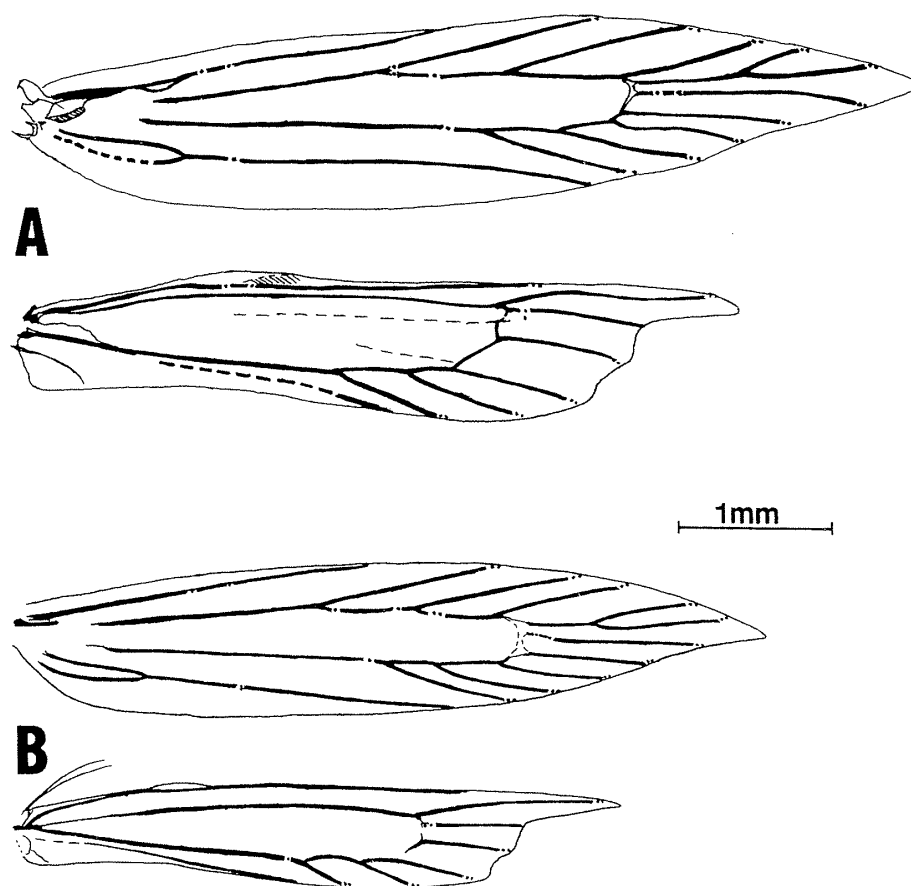


Fig. 3. Wing venation. A: *Monochroa cleodora* (MEYRICK), [Gel-93005, Mt. Ishizuchi, Ehime Pref., 20/vii/1961, M. OKADA leg.]. B: *Monochroa cleodoroides* sp. n. [Gel-93006, Kisofukushima Town, Nagano Pref., 8/vii/1975, T. KUMATA leg.].

and apex of wing, a similar dot on termen and a further dot on tornus; cilia whitish grey, with a grey subbasal line. Hindwing grey: cilia whitish ochre.

Wing venation (Fig. 3 B): Similar to *M. cleodora*, the base of the subcostal vein thinner than that of *M. cleodora*.

Male genitalia (Fig. 2 A, B): Valva elongated; sacculus broad, insidely with numerous long setae; basal lobe digitate, ventrally with some short setae. Uncus slightly elongated, weakly sclerotized, with four long and six minute bristles. Gnathos absent. Saccus pointed, medium in size. Aedeagus a little longer than four times length of saccus, sigmoid, on apical third with a strongly sclerotized triangular plate, which has numerous minute processes on its basal margin; numerous and minute cornuti arranged in an irregular row, except for basal half of aedeagus more or less in a double row.

Female genitalia (Fig. 2 C, D): Papilla analis weakly sclerotized, elongated, covered with minute spines in caudal half, some long and short setae occurring on almost whole surface; apophysis posterioris long, slender. Eighth abdominal segment sclerotized, with a pair of U-shaped hollows ventrally; apophysis anterioris slender, shorter than apophysis posterioris. Vaginal plate separated into paired lobes, mesal margin of each lobe strongly sclerotized. Ostium bursae membranous; ductus bursae moderate in length; sclerotized cestum long, occupying about median one-third of ductus bursae; corpus bursae pyriform, membranous, with an oblong signum, which has a bluntly triangular process on the cephalic margin.

*Specimens examined.* 5 ♂♂ & 8 ♀♀. Holotype, ♂, Kisofukushima Town, Nagano Pref., Honshu, 8/vii/1975, T. KUMATA leg., Gen. sl. no. Gel-93020, deposited in Hokkaido University. Paratypes, 1 ♂ & 1 ♀, Kisofukushima Town, Nagano Pref., Honshu, 5–8/vii/1975, T. KUMATA leg., deposited in Hokkaido University; 1 ♀, Otani, Suzu City, Ishikawa Pref., Honshu, 8/vii/1991, T. UEDA leg., and 6 ♀♀, Mt. Mikusayama, Nose Town, Osaka Pref., Honshu, 27/vi/1993, T. UEDA leg., deposited in University of Osaka Pref.; 1 ♂, Mt. Mikazukiyama, Fukuoka City, Fukuoka Pref., Kyushu, 16/vi/1982, I. KANAZAWA leg., and 2 ♂♂, Mt. Kurodake, Shonai Town, Oita Pref., Kyushu, 24/vii/1981, I. KANAZAWA leg., deposited in Osaka Museum of Natural History.

*Distribution.* Japan (Honshu, Kyushu).

*Remarks.* This new species is very similar to the preceding species, *M. cleodora*, in the coloration of forewing. However, the moth size and the coloration of labial palpus may serve to discriminate between the two species as follows: in *M. cleodoroides* the length of the forewing is 4.4–5.2 mm and the outside of the second segment of labial palpus has two fuscous obscure bands (Fig. 4-B), while in *M. cleodora* the length of forewing is longer, 5.2–5.8 mm, and the outside of the second segment of labial palpus is pale brown except at apex (Fig. 4 A). Moreover, *M. cleodoroides* is more easily distinguished from *M. cleodora* by the following female genitalic characters: eighth abdominal segment with a pair of U-shaped ventral hollows, cestum longer, and signum with a bluntly triangular process on cephalic

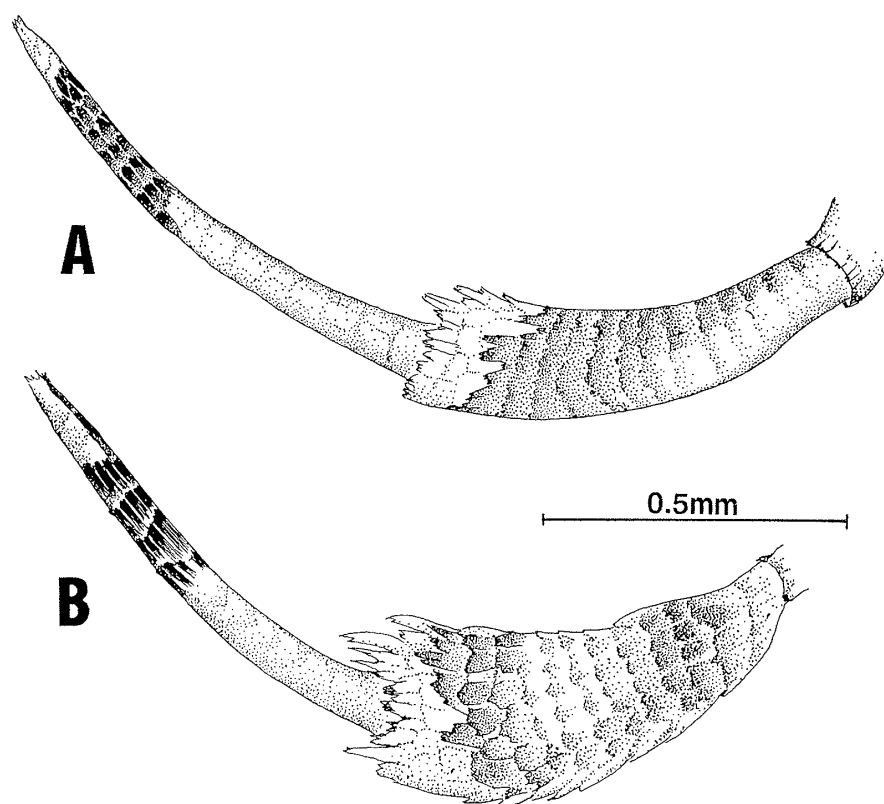


Fig. 4. Labial pulpus. A: *Monochroa cleodora* (MEYRICK). B: *Monochroa cleodoroides* sp. n.

margin. In male genitalia, it may be separated from *M. cleodora* by the cornuti arranged in a more sparse and regular row which becomes double in basal half of aedeagus.

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I wish to express my sincere thanks to Dr. T. KUMATA of Hokkaido University, Sapporo, for his kindness in offering specimens, kind advice and critical reading of the manuscript, and to Dr. K. SATTLER of the Natural History Museum, London, for his effort in comparing between some material used here and the type specimens of *A. cleodora* and his kind advice. My thanks are also due to Drs. T. YASUDA, S. MORIUTI, T. HIROWATARI and Mr. T. UEDA of University of Osaka Prefecture, Sakai, and Dr. I. KANAZAWA of Osaka Museum of Natural History, Osaka, for their kindness in offering valuable specimens. I also express my sincere thanks to Dr. H. TORIKURA of Hokkaido Prefectural Tokachi Agricultural Experiment Station, Tokachi, for offering valuable literature.

## References

- CLARKE, J. F. G., 1969. Catalogue of the Type Specimens of Microlepidoptera in the British Museum (Natural History) Described by Edward MEYRICK, 6: 1-537, pls. 1-267. Trustees of the British Museum (Natural History), London.
- MEYRICK, E., 1930-36. Exotic Microlepidoptera, 4: 1-642. Taylor & Francis Ltd., London.
- MORIUTI, S., 1982. Gelechiidae. In INOUE, H., et al., *Moths of Japan*, 1: 275-288, 2: 212-215, pls. 13, 227, 233, 242-244, 257-260. Kodansha, Tokyo. (In Japanese.)
- PIERCE, F. N. & J. W. METCALFE, 1935. The Genitalia of the Tineid Families of Lepidoptera of the British Islands. xii+116 pp., 68 pls. Oundle, Northants.
- PISKUNOV, V. I., 1981. Family Gelechiidae—gelechiid moths. In MEDVEDEVA (ed.), *Key to the insects of European part of USSR*, Lepidoptera, 4 (2): 569-748. Izdavaemye Zoologicheskimi Muzeem Akademii Nauk, Leningrad. (In Russian.)
- POVOLNÝ, D., 1979. Isophrictini trib. n. nebst Beschreibung von *Daltopora felixi* gen. n., sp. n. aus der Mongolei (Lepidoptera, Gelechiidae). *Acta ent. bohemoslov.*, 76: 38-58.

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## 新刊紹介

陳世駿ほか編『横断山区昆虫』(Insects of the Hengduan Mountains Region). 第1冊, 1992, xii+865 pp., 第2冊, 1993, xvi+682 pp. 科学出版社, 北京.

本書は中国科学院の青藏高原総合科学考察隊による調査報告書(全39冊, 48モノグラフ刊行予定)のうち, 昆虫・ダニ関係の2分冊である.

青藏高原の横断山区(チベット自治区の東部, 四川省西部, 雲南省北西部を含む山岳地帯で, 北緯26°~34°, 東経98°~104°の約50万km<sup>2</sup>を占める)には標高5,000m以上の連峰からなる山脈群や, 急峻な峡谷があって, 雄大な景観はもとより, 自然資源の一大宝庫であるといわれる. チベットの学術調査は過去に行われているが, 1981年から4年間は動物研究所昆虫分類研究室趙建銘博士ほかの研究者が横断山区を重点的に踏破, 調査を実施し, 計17万点の昆虫類を採集したという. 今回発刊された第1冊には緒言, 横断山区昆虫相とその動物地理学的特性と, コムシ・トンボ・バッタ・半翅・同翅・甲虫目などの採集種のリストが, 第2冊にはトビケラ・鱗翅・双翅・膜翅目のほかダニ類と, 索引が載せられている. 昆虫綱は19目, 230科, 1,971属, 4,758種で, ダニ類6科23属68種の計4,826種(24新属, 850新種を含む)が記録されている. 各目の末尾には新属・新種の特徴が英文で記載されている.

この地区産の属や種群を概観すると, 高原の標高(2,800m以下と3,200m以上)や植生(亜熱帯広葉樹と針葉樹林帯)などの関連から, 東洋区と旧北区の境界線が横断山区内に求められ, バッタ・同翅・甲虫・双翅目では固有種がそれぞれ35~50%を占めているという. また, 豊富な高山性昆虫のなかにはトビハムシ類のなかまにみられるように峡谷が地理的隔離条件になっていることや, 体長約59mmの世界最大の原始的コムシや, 原始的なヒゲナガカワトビケラの分布など, 多数の興味深い記事がある.

引き続き未検グループについて報告されるようであり, わが国との共通種もみられることから, 分類にたずさわる者にとっては座右に置いておきたい高著である. なお, 第1冊は定価が50.20元, 第2冊は41.00元である.

(笹川満廣)