Journal of Species Research 15(1):68-72, 2026
https://doi.org/10.12651/JSR.2026.15.1.068

Open Access

Two species of *Endotricha* Zeller, 1897 (Lepidoptera, Pyralidae, Pyralinae) new to Korea

Jae-Cheon Sohn*

Department of Science Education, Gongju National University of Education, Gongju 32553, Republic of Korea

**Correspondent: jsohn74@gjue.ac.kr*

Two species of the pyraline genus *Endotricha*, *E. theonalis* (Walker, 1859) and *E. inouei* Yoshiyasu, 1987, are recorded for the first time from Korea. The records of *E. theonalis* were based on five specimens from Yeosu, Jeonnam Province and Chuja Islands, Jeju Province. The records of *E. inouei* were based on four specimens from Chuja Islands, Jeju Province. *Endotricha inouei* has been known as endemic to Japan but it is reported for the first time outside the country. Photos and redescriptions of the habitus and genitalia of both sexes are provided for those two species of *Endotricha*. To sum up, the Korean species of *Endoricha* comprise nine species.

Keywords: *Endotricha*, Korea, new records, Pyralidae, taxonomy

All content in the Journal of Species Research (JSR), published by the National Institute of Biological Resources (NIBR), is Open Access, meaning it is freely accessible online to everyone without fees or the need for authors' permission. Open Access articles are automatically archived in the Korea Institute of Science and Technology Information (KISTI)'s Open Access repository, AccessON. All JSR content is published and distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License (CC BY-NC-ND 4.0). This license permits non-commercial use, distribution, and reproduction in any medium, provided the original author and source are properly credited. However, no modifications or derivative works are allowed.

Introduction

Endotricha is the principal and largest genus of Endotricini in Pyralinae. The genus was designated by Zeller (1847) with the type species, *Pyralis flammealis* Schiffermüller from Europe. Whalley (1963) reviewed it and modernized the generic definition. He suggested that *Endotricha* is distinguished from other genera of Endotrichini in having the apparent gnathos and gnathal arms and the conspicuous saccular process in the male genitalia. The adult moths are mostly reddish or brownish with white or pale yellow fasciae on both pairs of wings. They are one of the moth groups frequently-encountered in the temperate forests but their immature stages remain little-known. No significant economic damage caused by *Endotricha* has been reported.

The *Endotricha* from the Old World include about 100 species (Sun and Li, 2012). Lee *et al.* (2007) reviewed the Korean congeners and listed a total of seven species in *Endotricha*. This estimate seems underscored, given their species diversity from the neighboring countries: 12 species from Japan (Yoshiyasu, 2013) and 38 species from China (Sun and Li, 2012). In the present study, two species of *Endotricha* are reported for the first time from Korea.

Materials and Methods

The insect collection used for this study was established from the National Survey Program of the Jeju Marine Regional Parks, sponsored by the Korea National Park Service in 2019. Dried specimens were deposited in two Korean insect collections: the Gongju National University of Education, Gongju (GJUE) and the National Institute of Biological Resources, Incheon (NIBR). The genitalia were prepared and mounted on slide glasses, following Clarke (1941), except that Chlorazol black and Euparal were used as stain and mounting medium, respectively. Terms for genitalia follow Klots (1970).

©2026 National Institute of Biological Resources.
This article was authored by [Jae-Cheon Sohn] and is published by the National Institute of Biological Resources under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License (CC BY-NC-ND 4.0). Non-commercial use, distribution, and reproduction in any medium are permitted, provided the original authors are properly credited and the work is not modified in any way.

Taxonomic Accounts

Family Pyralidae Latreille, 1809
Subfamily Pyralinae Latreille, 1809

Endotricha theonalis (Walker, 1859)
남방뾰족명나방 (Figs. 1A, 2A, 2C)

Pyralis theonalis Walker, 1859: 900. Type locality: China, Shanghai.
Pyralis thermusalis Walker, 1859: 912. Type locality: China, Shanghai.
Zania unicalis Walker, 1866: 1257. Type locality: China, Shanghai.
Doththa thermusalis; Butler, 1880: 682.
Endotrichodes perustalis Ragonot, 1891: 522. Type locality: China, Shanghai.
Endotricha thermusalis; Ragonot, 1891: 525.
Endotricha theonalis; Hampson, 1896: 482; Whalley, 1963: 410.
Endotricha hypogrammalis Hampson, 1906: 209. Type locality: China.
Endotricha anpingia Strand, 1919: 55. Type locality: Taiwan.

Description. Habitus (Fig. 1A) - Head: Vertex gray, intermixed with pinkish gray scales; frons fuscous. Antenna 3/4 as long as forewing, short-ciliate in males, filiform in female; scape dark-grayish brown, intermixed with grayish red scales ventrally; basal 10–11 flagellomeres dark-grayish brown on basal half, pale gray on distal half; remaining flagellomeres pale gray. Labial palpus upcurved; 1st segment pale-brownish gray laterally, dark-grayish yellow mesally, with purplish brown and purplish red scale-tufts; 2nd segment as long as 1st, broadened at middle, dark-purplish brown, intermixed with purplish red and grayish yellow scales terminally; 3rd segment 1/3 as long as 2nd, obtuse apically, pale-grayish yellow, sparsely intermixed with pale-purplish red scales. Thorax: Patagium pale-grayish brown, intermixed with pale-purplish red scales in males, grayish brown in females; tegula and mesonotum pale-grayish red, speckled with pale-brownish gray in males, grayish brown in females. Forewing length 8.5–10.4 mm in males (n = 2), 8.9–9.8 mm in females (n = 2), broadened to termen, with dorsal margin broadly round in males, straight in females; ground color purplish red in males, dark-brownish purple, tinged with purplish red on terminal area in females; antemedian and subterminal line faint, pale pink in males, pale-grayish yellow in females; costa with a row of pale-grayish yellow dots; discal spot faint in males, apparent in females; terminal line present in females, dark brown; cilia purplish red in males, pale orange, intermixed with purplish red scales on middle of termen and tornus in females. Hindwing broad, oval in males, semi-elliptical in females, colorous with forewing; median and postmedian lines slightly diverging anteriorly, pale-grayish pink; pale-brownish gray androconia present above the distal angle of discal cell in males, elliptical; terminal line present in females, dark brown; cilia dark-purplish red in males, pale yellow, intermixed with purplish red scales basally, dark brown scales along with ends of veins in females. Male genitalia (Fig. 2A) - Uncus elongate-rectangular, slightly constricted at basal 3/5, with broad lateral zone densely setose in distal 2/3. Tegumen wide-subrectangular, with bulge posterolaterally. Valva spatulate, emarginated at distal 1/3 of costa, densely setose; sacculus 4/5 as long as valva, broadened basally, with digitiform process distally. Vinculum inverted-subtrapezoidal. Phallus broad, of even width except coecum; cornutus as elongate, sclerotized plate with curved spine along distal 1/2. Female genitalia (Fig. 2C) - Ovipositor telescopic. Papillae anales subtriangular, setose. Apophyses posteriores 2.2× longer than apophyses anteriores. Ostium bursae wide, with deep, thimble-shaped emargination before antrum. Antrum columnar, with longitudinal slit on one side.

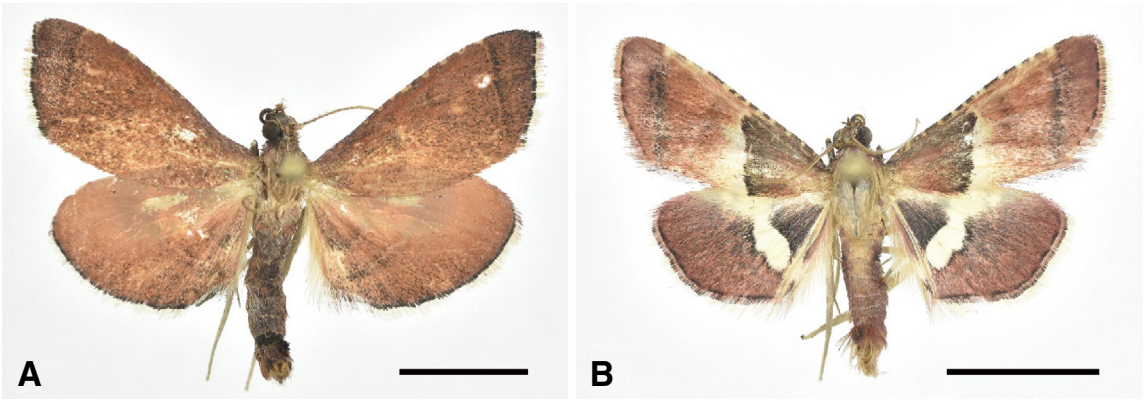


Fig. 1. Adults of *Endotricha*. A. *E. theonalis* (Walker, 1859), male. B. *E. inouei* Yoshiyasu, 1987, male. Scale bars = 5 mm.

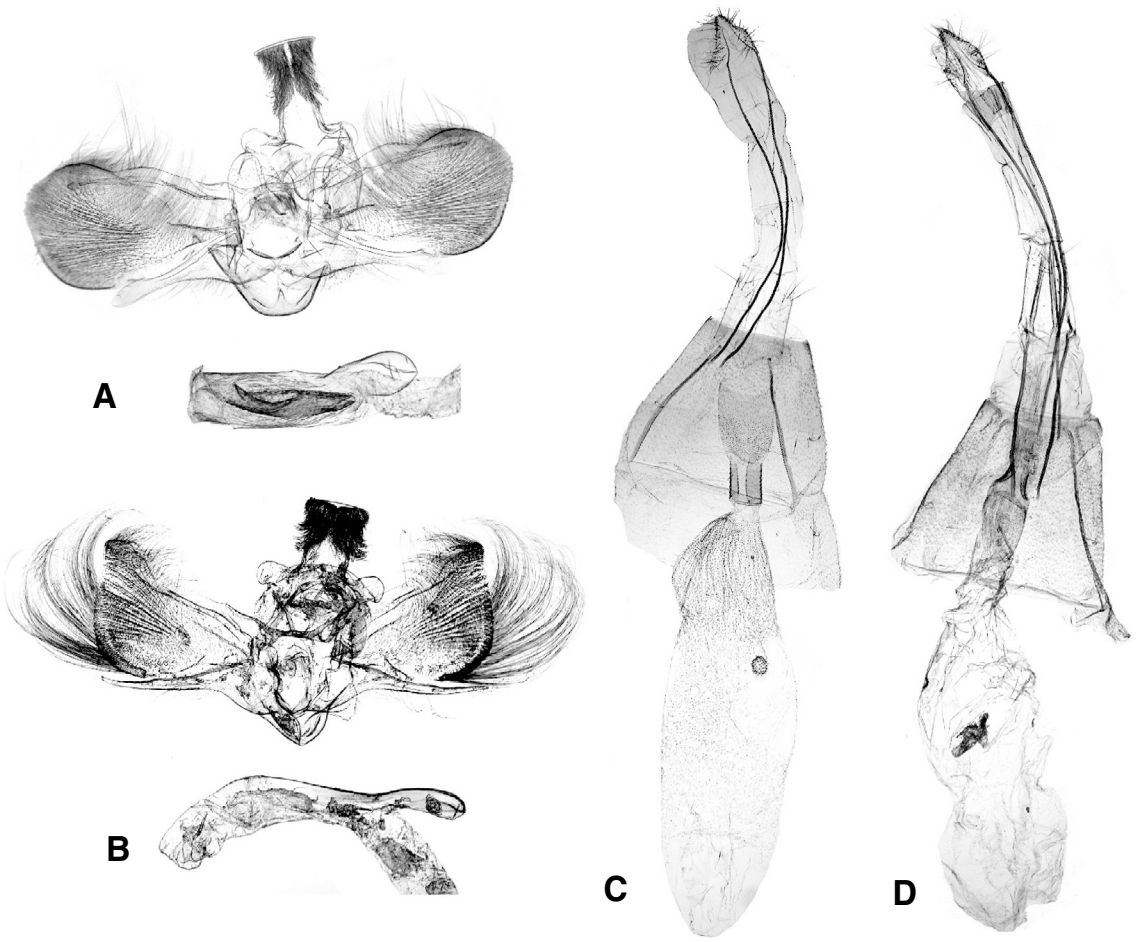


Fig. 2. Genitalia of *Endotricha*. A. *E. theonalis* (Walker, 1859), male. B. *E. inouei* Yoshiyasu, 1987, male. C. *E. theonalis* (Walker, 1859), female. D. *E. inouei* Yoshiyasu, 1987, female.

Membranous part of ductus bursae very short. Corpus bursae cucumiform, spinulate except surrounding area of signum and anterior 1/4, longitudinally wrinkled on posterior 1/4; signum, small, round, scobinate.

Material examined. 1♂, Jeonnam Prov., Yeosu-si, Hwayang-myeon, Imog-ri (N34°39′03.02″ E127°34′10.2″, alt. 44 m), 6−7.x.2021 (JC Sohn), [GSN] SJC-1549, GJUE; 1♀, Jeonnam Prov., Yeosu-si, Hwayang-myeon, Is. Baekyado (N34°36′38.3″ E127°39′03.8″), 6.x.2021 (JC Sohn), [GSN] SJC-1595, GJUE; 1♂2♀, Jeju Prov., Jeju-si, Chuja-myeon, Is. Jiggudo (N33°59′13.6″ E126° 14′52.7″), 11.vi.2019 (JC Sohn), GJUE & NIBR (RORX-IN0000000537).

Distribution. Korea (new record), Japan, China, Taiwan.

Host plants. Dead leaves of various trees (Yoshiyasu, 2013) and detritus in owl nests (Nasu *et al*., 2012).

Remarks. This species exhibits a remarkable sexual dimorphism in the shape and coloration of wings. One of the online resources (https://mothtaiwan.blogspot.com) mentioned its possible association with coastal habitats.

Endotricha inouei Yoshiyasu, 1987
비바리뾰족명나방 (Figs. 1B, 2B, 2D)

Endotricha inouei Yoshiyasu, 1987: 200. Type locality: Japan, Kyoto Pref., Kanmuri-jima.

Description. Habitus (Fig. 1B) - Head: Vertex fuscous, intermixed with purplish red scales; frons fuscous. Antenna 2/3 as long as forewing, short-ciliate in males; scape dark brown, intermixed with purplish red scales; basal 10−11 flagellomeres dark brown; remaining flagellomeres pale fuscous. Labial palpus upcurved, dark fuscous laterally, intermixed with pale fuscous scales on mesal surfaces of 1st and 2nd segments; 1st segment as long as 2nd; ventral scale-tufts on 1st and 2nd segments purplish red, intermixed with fuscous scales; 3rd segment 1/2 as long as 2nd, obtuse apically, fuscous, intermixed with pale-grayish orange scales terminally. Thorax: Patagium purplish red, intermixed with fuscous scales;

tegula elongate, lustrous, fuscous, tinged with pale-pinkish gray on basal 1/3; mesonotum with pale orange scale-tufts posteriorly. Forewing 8.4–9 mm (n = 3), gradually broadened to termen, pale-purplish red, intermixed with purplish brown scales; costa purplish brown, with a row of pale yellow dots; antemedian line nearly straight, pale yellow, spread outwards posteriorly, accompanying with dark-purplish brown zone along inner margin; postmedian line faint, dark-purplish brown; terminal dashes dark brown; cilia grayish pink, intermixed with purplish brown scales. Hindwing pale-purplish red, intermixed with purplish brown scales; anterior area suffused with pale yellow; inner zone of median line purplish brown; median line broadened posteriorly, pale yellow; androconial line along 1A + 2A vein pale yellow; terminal line purplish brown; cilia pinkish brown in basal 1/3, pale gray in distal 2/3. Male genitalia (Fig. 2B) - Uncus rectangular, slightly dilated posteriorly, with broad setal zone along lateral area on distal 2/3. Tegumen broadly round laterally, with subquadrate protrusion posterolaterally. Valva subparallelogram-shaped, broadened distally, densely setose, with upcurved hairs along distal margin; costa broadly curved at distal 1/3; sacculus as long as valva, broadened basally, with spiniform process distally. Vinculum inverted-subtriangular. Phallus broadened distally, sinuous; coecum elongate; cornutal zone small, scobinate. Female genitalia (Fig. 2D) - Papillae anales lanceolate, setose. Apophyses posteriores 2 × longer than apophyses anteriores. Ostium bursae moderate, surrounded by emargination. Antrum trapezoidal. Ductus bursae 2/5 as long as corpus bursae, of even width. Corpus bursae long, elliptical, slightly constricted at anterior 2/5; signum at caudal 1/4 of corpus bursae, small, round, scobinate.

Material examined. 2♂1♀, Jeju Prov., Jeju-si, Chujamyeon, Is. Jiggudo (N33°59′13.6″ E126°14′52.7″), 11.vi.2019 (JC Sohn), [GSN] SJC-1550 (♀), GJUE & NIBR (RORXIN0000000538); 1♂, Jeju Prov., Jeju-si, Chuja-myeon, Is. Cheongdo (N33°54′43.8″ E126°19′27.2″), 11.vi.2019 (JC Sohn), [GSN] SJC-1547, GJUE.

Distribution. Korea (new record), Japan.

Host plants. Unknown.

Remarks. This species has been known as an endemic species for Japan before the present study. It is distinguished from all other congeners from Korea in having the darker coloration on an area interior to the antmedian line of the wings.

Conflicts of Interest

The author of this paper has no affiliation with any interests and is solely responsible for the paper.

Acknowledgements

This work was supported by a grant from the National Institute of Biological Resources (NIBR), funded by the Ministry of Environment (MOE) of the Republic of Korea (NIBR202402202).

References

Butler, A.G. 1880. On a second collection of Lepidoptera made in Formosa by H. E. Hobson, Esq. Proceedings of the Zoological Society of London 1880:666-691.

Clarke, J.F.G. 1941. The preparation of slides of the genitalia of Lepidoptera. Bulletin of the Brooklyn Entomological Society 36:149-161.

Hampson, G.F. 1896. On the classification of the three subfamilies of moths of the family Pyralidae: The Epipaschiinae, Endotrichiinae and Pyralinae. Transactions of the Entomological Society of London 1896:451-550.

Hampson, G.F. 1906. On new Thyrididae and Pyralidae. Annals and Magazine of Natural History, including Zoology, Botany and Geology, London (ser. 7) 17:189-222.

Klots, A.B. 1970. Lepidoptera. In: S.L. Tuxen (ed.), Taxonomist's Glossary of Genitalia in Insects. Munksgaard, Copenhagen. pp. 115-130.

Latreille, P.A. 1809. Genera Crustaceorum et Insectorum. Amand Koenig, Parisiis et Argentorati. 399 pp.

Lee, B.-W., B.-K. Byun and Y.-S. Bae. 2007. Taxonomic study of the genus *Endotricha* Zeller (Lepidoptera, Pyralidae, Pyralinae) from Korea. Transactions of the Lepidopterological Society of Japan 58:7-17.

Nasu, Y., S. Kurahama, H. Matsumuro, K. Ueda, T. Hirowatari and Y. Yoshiyasu. 2012. Relationships between nest-dwelling Lepidoptera and their owl hosts. Ornithological Science 11:77-85.

Ragonot, E.L. 1891. Essai sur la classification des Pyralites. Annales de la Société Entomologique de France (ser. 6) 10(1890):435-546.

Strand, E. 1919. H. Sauter's Formosa-Ausbeute: Pyralididae, Subfam. Sterictinae, Endotrichinae, Pyralidinae und Hydrocampinae (Lep.). Entomologische Mitteilungen, Berlin-Dahlem 8:49-62.

Sun, Y. and H. Li. 2012. Five new species and three new females of the genus *Endotricha* Zeller from China (Lepidoptera, Pyralidae, Pyralinae). ZooKeys 214:29-42.

Walker, F. 1859. Part XIX. Pyralides. List of the Specimens of Lepidopterous Insects in the Collection of the British Museum, London 19:799-1036.

Walker, F. 1866. Supplement 4. List of the Specimens of Lepidopterous Insects in the Collection of the British Museum, London 34(1865):1121-1533.

Whalley, P.E.S. 1963. A revision of the world species of the genus *Endotricha* Zeller (Lepidoptera: Pyralidae). Bulletin

of the British Museum (Natural History) Entomology series, London 13:395-453.

Yoshiyasu, Y. 1987: A systematic study of the *icelusalis* species group of *Endotricha* (Lepidoptera: Pyralidae) in Japan, with description of a new species. Tinea 12 (Suppl.):197-206.

Yoshiyasu, Y. 2013. Endotrichini. In: Y. Nasu, T. Hirowatari and T. Kishida (eds.), The Standard of Moths in Japan IV. Gekken Education Publishing, Tokyo. pp. 327-329.

Zeller, P.C. 1847. Bemerkungen über die auf einer Reise nach Italien und Sicilien beobachteten Schmetterlingsarten. Isis von Oken, Leipzig (6-12):561-594.

Submitted: May 29, 2025
Revised: August 26, 2025
Accepted: September 29, 2025