

# Genus *Pseudancyllis* Horak (Lepidoptera: Tortricidae) new to China, with a world checklist

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**Abstract:** The genus *Pseudancyllis* Horak is reported for the first time from China. *P. acrogypsa* (Turner, 1916) is described as new to China based on specimens from Guangxi Zhuang Autonomous Region. Images of the adults and the genital structures of *P. acrogypsa* are provided. A key to the species of *Pseudancyllis* Horak and a world checklist is presented.

**Key words:** *Pseudancyllis acrogypsa*; new record; taxonomy; Tortricid moths

中国新纪录属—伪镰翅小卷蛾属 *Pseudancyllis* 及世界名录（鳞翅目：卷蛾科）

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**摘要：**记录采自广西的卷蛾科 1 中国新纪录属—伪镰翅小卷蛾属 *Pseudancyllis* Horak 和 1 中国新纪录种—伪镰翅小卷蛾 *P. acrogypsa* (Turner, 1916)。文中提供了该种的成虫、雌雄性外生殖器图、该属分种检索表及世界种名录与分布。

**关键词：**伪镰翅小卷蛾；新纪录；分类；卷蛾

## Introduction

Horak (2006) erected the genus *Pseudancyllis* with *Ancylis acrogypsa* Turner, 1916 from Queensland, Australia as the type species and transferred *Ancylis percnobathra* Meyrick, 1933 and *Ancylis rostrifera* Meyrick, 1912 to *Pseudancyllis*. Razowski & Wojtusiak (2013) reported *Pseudancyllis elbahiana* from Venezuela representing the Oriental-Australian genus *Pseudancyllis* Horak firstly recorded from the Neotropical Region. Currently the genus *Pseudancyllis* Horak consists of only four species: *P. acrogypsa* (Turner), *P. elbahiana* Razowski & Wojtusiak, *P. percnobathra* (Meyrick) and *P. rostrifera* (Meyrick) (Horak 2006; Razowski & Wojtusiak 2013; Gilligan *et al.* 2014).

Recently some specimens from Yizhou, Guangxi Zhuang Autonomous Region have been identified as *Pseudancyllis acrogypsa* (Turner, 1916) which represents the first record of this genus from China.

## Material and methods

This study is based on examination of specimens collected by light traps from Guangxi Zhuang Autonomous Region. Descriptions of forewing pattern follow Brown & Powell (1991) as refined by Baixeras (2002). Genitalia dissection and mounting methods follow Li (2002).

Images of adults were taken with a Leica M205A Stereo microscope plus Leica Application Suite 4.2 software. Photographs of genitalia were prepared with a Leica DM750 Microscope provided with the same software.

All specimens examined are deposited in the Insect Collection, College of Life Sciences, Nankai University, Tianjin, China (NKU).

The following abbreviations are used:

ANIC — Australian National Insect Collection, CSIRO, Canberra, Australian Capital Territory, Australia;

BMNH — Natural History Museum, London, United Kingdom;

MZUJ — Zoological Museum of the Jagiellonian University, Krakow, Poland;

TL — Type locality;

TD — Type depository.

## Taxonomy

### *Pseudancylis* Horak, 2006, new record to China

*Pseudancylis* Horak, 2006, *Monographs on Australian Lepidoptera*, 10: 282.

*Pseudancylis*: Razowski & Wojtusiak, 2013, *Acta Zoologica Cracoviensia*, 56(1): 26. [misspelling of *Pseudancylis*]

Type species: *Ancylis acrogypsa* Turner, 1916.

Venation. Forewing with  $R_4$  and  $R_5$  long stalked;  $R_3$  close to the stalk; chorda and M-stem absent;  $M_3$  and  $CuA_1$  separate at base;  $CuP$  present at margin. Hindwing with  $R_s$  and  $M_1$  parallel and closely approximated at base;  $M_3$  and  $CuA_1$  stalked;  $M_2$  far away from the stalk of  $M_3$  and  $CuA_1$ .

Male genitalia. Tegumen broadly round; uncus nipple-shaped or absent; socius long, hairy, subcrescentic dorsally and laterally attached to the tegumen; valva long and medially narrow with a strongly projecting sacculus that may be produced into a finger-shaped process, followed by a very deep, roundish, ventral emargination with the cucullus gradually extending to a rounded dorsal lobe and a triangular ventral projection ending with a small spine. Phallus simple.

Female genitalia. Sterigma prominent, slightly sclerotized band-shaped surrounded by a spinulose membrane. Ductus bursae with a sclerotized ring near ostium. A broad sclerotized ring at the entrance of corpus bursae. A single distally flattened, curved, dagger-shaped signum with a serrate inner edge present.

Distribution. Oriental; Australian; Neotropical Regions.

Biology. Unknown except the larvae of *Pseudancylis percnobathra* (Meyrick) has been found occasionally on the tea-plant.

Remarks. *Pseudancylis* looks like *Ancylis* and *Rhopalovalva* superficially, but these genera are distantly related based on the characters of genitalia. No sister group can be

identified for *Pseudancylis*, but there are possible synapomorphies that link the genus with *Eucosmogastra* Diakonoff and *Thysanocrepis* Diakonoff (Horak 2006). *Pseudancylis* shares a ventral lip-shaped sterigma and a sclerotized ring at the entrance of ductus bursae with these two genera and also, with *Thysanocrepis*, a projecting sacculus tip. There are some relationships between *Pseudancylis* and *Pseudacroclita* Oku because they are similar in appearance and a projecting sacculus tip. With more species found and studied, the relationship among *Pseudancylis* and other genera may be clarified in the future.

#### Key to species of *Pseudancylis* Horak based on characters of forewing and male genitalia

1. Valva with neck relatively long; sacculus angle strongly projecting and produced into a relatively long finger-shaped prominence; cucullus nearly oval ..... *P. acrogypsa* (Turner)
- Valva with neck short; sacculus angle slightly projecting and produced into a short pointed terminal prominence; cucullus nearly broad triangular ..... 2
2. Forewing with apex long and falcate and termen strongly excavated beneath apex; tegumen produced into a small pointed prominence on top (Clarke, 1958: 294, figs. 2, 2a) ..... *P. rostrifera* (Meyrick)
- Forewing with apex pointed, not falcate and termen straight beneath apex; tegumen less prominent on top (Razowski & Wojtusiak, 2013: 26, figs. 34, 75) ..... *P. elbahiana* Razowski & Wojtusiak

Note: *Pseudancylis percnobathra* (Meyrick) is excluded in the key due to lack information of male genitalia.

#### *Pseudancylis acrogypsa* (Turner, 1916) (Figs. 1–3), new record to China

*Ancylis acrogypsa* Turner, 1916, *Transactions and Proceedings of the Royal Society of South Australia*, 40: 524; Brown, 2005, *World Catalogue of Insects*, 5: 334 (as synonym of *Eucosma symploca* Turner, 1946). TL: Australia: Queensland, Kuranda, near Cairns; TD: ANIC.

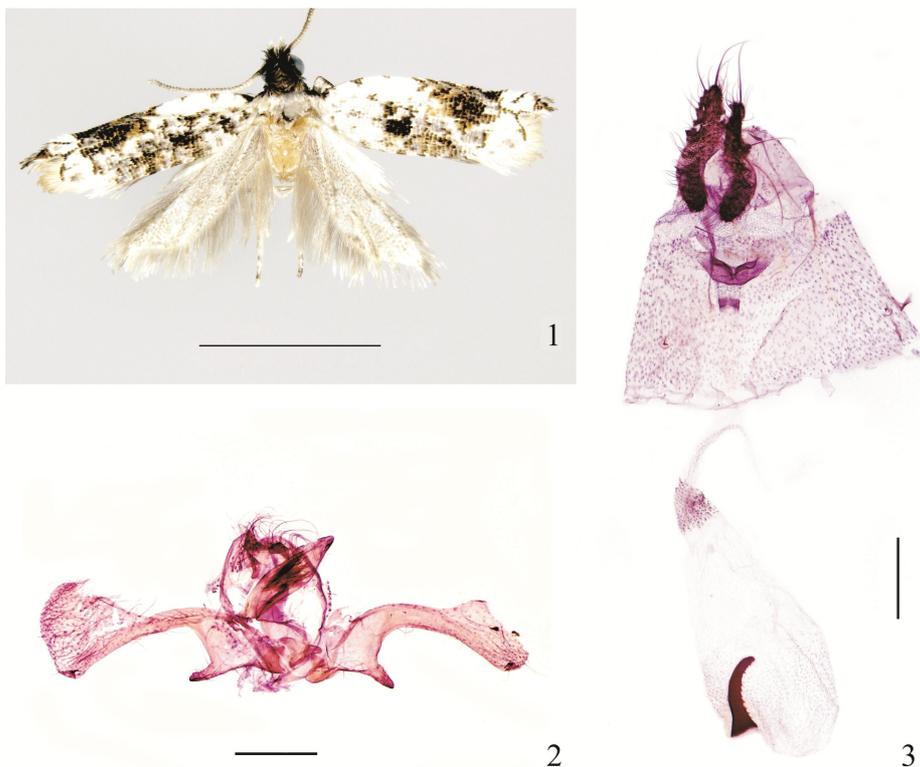
*Pseudancylis acrogypsa*: Horak, 2006, *Monographs on Australian Lepidoptera*, 10: 285.

Adult (Fig. 1). Vertex with brown scales, frons brown. Antenna brown. Labial palpus with basal segment gray mixed with brown, inside white; terminal segment porrect, basal part concealed in the long white scales of second segment. Thorax and tegula grayish brown. Forewing length 3.0–3.5 mm. Forewing slender, widest before middle with costa strongly curved at base and faintly concave beyond middle; apex long and falcate, gray; termen deeply indented beneath apex; forewing with ground color grayish white, scattered with some silvery streaks; costal 1/3 with three small gray inverse triangular spots; three pairs of gray strigulae between Sc and R<sub>1</sub> points, confluent with each other and extending toward termen; costa with an inverse triangular brown patch from middle to before apex reaching near dorsum and sprinkled with leaden scales; a whitish band along termen containing an inwardly oblique blackish line on costa; a Y-shaped gray mark along angle of termen behind apex; dorsal half of forewing light brown mixed with silver-gray scales; tornal region with some longitudinal, parallel, leaden marks; cilia grayish white with gray basal line. Hindwing and cilia gray. Legs gray, with brown scales on tibiae and tarsi.

Male genitalia (Fig. 2). Tegumen weakly sclerotized, broadly rounded. Vinculum short, weakly sclerotized fused with tegumen. Uncus rudimentary; socii hairy, with a projecting, short, band-like process from middle to termination, dorsally and laterally attached to tegumen. Valva long and narrow in central section, ventral margin with a deep, rounded emargination; neck relatively long; sacculus angle strongly projecting and produced into a short finger-shaped prominence; cucullus nearly oval, gradually expanding beyond neck, produced

into a rounded dorsal lobe and a small triangular ventral projection ending in a small spine. Phallus broad with tapering end; cornuti numerous, spiculate.

Female genitalia (Fig. 3). Papilla analis slender, hairy, subreniform; apophyses posteriores slightly longer than apophyses anteriores. Sterigma somewhat lightly sclerotized, short and broad, lip-shaped, surrounded by a spinulose membrane. Ductus bursae slender, membranous except for a lightly sclerotized ring near ostium. Corpus bursae teardrop-shaped, as long as ductus bursae; a slightly sclerotized ring around its entrance; a big flattened dagger-shaped signum with a serrate inner edge and a hollow base.



Figures 1–3. *Pseudancylis acrogypsa* (Turner) 1. Adult; 2. Male genitalia, slide no. ZAH14043; 3. Female genitalia, slide no. ZAH14044. Scale bars = 2.5 mm (Fig. 1); 0.2 mm (Figs. 2, 3).

Specimens examined. 1♂1♀, **China**, Liusanjie Township, Yizhou, Guangxi Zhuang Autonomous Region, 169 m, 19-VIII-2011, Shulian HAO & Yinghui SUN (genitalia slide nos. ZAH14043 ♂, ZAH14044 ♀); 1♂, Xiangbei Township, Yizhou, Guangxi Zhuang Autonomous Region, 169 m, 18-VIII-2011, Shulian HAO & Yinghui SUN.

Distribution. China (Guangxi); Australia.

Remarks. This species is closely related to *P. elbahiana* Razowski, but neck of valva relatively long, cucullus nearly oval, gradually expanding beyond neck, produced into a rounded dorsal lobe and a small triangular ventral projection ending in a small spine; sacculus angle strongly projecting and produced into a finger-shaped prominence. While in the latter species, neck of valva is short, cucullus is nearly broad triangular and sacculus angle is

produced into a pointed prominence.

### A checklist of the known species in the genus *Pseudancylis* in the world

#### 1. *Pseudancylis acrogypsa* (Turner, 1916)

*Ancylis acrogypsa* Turner, 1916: 524; Brown, 2005: 334. TL: Australia: Queensland, Kuranda, near Cairns; TD: ANIC.

*Pseudancylis acrogypsa*: Horak, 2006: 285.

Distribution. China (Guangxi); Australia.

#### 2. *Pseudancylis elbahiana* Razowski & Wojtusiak, 2013

*Pseudancylis elbahiana* Razowski & Wojtusiak, 2013: 26. TL: Venezuela, Dept. El Baho, Val Santo Domingo; TD: MZUJ.

Distribution. Venezuela.

#### 3. *Pseudancylis percnobathra* (Meyrick, 1933)

*Ancylis percnobathra* Meyrick, 1933: 417; Diakonoff, 1950: 282. TL: Sumatra, Pematang Siantar; TD: BMNH.

*Pseudancylis percnobathra*: Horak, 2006: 285.

Distribution. Indonesia.

#### 4. *Pseudancylis rostrifera* (Meyrick, 1912)

*Ancylis rostrifera* Meyrick, 1912: 862; Diakonoff, 1950: 282; Clarke, 1958: 295; Diakonoff, 1982: 63; Diakonoff, 1984: 403. TL: Sri Lanka (Maskeliya); TD: BMNH.

*Pseudancylis rostrifera*: Horak, 2006: 285.

Distribution. Indonesia; Brunei; Sri Lanka.

### Acknowledgments

The author is grateful to Professor Houhun LI (NKU) for providing the specimens and helping take photos of the specimens and Dr. Nantasak Pinkaew (Kasetsart University, Bangkok, Thailand) for providing references. I also express my sincere thanks to everyone for collecting specimens. This research was supported by the National Natural Science Foundation of China (31101665) and Beijing Higher Education Young Elite Teacher Project (YETP1716).

### References

- Baixeras J. 2002. An overview of genus-level taxonomic problems surrounding *Argyroploce* Hübner (Lepidoptera: Tortricidae), with description of a new species. *Annals of the Entomological Society of America*, 95(4): 422–431.
- Brown JW. 2005. *World Catalogue of Insects. Vol. 5*. Apollo Books, Stenstrup, 741 pp.
- Brown RL & Powell JA. 1991. Description of a new species of *Epiblema* (Lepidoptera: Tortricidae: Olethreutinae) from coastal redwood forests in California with an analysis of the forewing pattern. *The Pan-Pacific Entomologist*, 67(2): 107–114.
- Clarke JFG. 1958. *Catalogue of the Type Specimens of Microlepidoptera in the British Museum (Natural History) Described by Edward Meyrick. Vol. 3*. Trustees of The British Museum (Natural History),

London, 600 pp.

- Diakonoff A. 1950. The type specimens of certain oriental Eucosmidae and Carposinidae (Microlepidoptera) described by Edward Meyrick together with descriptions of new Eucosmidae and Carposinidae in the British Museum (Natural History). *Bulletin of the British Museum (Natural History), Entomology*, 1(4): 273–300.
- Diakonoff A. 1982. On a collection of some families of Microlepidoptera from Sri Lanka (Ceylon). *Zoologische Verhandelingen*, 193: 1–124.
- Diakonoff A. 1984. Wissenschaftliche Ergebnisse der Sumba-Expedition des Museums für Volkerkunde und des Naturhistorischen Museums in Basel, 1949. Microlepidoptera. Part 3. *Entomologica Basiliensia*, 9: 373–431.
- Gilligan TM, Baixeras J, Brown JW & Tuck KR. 2014. T@RTS: Online World Catalogue of the Tortricidae (Ver. 3.0). Available from: <http://www.tortricid.net/catalogue.asp>. (Accessed 30 January 2017)
- Horak M. 2006. *Olethreutine Moths of Australia (Lepidoptera: Tortricidae)*. *Monographs on Australian Lepidoptera*, 10. CSIRO Publishing, Collingwood Victoria, 528 pp.
- Li HH. 2002. *The Gelechiidae of China (I)*. Nankai University Press, Tianjin, 538 pp.
- Meyrick E. 1912. Descriptions of Indian Micro-lepidoptera Lepidoptera XV. *Journal of the Bombay Natural History Society*, 21: 852–877.
- Meyrick E. 1930–1936. *Exotic Microlepidoptera*, 4. Thornhanger, Marlborough, Wilts, 642 pp.
- Razowski J & Wojtusik J. 2013. Accessions to the fauna of Neotropical Tortricidae (Lepidoptera). *Acta Zoologica Cracoviensia*, 56(1): 9–40.
- Turner AJ. 1916. New Australian Lepidoptera of the family Tortricidae. *Transactions and Proceedings of the Royal Society of South Australia*, 40: 498–536.
- Turner AJ. 1946. Contributions to our knowledge of the Australian Tortricidae (Lepidoptera) Part II. *Transactions and Proceedings of the Royal Society of South Australia*, 70: 189–220.