Six new taxa of Notodontidae from Taiwan (Lepidoptera: Notodontidae)

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Abstract: Six new taxa of Notodontidae from Taiwan are described: *Besaia (Curuzza)* ***ronkayorum*** **n. sp.,** which is a probable sister-species of *Besaia (Curuzza) crenelata* (Swinhoe, 1903) from the mainland; *Periergos* (*Periergos*) ***antennae*** **n. sp.,** which is related to *Periergos magna* (Matsumura, 1920); *Nephodonta* ***taiwanensis*** **n. sp.,** linked with *Nephodonta tsushimensis* Sugi, 1980; *Lophocosma sarantuja* ***amplificans*** **n. ssp.,** of which the nominotypical subspecies is found in Japan; and *Mesophalera* ***speratus*** **n. sp.,** the probable sister-species of *Mesophalera ananai* Schintlmeister, 1997 from Vietnam. Outstanding in the large genus *Pheosiopsis* Bryk, 1949 is *Pheosiopsis* ***linus*** **n. sp.** – The holotypes of *P. antennae* (♂) and *Ph. linus* (♀) are deposited in CMWM, Munich (and will eventually be transferred with this collection into the Zoologische Staatssammlungen, Munich); all other holotypes (all ♂♂) are presently deposited in CASD, Dresden, and will later be transferred to BMNH, London.

Sechs neue Taxa von Notodontidae aus Taiwan (Lepidoptera: Notodontidae)

Zusammenfassung: Sechs neue Taxa von Notodontidae werden aus Taiwan beschrieben: *Besaia (Curuzza)* ***ronkayorum*** **n. sp.** ist die Schwesternart der kontinentalen *Besaia (Curuzza) crenelata* (Swinhoe, 1903); *Periergos* (*Periergos*) ***antennae*** **n. sp.,** verwandt mit *Periergos magna* (Matsumura, 1920); *Nephodonta* ***taiwanensis*** **n. sp.,** die nahe zu *Nephodonta tsushimensis* Sugi, 1980 steht; *Lophocosma sarantuja* ***amplificans*** **n. ssp.,** eine neue Subspezies der nominotypischen, bisher von Japan bekannten Unterart; *Mesophalera* ***speratus*** **n. sp.** ist die wahrscheinliche Schwesterart von *Mesophalera ananai* Schintlmeister, 1997 aus Vietnam; schließlich isoliert in der großen Gattung *Pheosiopsis* Bryk, 1949 steht *Pheosiopsis* ***linus*** **n. sp.** – Die Holotypen von *P. antennae* (♂) and *Ph. linus* (♀) befinden sich in CMWM, München, und werden mit dieser Sammlung in die Zoologischen Staatssammlungen, München, gelangen; alle anderen Holotypen (alles ♂♂) sind zur Zeit in CASD, Dresden, und werden später ins BMNH nach London gelangen.

Introduction

The exploration of Taiwan's Notodontidae commenced in 1910, when Wileman published his first article dealing with Taiwanese Heterocera, including a dozen species of Notodontidae.

Later the family Notodontidae from Taiwan became better known. These were mainly recorded by British (Wileman, South), German (Strand) and Japanese authors (Kishida, Matsumura, Nakamura, Okano, Sugi) (see Schintlmeister 2003 for citations). Recently Schintlmeister (1992) and Schintlmeister & Fang (2001) dealt with mainland Chinese Notodontidae. Taiwanese scientists, e.g., Chang (1989), Lin & Shen (1996), Fu & Tzuoo (2002, 2004), made important contributions to the knowledge of Taiwan's Notodontidae fauna.

From 1995 until present time, the knowledge of Taiwanese Heterocera has increased rapidly. These discoveries were made particularly by Hungarian expeditions (by Csõvári, Csorba, Fábián, Herczig, Hreblay†, Juhasz, Korsós, Kovács, Kun, László, Mikus, Nemes, Peregovits, G. Ronkay, L. Ronkay, Simonyi, Soós, Stéger, Szabóky, and other collectors). The collections enveloped the entire island and ran year round, including the winter time. Approximately 11000 specimens of Notodontidae have come to Europe (today mainly housed in Museum T. Witt, Munich, and in minor numbers also in the collection of the author in Dresden) and were studied by Schintlmeister (2003), who increased the number of Notodontidae known from Taiwan island from 114 species known to Sugi (1992) to 131 (including several new synonymies).

A few taxa have additionally been found new to science recently and are described below.

Abbreviations:

BMNH	The Natural History Museum, London (formerly British Museum (Natural History)), U.K.
CASD	Coll. Alexander Schintlmeister, Dresden, Germany. All primary type material eventually to be deposited in BMNH, London, U.K.
CCMF	Coll. C. M. Fu, Taiping, Taiwan.
CMWM	Coll. Museum Witt, Munich (München), Germany. The collection will eventually end up in ZSM, Munich (München), Germany.
Fwl	Forewing length (distance from wing base at thorax to tip of apex of [right] forewing, measured in a straight line).
GU	Genitalia slide no. (without additional letter = in CASD; with "W" = in CMWM).
NMNS	The National Museum of Natural Sciences, Taichung, Taiwan.
TFRI	Taiwan Forest Research Institute, Taipei, Taiwan.
ZSM	Zoologische Staatssammlungen, Munich (München), Germany.

The new taxa

Besaia (Curuzza) ***ronkayorum*** **n. sp.** [Figs. 1, 2, 22]

Holotype ♂: Taiwan, Prov. Nantou, Hohuanshan Exp. Station, 3100 m, 24°9′ N, 121°17′ E, 15.–16. ix. 1999, leg. O. Csorba & B. Herzig; in CASD, will later be transferred to BMNH. – Fig. 1.

Paratypes (5 ♂♂), all Taiwan: 3 ♂♂, same data as holotype (GU 71-88), CASD; 1 ♂, Prov. Nantou, Hohuanshan Exp. Station, 3100 m, 24°9′ N, 121°17′ E, 23.–24. ix. 1999, leg. O. Csorba & B. Herzig, GU 73-48, CASD; 1 ♂, Prov. Tacyan, Ming Chyr Forest Recreation Area, 1160 m, 5.–6. x. 1996, leg. G. Fábián & F. Nemes, GU W4771, CMWM.

Etymology. Dedicated to the Ronkay brothers (Lászlo and Gabor), Budapest, for their important contributions to the knowledge of the Noctuoidea.

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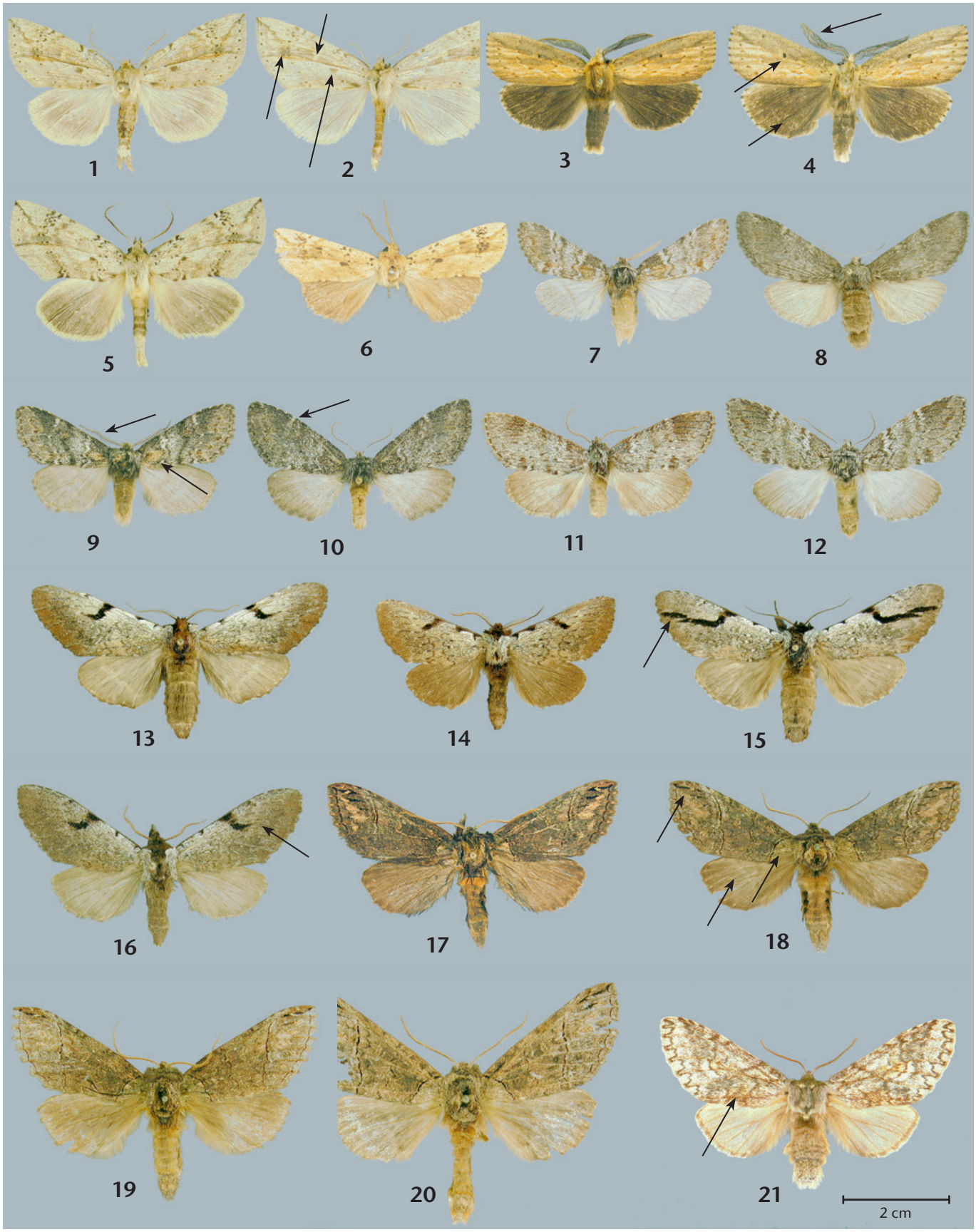

Abb. 1–21: Imagines. **Abb. 1:** *Besaia* (*Curuzza*) *ronkayorum*, Taiwan, holotype ♂. **Abb. 2:** *Besaia* (*Curuzza*) *ronkayorum*, Taiwan, paratype ♂. **Abb. 3:** *Periergos* (*Periergos*) *antennae*, Taiwan, holotype ♂. **Abb. 4:** *Periergos* (*Periergos*) *antennae*, Taiwan, paratype ♂. **Abb. 5:** *Besaia* (*Curuzza*) *eburnea*, N. Vietnam ♂. **Abb. 6:** *Besaia* (*Curuzza*) *crenelata*, NE. India, Assam, holotype ♂. **Abb. 7:** *Nephodonta tsushimensis tsushimensis*, Japan, Tsushima Isl. ♂. **Abb. 8:** *Nephodonta tsushimensis taibaiana*, China, Shaanxi, paratype ♀. **Abb. 9:** *Nephodonta taiwanensis*, Taiwan, holotype ♂. **Abb. 10:** *Nephodonta taiwanensis*, Taiwan, paratype ♀. **Abb. 11:** *Nephodonta dubiosa*, China, Fujian, paratype ♂. **Abb. 12:** *Nephodonta dubiosa*, N. Vietnam, ♀. **Abb. 13:** *Lophocosma sarantuja amplificans*, Taiwan, holotype ♂. **Abb. 14:** *Lophocosma sarantuja sarantuja*, Japan, Honshu, paratype ♂. **Abb. 15:** *Lophocosma nigrilinea geniculatum*, Taiwan ♂. **Abb. 16:** *Lophocosma intermedia* (individual form), China, Shaanxi ♂. **Abb. 17:** *Mesophalera speratus*, Taiwan, holotype ♂. **Abb. 18:** *Mesophalera speratus*, Taiwan, paratype ♂. **Abb. 19:** *Mesophalera ananai*, N. Vietnam, holotype ♂. **Abb. 20:** *Mesophalera ananai*, NW. Thailand ♂. **Abb. 21:** *Pheosiopsis linus*, Taiwan, holotype ♀.

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Diagnosis

♂♂ (Figs. 1, 2): Fwl 21–24 mm. The new species resembles *Besaia (Curuzza) crenelata* (Swinhoe, 1903) (Fig. 6) and *B. (C.) eburnea* (Bryk, 1949) (Fig. 5) externally and in the male genitalia. *B. crenelata* differs in the ♂♂ by the prominent fuscous median spot on the forewings, which is absent or reduced in *B. ronkayorum*. *B. eburnea* has a much deeper wing shape than *B. ronkayorum*. The hindwings are paler than in *crenelata* or *eburnea*. A good feature for separation of *ronkayorum* is the pale yellowish discoidal spot on the forewings of the new species.

The ♀ is still unknown.

♂ genitalia (Fig. 22). The ♂ genitalia are similar to *crenelata*, but differ by the relatively short, deeply bilobed uncus. The soccii with an additional short process or knob are as in *crenelata*. The aedeagus of *ronkayorum* displays a thicker and shorter process than *crenelata*. The 8th sternite resembles *crenelata*, but is distinctly sclerotized as illustrated (Fig. 23). The ♂ genitalia of *eburnea* belong to a different type (see Schintlmeister 1997: pl. 5, fig. 35).

Bionomy. All known specimens were taken in autumn and mostly at higher altitudes of about 3000 m.

Further remarks. The species was misidentified as *Curuzza frugalis* (Leech, 1898) by Nakamura (1973: figs. 13, 33). Schintlmeister (2004) revised the *frugalis*-group, mostly based on type material.

Periergos (Periergos) antennae n. sp. [Figs. 3, 4, 24]

Holotype ♂: Taiwan, Prov. Taoyuan, Ming Chyr Forest Recreation Area, 1160 m, 5.–6. x. 1996, leg. G. Fábián & F. Nemes; in CMWM. – Fig. 3.

Paratypes (3 ♂♂), all Taiwan: 1 ♂, same data as holotype, GU W4770, CMWM; 1 ♂, Prov. Taoyuan, Ming Chyr Forest Recreation Area, 1160 m, 24°39.21′ N; 121°28.19′ E, 27.–28. xi. 1998, leg. G. Fábián & F. Korsós, CMWM; 1 ♂, Prov. Tai-Tung, Hsiangyang, Police station, 2320 m, 2. xi. 1996, leg. G. Fábián & F. Nemes, GU W8150, CMWM.

Etymology. Named after the prominent antennae of the ♂♂. The name is defined as a noun in apposition.

Diagnosis

♂♂ (Figs. 3, 4): Fwl 25–26 mm. The best feature for easy identification of the ♂♂ is the prominent black and very wide and long bipectinate antenna. The forewings are elongated and reddish brown with yellow spots, marking a basal and a median fascia. The submarginal and marginal fasciae are marked by blackish dots. The discoidal spot of the forewings prominent, black and sharply marked. The hindwings blackish brown with paler black dotted fringe.

The new species resembles externally *Periergos magna* (Matsumura, 1920) from Taiwan and SE. China (see Schintlmeister 1992: fig. 162), where the antennae are pale brownish.

The ♀ is still unknown. Sugi (1979: 7) mentioned a *Periergos* ♀, similar to *magna*, but specifically distinct. He attributed this ♀ to *Ceira horishana* Matsumura, 1925, which is, however, a synonym of *magna*. His ♀ is, therefore, possibly the ♀ of *antennae*.

♂ genitalia (Fig. 24). The ♂ genitalia somewhat resemble those of *P. magna* (Fig. 25), but the uncus is very reduced, the upper arm of the valves much longer and the lower part of the valves not pointed. The aedeagus longer, more slender and curved, in comparison with *magna*. The 8th sternite of *antennae* is less sclerotized and the shape deeper bilobed.

Bionomy. All known specimens were taken in autumn.

Nephodonta taiwanensis n. sp. [Figs. 9, 10, 26]

Holotype ♂: Taiwan, Nantou county, Kao-Leng Dyi, 18 km W of Wushe, 24°4.56′ N; 121°8.04′ E, 1945 m, 18.–19. iv. 2002, leg. G. Fábián; in CASD, will later be transferred to BMNH. – Fig. 9.

Paratypes (in total 35 ♂♂, 6 ♀♀), all Taiwan: 2 ♂♂, Prov. Tai-Tung, 2 km E Hsiangyang, 2200 m, 11.–13. iii. 1996, leg. G. Fábián & L. Nemes, GU W4253, W4276, CMWM; 1 ♂, Prov. Taitung, 2 km E of Hsiangyang, 2200 m, 11.–13. iii. 1996, leg. G. Fábián & L. Nemes, CMWM; 1 ♂, Nantou, 6 km SW Hohuan Pass, Yuangeng, 2760 m, 10. v. 1997, leg. M. & G. László, CMWM; 1 ♂, Prov. Nantou, 3 km SW Tsuifeng, 121°10′ E, 24°6′ N, 2100 m, 16. iii. 1996, leg. T. Csõvári & P. Stéger, CASD; 1 ♂, Prov. Nantou, 15 km N of Puli, 500 m, 15. iii. 1996, leg. G. Fábián & L. Nemes, CMWM; 1 ♂, Prov. Nantou, 3 km SW of Tsuifeng, 2100 m, 16. iii. 1996, leg. T. Csõvári & P. Stéger, CMWM; 1 ♂, Prov. Ilan, 1200 m, Ming chyr, Forest Recreation Area, 30.–31. iii. 1997, leg. G. Csorba & L. Ronkay, CASD; 1 ♂, 1200 m, Ming Chyr Forest Recreation Area, 30.–31. iii. 1997, leg. G. Csorba & L. Ronkay, CMWM; 4 ♂♂, Kao-Leng Dyi, 18 km off Wushe, 24°4.56′ N, 121°8.04′ E, 1945 m, 18.–19. iv. 2002, leg. G. Fábián, CASD; 1 ♂, Prov. Ilan, 700 m, Fu Shan Botanical Garden, 27.–28. iii. 1997, leg. G. Csorba & L. Ronkay, CMWM; 1 ♂, Prov. Ilan, Fu Shan Bot. Garden, LTER site, 700 m, 8.–9. iv. 1997, leg. I. Peregovits & A. Kun, CMWM; 1 ♀, Miaoli, 49 km E of Tungsih, 121°3′ N, 24°19′ N, 2490 m, 25. iii. 1996, leg. T. Csõvári & P. Stéger, CASD; 1 ♂, Prov. Hualien, Taroko National Park, on the Road 8, 1400 m, 2. iv. 1997, leg. G. Csorba & L. Ronkay, CMWM; 1 ♂, Prov. Pingtung, 10 km SE of Mutan, 470 m, 26. iv. 1997, leg. G. Fábián & S. T. Kovács, CMWM.

There is additional paratype material collected in Anmashan Area (Taichung county) between 2100 m and 2350 m elevation in March/April (with a few specimens in June) as well as from Taoyuan, Taichung, Nantou, Kaohsiung counties, kindly reported by C. M. Fu in the collections CCMF, NMNS, and TFRI, which are all included in the type series. [The material and new taxa were already used within Fu & Tzuoo (2004).] – Co. Taichung: 1 ♂, Anmashan, 2100 m, 8. iii. 1997, leg. Fu; 1 ♀, same place, 2600 m, 23. v. 1998, leg. Fu (both CCMF); 1 ♀, same place, 2350 m, 1. iv. 1996, leg. H. R. Tzuoo (coll. Tzuoo). – Co. Taoyuan: 1 ♀, Upper Palin, 18. iii. 1982, leg. T. C. Jong (NMNS). – Co. Taichung: 1 ♀, Pahsienshan, 1000 m, 16. iii. 1994, leg. Fu; 1 ♀, same place, 16. iii. 1996, leg. Fu (both CCMF). – Co. Nantou: 4 ♂♂, Biluxi, 2200 m, 28. v. 1987, leg. Y. B. Fan; 2 ♂♂, same place, 2. iv. 1988, leg. Y. B. Fan (all TFRI); 1 ♂, same place, 10. vi 1988, leg. Y. Q. Shen (TFRI); 3 ♂♂, Piluchi Station (= Biluxi), 2150 m, 29. iv. 2004, leg. W. T. Yang; 2 ♂♂, Meifeng,

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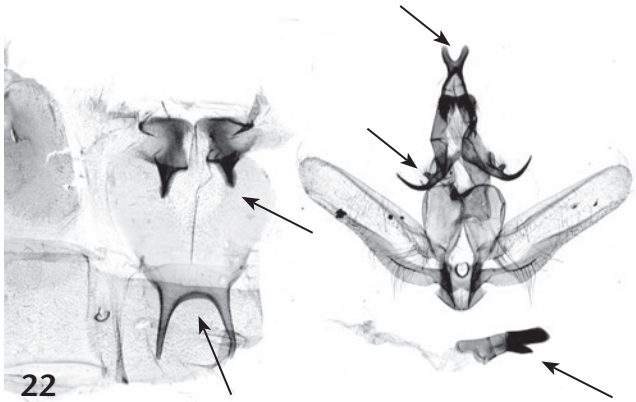

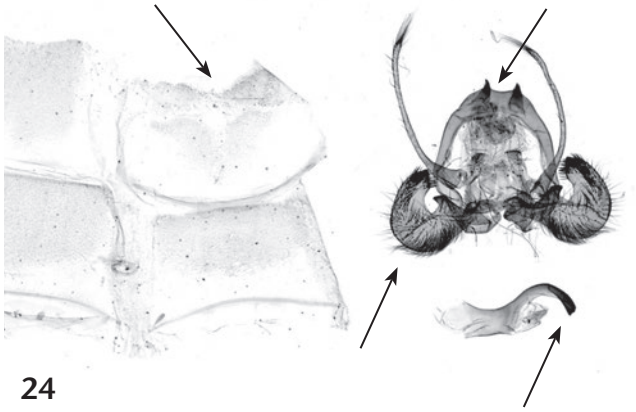

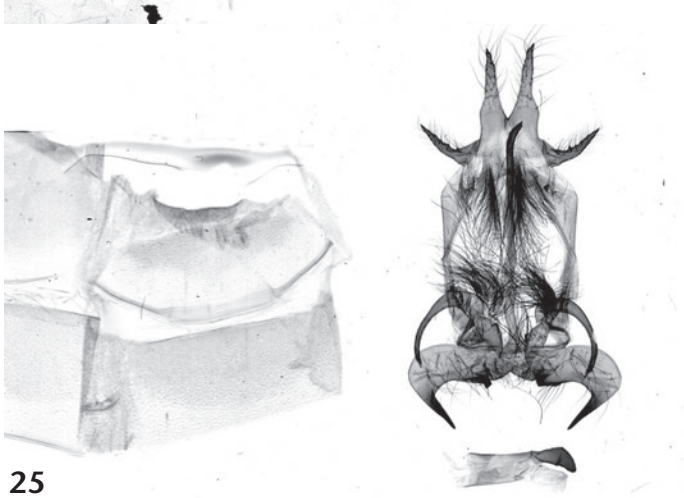

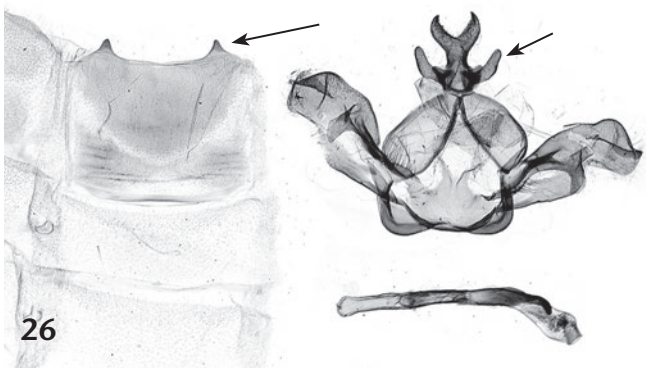

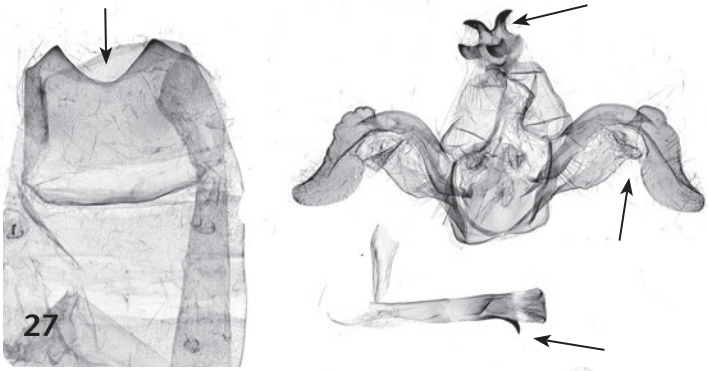

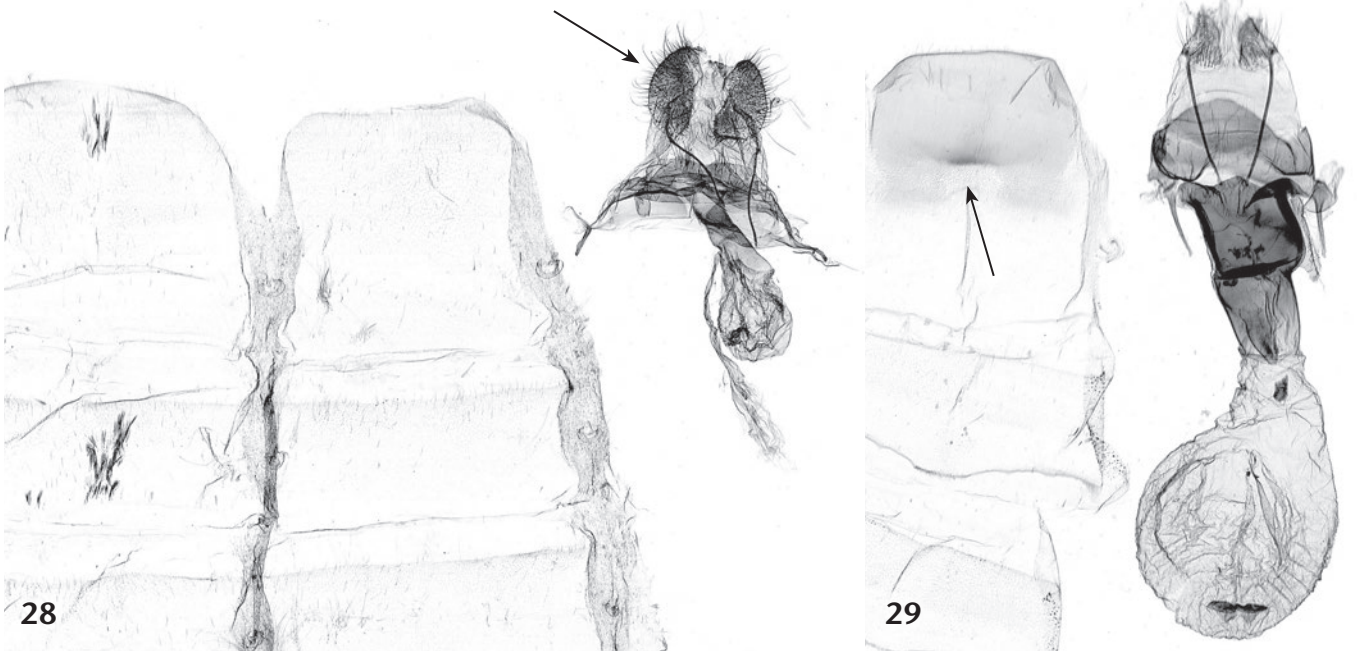

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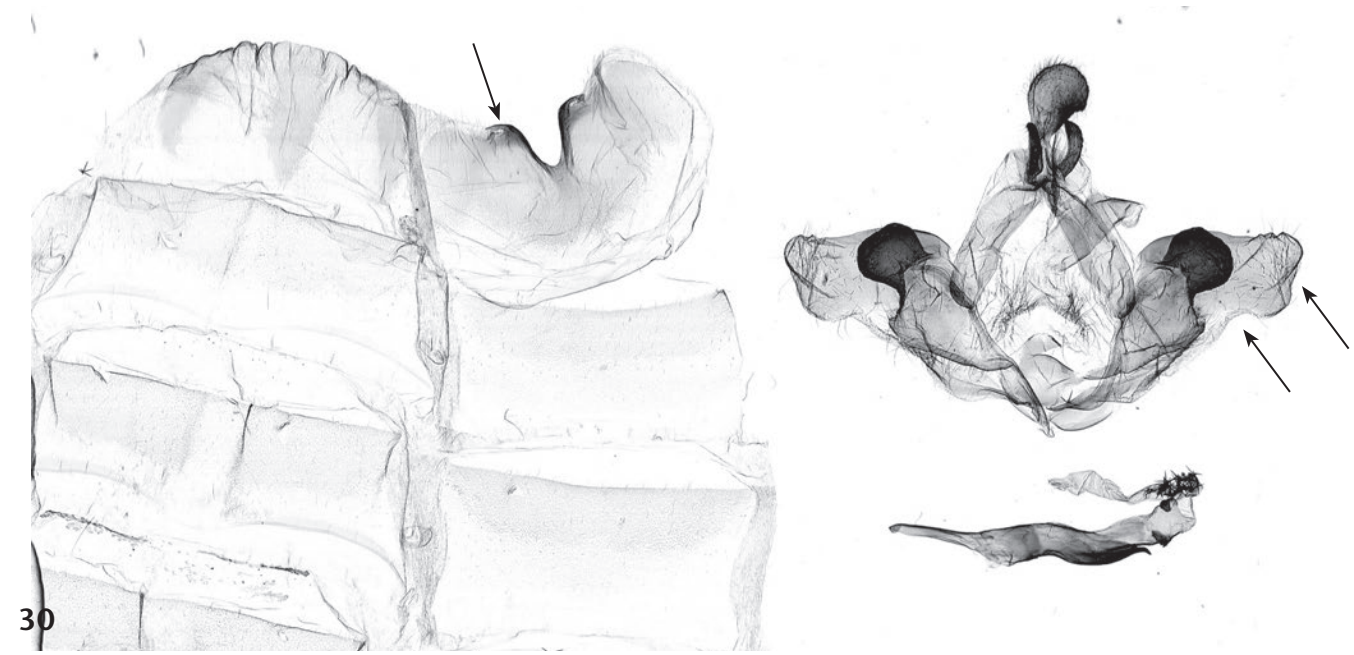

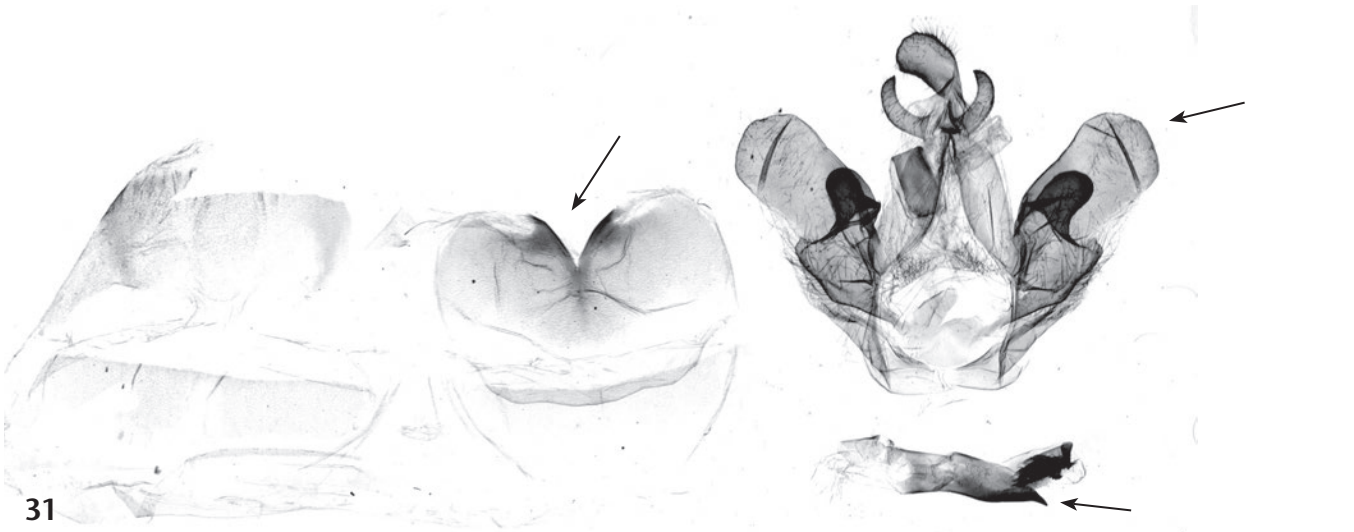

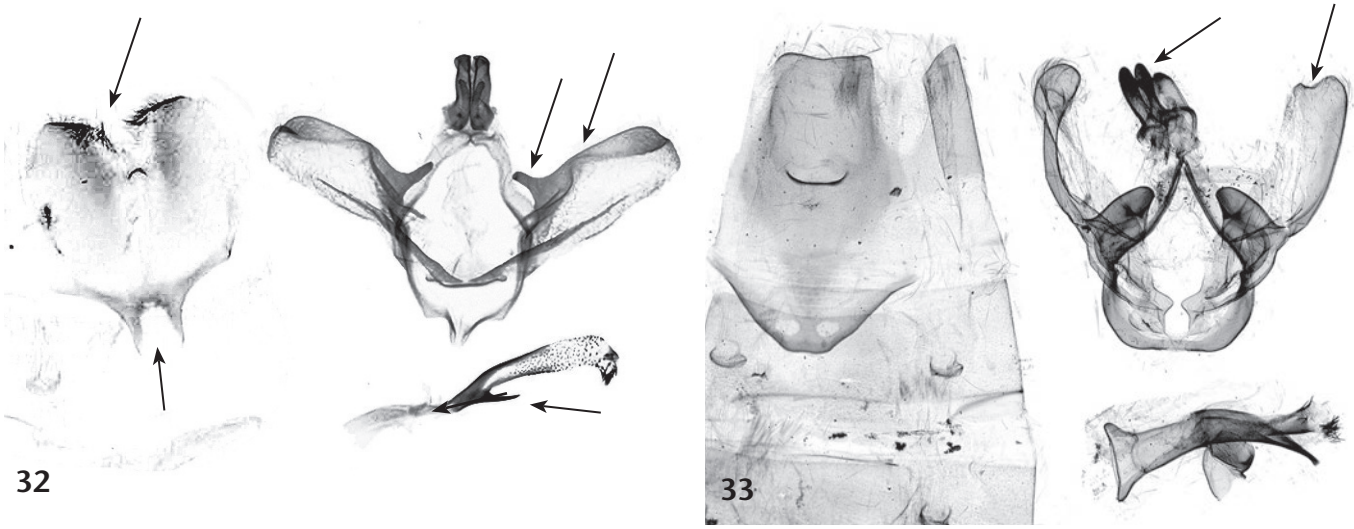

Abb. 22–29: Genitalia. **Abb. 22:** *Besaia* (*Curuzza*) *ronkayorum*, Taiwan, GU 73-48, paratype ♂. **Abb. 23:** *Besaia* (*Curuzza*) *crenelata*, NW. India, Sikkim, GU 25-90, ♂. **Abb. 24:** *Periergos* (*Periergos*) *antennae*, Taiwan, GU W8150, paratype ♂. **Abb. 25:** *Periergos* (*Periergos*) *magna*, Taiwan, GU W8158, ♂. **Abb. 26:** *Nephodonta taiwanensis*, Taiwan, GU W4276, paratype ♂. **Abb. 27:** *Nephodonta tsushimensis taibaiana*, China, Shaanxi, GU 59-66, paratype ♂. **Abb. 28:** *Pheosiopsis linus*, Taiwan, GU W4639, holotype ♀. **Abb. 29:** *Pheosiopsis formosana*, Taiwan, GU W4774, ♀.

Abb. 30–33: Genitalia. **Abb. 30:** *Lophocosma sarantuja amplificans*, Taiwan, GU W4626, paratype ♂. **Abb. 31:** *Lophocosma intermedia*, China, Shaanxi, GU 72-65, ♂. **Abb. 32:** *Mesophalera speratus*, Taiwan, GU W4162, paratype ♂. **Abb. 33:** *Mesophalera ananai*, N. Vietnam, GU 26-68, paratype ♂.

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2125 m, 18.–19. III. 1996, leg. C. S. Lin; 1 ♂, same place, 9.–10. III. 1998, leg. C. S. Lin & H. Y. Wang (all NMNS). – Co. Kaohsiung: 1 ♂, Tianchyr, 2300 m, 22. III. 1991, leg. H. Y. Wang; 1 ♂, same place, 23. III. 1991, leg. H. Y. Wang; 1 ♂, Tengchih, 1550 m, 20.–25. III. 1989, leg. C. S. Lin (all NMNS); 1 ♂, Hsenping, 750 m, 25. III. 1988, leg. Y. B. Fan (TFRI).

Etymology. Named after the type locality, the island of Taiwan, where the new species is probably endemic. The name is defined as a noun in apposition to avoid adaptations in grammatical sex.

Diagnosis

♂♂ (Fig. 9): Fwl 18.5–19.5 mm; the ♀ spans 21 mm. The new species differs externally from *N. dubiosa* (Kiriakoff, 1963) (Figs. 11, 12), which was described from mainland China (Fujian) and also occurs on Taiwan, by the long brown bipectinate antenna.

The new species resembles, however, more closely *Nephodonta tsushimensis* Sugi, 1980 (Figs. 7, 8), which was described from Tsushima Isl. near the Korean Peninsula and later also reported from mainland China (ssp. *taibaiana* Schintlmeister & Fang, 2001; Fig. 8). The antenna of the ♂♂ of *taiwanensis* brown and long bipectinate. The basal area of the forewings is marked brownish-yellow. The discoidal spot and the postmedian fascia of the forewings are of the same colour. The median area of the forewing is marked by two whitish fasciae. The hindwings greyish, somewhat more fuscous in the postmedian area.

The ♀ (Fig. 10) resembles the ♂♂ and is distinguishable from ♀♀ of *dubiosa* (Fig. 12) by the slightly yellowish basal area of the forewings.

♂ genitalia (Fig. 26). With the deeply bilobed uncus and the slender aedeagus the ♂ genitalia resemble rather *N. tsushimensis* (Fig. 27, ssp. *taibaiana*) than *dubiosa* (see Schintlmeister 1992: fig. 43). The socii and the aedeagus of *taiwanensis* are clearly more slender and longer than in *tsushimensis.* The aedeagus of *tsushimensis* bears a prominent hook, its 8th sternite is broader bilobed than in *taiwanensis.*

*Lophocosma sarantuja **amplificans*** **n. ssp.** [Figs. 13, 30]

Holotype ♂: Taiwan, Nantou county, Kao-Leng Dyi, 18 km off Wushe, 24°4.56′ N, 121°8.04′ E, 1945 m, 18.–19. IV. 2002, leg. G. Fábián; in CASD, will later be transferred to BMNH. – Fig. 13.

Paratypes (7 ♂♂), all Taiwan: 5 ♂♂, same data as holotype, CASD; 2 ♂♂, Prov. Hualien, Taroko N.P., Kuanyuan, 2400 m, 4. IV. 1997, leg. G. Csorba & L. Ronkay, GU W4626, CMWM.

Etymology. Named for the extraordinary size of the interesting subspecies (Latin: amplificare = to become larger]. The name is defined as a noun in apposition.

Diagnosis

♂♂ (Fig. 13): Fwl 25–27 mm, larger than ssp. *sarantuja* Schintlmeister & Kinoshita, 1984, which is known from Japan (Honshu, Kyushu, Shikoku, and Hokkaido) (Fig. 14). The new subspecies differs externally from the nominotypcal subspecies by the paler hindwings; the insects resemble rather *Lophocosma atrivittata* Staudinger, 1887, which in fact obviously is the sister-species of *sarantuja* (Schintlmeister & Kinoshita 1984).

♂ genitalia (Fig. 30). According to the uncus and the aedeagus, shaped diagnostically, the Taiwanese populations belong to *sarantuja* (see also Schintlmeister & Kinoshita 1984). However, there are differences in the shape of the much shorter valves and the 8th sternite. The ♂ genitalia of *amplificans* also remarkably resemble *intermedia* Kiriakoff, 1963 (Fig. 31; specimen see Fig. 16), a species which was described from Taibai Shan, Shaanxi, but also occurs in Eastern mainland China (Zhejiang).

It appears possible that *amplificans* will be elevated to the rank of a distinct species close to both *sarantuja* and *intermedia,* when more material and data (e.g., knowledge of the life history) become available.

*Mesophalera **speratus*** **n. sp.** [Figs. 17, 18, 32]

Holotype ♂: Kao-Leng Dyi, 18 km of Wushe, 24°4.56′ N, 121°8.04′ E, 1945 m, 18.–19. IV. 2002, leg. G. Fábián, CASD, will later be transferred to BMNH. – Fig. 17.

Paratypes (53 ♂♂, 1 ♀), all Taiwan: 2 ♂♂, Prov. Taoyuan, Ming Chyr Forest Recreation Area, 1160 m, 29. II. 1996, leg. G. Fábián & L. Nemes, CASD. – 1 ♂, Prov. Taoyüan, Ming Chyr Forest Recreation Area, 1160 m, 17.–18. III. 1996, leg. G. Fábián & L. Nemes; 1 ♂, same locality and collectors, 29. II. 1996; 1 ♂, Prov. Miaoli, Tungshih, 3,5 km E, 2020 m, 13. XII. 1997, leg. S. Simonyi & A. Szabó; 1 ♂, same locality and collectors, 19. XII. 1997; 1 ♂, Prov. Nantou, Puli, 15 km N, 500 m, 28. II. 1996, leg. G. Fábián & L. Nemes; 1 ♂, Prov. Nantou, Tsuifeng, 3 km SW, 2100 m, 16. III. 1996, leg. T. Csõvári & P. Stéger; 1 ♂, Prov. Nantou, Yushankou, 5 km W, 2300 m, 17. X. 1996, leg. G. Fábián & L. Nemes; all in CMWM.

Additional paratype material kindly reported by C. M. Fu (see above): Co. Taichung: 1 ♂, Anmashan, 2100 m, 15. III. 1997, leg. C. M. Fu; 1 ♂, same place, 2275 m, 10. XI. 1996, leg. Fu; 1 ♂, same place, 2350 m, 9. III. 1996, leg. Fu; 1 ♂, same place, 2600 m, 16. III. 2001, leg. Fu (all CCMF); 1 ♂, same place, 2200 m, 5. IV. 2003, leg. H. R. Tzuoo (coll. Tzuoo). – Co. Nantou: 1 ♂, Meifeng, 2125 m, 16.–17. I. 1991, leg. C. S. Lin; 7 ♂♂, same place, 30. III.–1. IV. 1995, leg. C. S. Lin & W. T. Yang; 2 ♂♂, same place, 4.–5. III. 1996, leg. C. S. Lin & W. T. Yang; 1 ♂, same place, 18.–19. III. 1996, leg. C. S. Lin; 1 ♂, same place, 9.–10. XI. 1998, leg. C. S. Lin & W. T. Yang; 3 ♂♂, same place, 26.–27. III. 2003, C. S. Lin & W. T. Yang; 3 ♂♂, 1 ♀, Sungkang, 2100 m, 11. III. 1999, leg. W. T. Yang; 7 ♂♂, Wushe, 1050 m, 28.–29. XII. 1994, leg. C. S. Lin & W. T. Yang (all NMNS). 3 ♂♂, Peidongyanshan, 2000 m, 3. XII. 2000, leg. D. Anstine (TFRI). 5 ♂♂, Shishan, 2375 m, 23. II. 2003, leg. H. R. Tzuoo; 4 ♂♂, same place, 31. III. 2003, leg. H. R. Tzuoo (all coll. Tzuoo). – Co. Kaohsiung: 1 ♂, Tengchih, 1550 m, 20.–25. III. 1989, leg. C. S. Lin (NMNS).

Etymology. From the Latin (speratus = groom), because the ♂ of *ananai* looks like the larger and paler ♀ with deeper shaped wings of the new species. The name is a noun in apposition.

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Diagnosis

♂♂ (Figs. 17, 18). The new species is very similar to *Mesophalera ananai* Schintlmeister, 1997 (Figs. 19, 20), described from N. Vietnam and recently found also in S. Vietnam (Mt. Ngoc Linh) and Thailand (Doi Inthanon). Fwl 25–27 mm, smaller than *ananai* (27–31 mm). The antennae are short bipectinate. The general external appearance is more fuscous brown than *ananai*, particularly the colouration of the hindwings. The shape of the forewings is narrower in *ananai*. The pattern of the forewings is virtually identical with *ananai.* Diagnostic are two or three black streaks on the apex of the forewings, a paler reddish brown coloured "moon spot" and the pale basal area, which is divided to the median area by a black fascia. The underside of the forewings displays a prominent black streak near the apex in both sister-species.

A good feature to separate *speratus* from *M. bruno* Schintlmeister, 1997, which occurs sympatrically in Taiwan, is the prominent whitish shadow on the forewings near the discal spot in *bruno*, the unconspicuous basal area and the rather filiform antenna in the ♂ (compare Schintlmeister 1997: pl. 25, fig. 9).

The ♀ is still unknown.

♂ genitalia (Fig. 32). The most important differences are seen in the ♂ genitalia: The ♂ genitalia of *speratus* differ from *ananai* by the much smaller costal valve process, and particularly the shape of the aedeagus, which is smaller and displays a smart process. Also the shape of the 8th sternite differs from *ananai* (Fig. 33). The ♂ genitalia of *M. bruno* (see Schintlmeister 1997: pl. 13, fig. 103) differ by the very long socii and the shape of the valve.

Pheosiopsis linus n. sp. [Figs. 21, 28]

Holotypus ♀: Taiwan, Prov. Tai-Tung, Hsiangyang, Police station, 2320 m, 6.–7. xii. 1997, leg. G. Fábián, GU W4639, in CMWM. – Fig. 21.

Etymology: Named after the black dog of Alessa Witt, Munich. The name is a noun in apposition.

Diagnosis

♀ (Fig. 21). Fwl 26.5 mm. The antenna are short bipectinate. The ground colour of the forewings is creamy-white with brownish-green fuscous pattern. Two thin brown fasciae marking the median area toward the basal area and the postmedian area. The median area is filled with yellowish-orange scales, particularly toward the dorsum. A prominent brown zig-zag line on whitish ground marking the submarginal fascia. The hindwings are pale reddish brown.

♀ genitalia (Fig. 28). The ♀ genitalia are of a similar construction as the other known *Pheosiopsis* species, e.g. *Ph. formosana* (Okano, 1959) (Fig. 29). Remarkable features, apart from the relatively small size, are the very large papillae anales and the unsclerotized 8th sternite.

The ♂ is unknown.

I do not know any comparable *Pheosiopsis*. The new species is also unmistakable by the pale external appearance combined with yellowish scales on the forewings.

Bionomy. The only specimen, the holotype, was taken in December, a rather unusual saison for such prominent moths (and for moth collectors as well).

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Received: 21. ix. 2004

© Entomologischer Verein Apollo e. V., Frankfurt am Main, Oktober 2005 ISSN 0723-9912

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Digitale Literatur/Digital Literature

Zeitschrift/Journal: Nachrichten des Entomologischen Vereins Apollo

Jahr/Year: 2005

Band/Volume: 26

Autor(en)/Author(s): Schintlmeister Alexander

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