

中国羚野螟属分类研究 (鳞翅目: 草螟科: 野螟亚科)*

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摘要: 记述了羚野螟属 *Pseudebulea* Butler 5 种, 分别为芬氏羚野螟 *P. fentoni* Butler; 海南羚野螟 *P. hainanensis* Munroe et Mutuura; 挂墩羚野螟 *P. kuatunensis* Munroe et Mutuura; 龙潭羚野螟 *P. lungtanensis* Munroe et Mutuura; 多毛羚野螟 *P. polychaeta* sp. nov., 新种雄性抱器下突伸达抱器瓣腹缘、抱器腹中部突起末端密布粗刚毛、雌性交配孔后缘皱缩, 可以与属内其他种相区别。编制了中国羚野螟属分种检索表, 并提供了新种的成虫外形图和外生殖器特征图。模式标本保存在南开大学生命科学学院昆虫标本室和中山大学生命科学学院昆虫标本室。

关键词: 鳞翅目; 草螟科; 野螟亚科; 羚野螟属; 新种; 中国

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A Taxonomic Study on *Pseudebulea* Butler from China (Lepidoptera: Crambidae: Pyraustinae)

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Abstract: This paper deals with five species of the genus *Pseudebulea* Butler from China. Among them, *Pseudebulea polychaeta* sp. nov. is described as new to science. Photograph and genital structures of the new species are provided. A key to all the known species is given.

Key words: Lepidoptera; Crambidae; Pyraustinae; *Pseudebulea*; new species; China

The genus *Pseudebulea* was erected by Butler (1881) based on the type species *Pseudebulea fentoni* Butler. Munroe and Mutuura (1968) described three species from China. Up to date, four species of *Pseudebulea* Butler have been reported, which are distributed in China, Russia, Korea, Japan, Sikkim, India and Indonesia^[1-4]. This paper recorded five species, including one described as new to science. The studied specimens, including the types, are deposited in the Insect Collection, Nankai University (ICNKU), except those specified with IZCAS (Institute of Zoology, Chinese Academy of Sciences) and IESYU (Insti-

tute of Entomology, Sun Yat-sen University).

1 *Pseudebulea* Butler, 1881

Pseudebulea Butler, 1881. Trans. ent. Soc. Lond., 1881: 587; Munroe et Mutuura, 1968. Can. Ent., 100: 847; Inoue, 1982. Moths of Japan, 1: 361, 2: 239; Fletcher et Nye, 1984. The Generic Names of Moths of the World, 5: 128; Kirpichnikova, 1999. Key to the insects of Russian Far East, 5 (2): 367 (key), 398; Song, 2003. Fauna of Pyralidae of Wuyishan Nature Reserve in China, 2003: 289.

Type species: *Pseudebulea fentoni* Butler, 1881

Frons rounded. Labial palpus obliquely upturned

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slightly, exceeding frons by less than or equal to length of head, third segment porrect. Maxillary palpus prominent, dilated with scales distally. Forewing with cell less than half length of wing; R_1 from anterior 4/5 of cell; R_3 and R_4 stalked for about 2/3 length from anterior angle of cell to apex; discocellulars weakly curved, oblique posteriorly; M_1 from anterior 1/4 of discocellulars; M_2 , M_3 and Cu_1 spaced fairly around posterior angle of cell, basally approximated; Cu_2 from posterior 5/6 of cell. Hindwing with cell less than half of wing; $Sc + R_1$ and Rs anastomosed about 1/3 of Rs ; discocellulars incurved, strongly oblique posteriorly; M_2 , M_3 and Cu_1 spaced around posterior angle of cell, basally approximated; Cu_2 from posterior 4/5 of cell.

Male genitalia. Uncus column-shaped, apex inflated and dorsal half with setae. Juxta comprised of a pair of long sclerites, and joined with sacculus. Saccus broadened and rounded. Valva long, gradually narrowed from base to end, apex round; editum degraded; sella just a process; sacculus inflated, and a developed process at middle with specific characters. Phallus with four or five thorns arrayed at the end.

Female genitalia. Ovipositor lobes with slim and short setae. Apophysis slender. Sinus vaginalis and ostium bursae developed. Ductus bursae short. Corpus bursae without appendix bursa; signum small, approximately rhomboidal.

This genus is similar to *Aristebulea* Munroe et Mutuura superficially and in the genitalia, but differs from it by the uncus apex inflated, juxta comprised of a pair of sclerites, phallus with four or five thorns arrayed at the end and ostium bursae near square.

Distribution. China, Russia (Siberia), Korea, Japan, Sikkim, India, Indonesia.

Key to species

- 1 Process of sacculus without seta 2
Process of sacculus setose densely
..... *P. polychaeta* sp. nov.
- 2 Sacculus with process slim and pointed; thorns in the phallus very short
..... *P. hainanensis* Munroe et Mutuura
Sacculus with process thick and inflate; thorns in the phallus relatively long 3
- 3 The process of sacculus dentate or with spines at dorsal margin 4

The process of sacculus smoothed at dorsal margin *P. fentoni* Butler

- 4 Sella pointed; the process of sacculus with spines at dorsal margin
..... *P. kuatunensis* Munroe et Mutuura

Sella triangular; the process of sacculus irregularly excavated
..... *P. lungtanensis* Munroe et Mutuura

2 *Pseudebulea fentoni* Butler, 1881

Pseudebulea fentoni Butler, 1881. Trans. ent. Soc. Lond., 1881: 587; Mutuura, 1954. Bull. Naniwa Univ. (B), 4: 19; Inoue, 1982. Moths of Japan, 1: 361, 2: 239; Song et He, 1997. Insects of the Three Gorge Reservoir Area of Yangtze River, 2: 1212; Song, 2001. Fauna of Insects in Fujian Province of China, 5: 188; Song, 2003. Fauna of Pyralidae of Wuyishan Nature Reserve in China, 2003: 289.

Pionea fentoni (Butler): Leech, 1901. Trans. Ent. Soc. Lond., 1901: 496; Caradja, 1925. Mem. Sect. Stiint. Acad. Rom., (3) 3 (7): 367; Caradja et Meyrick, 1933. Dt. Ent. Z. Iris, 47: 165; Wu, 1938. Cat. Insect. Sinensium, 4: 124; Lah et Kuan, 1953. Acta Entomol. Sin., 3 (2): 228.

Pseudebulea fentoni sadoensis Munroe et Mutuura, 1968. Can. Ent., 100: 847.

Pseudebulea fenton yezoensis Munroe et Mutuura, 1968. Can. Ent., 100: 849.

Pseudebulea fentoni ussuriensis Munroe et Mutuura, 1968. Can. Ent., 100: 849.

Pseudebulea fentoni koreensis Munroe et Mutuura, 1968. Can. Ent., 100: 849.

Diagnosis: Wingspan 23.0 ~ 29.0 mm. This species can be separated from others of this genus by the the boot-shaped process of sacculus and with dorsal margin smooth.

Material examined: 31 ♂♂, 15 ♀♀, Xiantai Mountain, Jingxing County, Hebei Province, alt. 1200 m, 23 - 24 July 2000, leg. YU Haili; 1 ♂, Gaoyu, Jingxing County, Hebei Province, 22 - 28 July 1998, leg. TIAN Xinsheng; 1 ♀, Chanyuan Temple, Tianmu Mountain, Zhejiang Province, alt. 350 m, 20 August 1999, leg. LI Houhun; 1 ♂, 1 ♀, Houshanmen, Tianmu Mountain, Zhejiang Province, alt. 500 m, 16 August 1999, leg. LI Houhun; 8 ♂♂, 4 ♀♀, Baiyun Mountain, Luoyang, Henan Province, alt. 1 560 m, 22 - 23 July 2001, 18 - 22 July 2002, leg. ZHANG Dandan and WANG Xipu; 1 ♂, Baligou,

Hui County, Henan Province, alt. 780 m, 12 July 2002, leg. WANG Xinpu; 4 ♂♂, 2 ♀♀, Shiziping, Lushi County, Henan Province, alt. 1 200 ~ 1 700 m, 19 - 21 July 2001, leg. ZHANG Dandan; 1 ♂, Maobaqu, Lichuan County, Hubei Province, alt. 700 m, 28 July 1999, leg. LI Houhun; 3 ♂♂, Zhangjiajie, Hunan Province, 650 m, 7 - 11 August 2001, leg. LI Houhun and WANG Xinpu; 7 ♂♂, Heiwan, Jiangkou County, Guizhou Province, alt. 600 m, 28 July 2001, leg. LI Houhun and WANG Xinpu; 7 ♂♂, Jiulian Mountain, Longnan County, Jiangxi Province, alt. 500 m, 31 August 2007, leg. ZHANG Dandan and PANG Hong (IESYU).

Distribution. China (Hebei, Zhejiang, Fujian, Jiangxi, Henan, Hubei, Hunan, Guangxi, Sichuan, Guizhou), Russia, Korea, Japan, Sikkim, India, Indonesia.

3 *Pseudebulea hainanensis* Munroe et Mutuura, 1968

Pseudebulea hainanensis Munroe et Mutuura, 1968. Can. Ent., 100: 851.

Diagnosis: Wingspan 24.0 ~ 30.0 mm. This species is similar to *P. fentoni* Butler in general, but smaller and paler than the latter and can be separated from it by the following characters: juxta short and wide; sacculus with a pointed and somewhat curved process in the middle; phallus with very short thorns in a line at the end; ostium bursae somewhat short.

Material examined. 1 ♂, 1 ♀, Fulong, Fangcheng County, Guangxi Province, alt. 500 ~ 550 m, 24 - 26 May 1999, leg. YUAN Decheng and LIU Dajun (IZCAS); 2 ♀♀, Pinglong Mountain, Shangsi County, Guangxi Province, alt. 510 m, 6 April 2002, leg. HAO Shulian and XUE Huaijun.

Distribution. China (Guangxi, Hainan).

4 *Pseudebulea kuatunensis* Munroe et Mutuura, 1968

Pseudebulea kuatunensis Munroe et Mutuura, 1968. Can. Ent., 100: 854; Song, 2001. Fauna of Insects in Fujian Province of China, 5: 187; Song, 2003. Fauna of Pyralidae of Wuyishan Nature Reserve in China, 2003: 290.

Diagnosis: Wingspan 26.0 ~ 30.0 mm. This species is similar to *P. fentoni* Butler in general, differs

from the latter in: the boot-shaped process of sacculus with spines at dorsal margin.

Material examined. 2 ♂♂, Sangang, Xingcun, Chong'an County, Fujian Province, alt. 740 m, 14 - 16 July 1960, leg. ZHANG Yiran (IZCAS).

Distribution. China (Fujian, Hubei).

5 *Pseudebulea lungtanensis* Munroe et Mutuura, 1968

Pseudebulea lungtanensis Munroe et Mutuura, 1968. Can. Ent., 100: 853.

Diagnosis: Wingspan 20.0 ~ 23.0 mm. This species smaller than other species and differs from them in the sella triangular, blade-like, irregularly serrate; the process of sacculus inflated and irregularly excavated.

Distribution. China (Jiangsu).

6 *Pseudebulea polychaeta* sp. nov.

Wingspan 23.0 ~ 29.0 mm. Frons fuscous or somewhat paler, laterally delimited by pale yellow and short lines. Vertex pale yellowish fuscous. Labial palpus deep brown, ventral part of first segment white. Basal scales of proboscis pale yellow. Antenna fuscous or yellowish fuscous.

Thorax above pale yellowish or fuscous, beneath creamy white. Legs creamy white, sometimes forelegs inner side fuscous. Abdomen yellow above, sometimes first, third and fourth segment fuscous, posterior margin of each segment white, creamy white beneath.

Forewing pale yellow, from base to postmedial line mainly fuscous; antemedial line pale yellow, outwardly oblique from costal 1/5 to posterior margin basal 1/4; cell semitransparent, orbicular and reniform stigmata fuscous; postmedial line fuscous from middle of costa, along with discocellulars and posterior margin of cell to Cu₂, then oblique distad to middle of posterior margin; subterminal band blackish fuscous, with middle part somewhat narrowed, with a yellow spot at the anterior margin; veins end with fuscous spots; fringe yellow. Hindwing pale yellow, with fuscous spot at apex; discal stigma fuscous; postmedial line fuscous, stretching from 2/3 of costa, sinuated between M₁ and Cu₂, then to half of posterior margin; veins end with fuscous spots; fringe yellow.

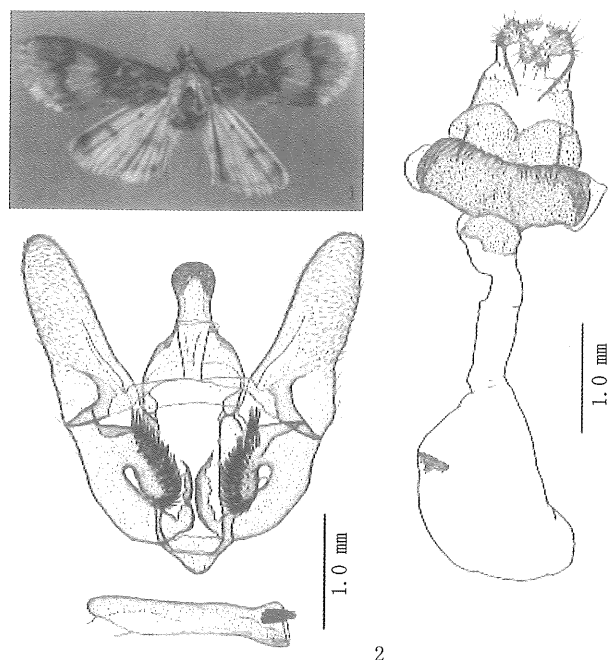


Fig. 1 *Pseudebulea polychaeta* sp. nov.

1: adult; 2: male genitalia; 3: female genitalia

Male genitalia: The margin of juxta irregularly serrate. Sella thick and pointed, extended to ventral margin of valve; the process of sacculus inflated and rounded at apex, densely with setae at the dorsal margin. Phallus with five thorns arrayed at the end.

Female genitalia: Sinus vaginalis labiate posterior margin. Ostium bursae short and broad, ruffled posterior margin.

Holotype ♂, Motuo (29.13°N, 95.18°E), Xizang (Tibet) Autonomous Region, alt. 1200 m, 10 Aug. 2003, leg. WANG Xinpu and XUE Huaijun, genitalia slide No. ZDD03276.

Paratypes: 1 ♀, Motuo (29.13°N, 95.18°E), Xizang (Tibet) Autonomous Region, alt. 880 m, 16 Aug. 2003, leg. WANG Xinpu and XUE Huaijun (IESYU).

Diagnosis: This species can be separated from all the species of *Pseudebulea* Butler by the process of sacculus densely with setae, sella extended to ventral margin of valve, posterior margin of sinus vaginalis labiate, and ostium bursae ruffled posterior margin.

Etymology: The specific name is derived from the Latin *polychaetus* = many setae, indicating the process of sacculus densely with setae at the dorsal margin.

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