

## A Study of Chinese Species of the Genus *Lobesia* GUENÉE, 1845 (Lepidoptera, Tortricidae)

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**Abstract** The Chinese species of the genus *Lobesia* GUENÉE, 1845 are revised. Among a total of 15 species, three species, *L. (Lobesia) globosterigma*, *L. (L.) longisterigma*, and *L. (L.) macroptera* are described as new to science. Nine species, *L. (Lomaschiza) genialis* MEYRICK, *L. (Lobesia) lithogonia* DIAKONOFF, *L. (L.) ambigua* DIAKONOFF, *L. (L.) sutteri* DIAKONOFF, *L. (L.) virulenta* BAE et KOMAI, *L. (L.) yasudai* BAE et KOMAI, *L. (L.) pyriformis* BAE et PARK, *L. (L.) bicinctana* (DUPONCHEL) and *L. (Neolobesia) coccophaga* FALKOVITSH are newly recorded from China.

**Key words:** Systematics; Tortricidae; Olethreutinae; *Lobesia*; new species; China.

### Introduction

The tortricid genus, *Lobesia* GUENÉE is characterized and distinguished from other members of the family Tortricidae by its four autapomorphies suggested by BAE and KOMAI (1991), viz., (1) the fore wing with pterostigma, (2) presence of the scent organ formed by combination of the abdominal pouches and tibial hair pencils in male, (3) the pedunculus with an acute process on its anterior edge, and (4) the sterigma situated on the membranous pocket under 7th abdominal sternite.

According to BAE on research works of *Lobesia* in Asia (1991, 1992, 1993 a, 1993 b), 8 species occurs in Japan, 7 in Taiwan, 5 in Korea and 5 in Borneo. Only 4 four species, *Lobesia aeolopa* MEYRICK, *L. reliquana* (HÜBNER), *L. incystata* LIU et YANG and *Lobesia cunninghamiacola* (LIU et PAI), have so far been recorded from China.

In the present study, the genus *Lobesia* of China is revised. We recognized 15 species from China on the basis of the materials collected by the first author during the past 20 years. Among them, 3 species, viz., *Lobesia (Lobesia) globosterigma* LIU et BAE, *L. (L.) longisterigma* LIU et BAE, *L. (L.) macroptera* LIU et BAE, are described as new, and 9 species, viz., *L. (Lomaschiza) genialis* MEYRICK, *L. (Lobesia) lithogonia* DIAKONOFF, *L. (L.) ambigua* DIAKONOFF, *L. (L.) sutteri* DIAKONOFF, *L.*

*(L.) virulenta* BAE et KOMAI, *L. (L.) yasudai* BAE et KOMAI, *L. (L.) pyriformis* BAE et PARK, *L. (L.) bicinctana* (DUPONCHEL) and *L. (Neolobesia) coccophaga* FALKOVITSH, are newly recorded from China. A distinct species, *L. cunninghamiacola* by LIU and PAI (1977) is excluded here, because it shows many deviant features especially in the genital structure, and its systematic position will be discussed in the coming paper.

This genus is mainly distributed in Holarctic and Indo-Australian regions and also occurs in Africa. It is certain that many more species of this genus will occur in China and further collecting will be required. The synonymic references and taxonomical remarks for the known species are not repeated. But more recent references or somewhat important ones are cited under the name of the species which such information is available. External appearances and genitalia are figured if necessary.

The holotypes of the new species and the other specimens treated in this paper are deposited in the Institute of Zoology, Academia Sinica, China.

***Lobesia (Lomaschiza) genialis* MEYRICK**

[Chinese name: Shuangto Huachi Xiaojuane]

(Figs. 1, 13, 25)

*Lobesia genialis* MEYRICK, 1912, 869; DIAKONOFF, 1954, 24, pl. 3, figs. 1, 4 (male genitalia).

*Materials examined.* YUNNAN: Menglun 1 ♂, 1 ♀, 9. VIII. 1984; 1 ♂, 11. IV. 1982.

*Distribution.* China (Yunnan, Taiwan), Sri Lanka and Thailand.

*Host plants.* Unknown in China. Sri Lanka: *Lantana* sp. (Verbenaceae) (DIAKONOFF, 1973). Thailand: *Dimocarpus longan* LOUR. (Sapindaceae), *Mangifera indica* L. (Anacardiaceae), *Garcinia mangostana* L. (Guttiferae) (KUROKO and LEWVANICH, 1993).

*Remarks.* This species is new to continental China.

***Lobesia (Lobesia) lithogonia* DIAKONOFF**

[Chinese name: Ying Huachi Xiaojuane]

(Figs. 2, 14, 26)

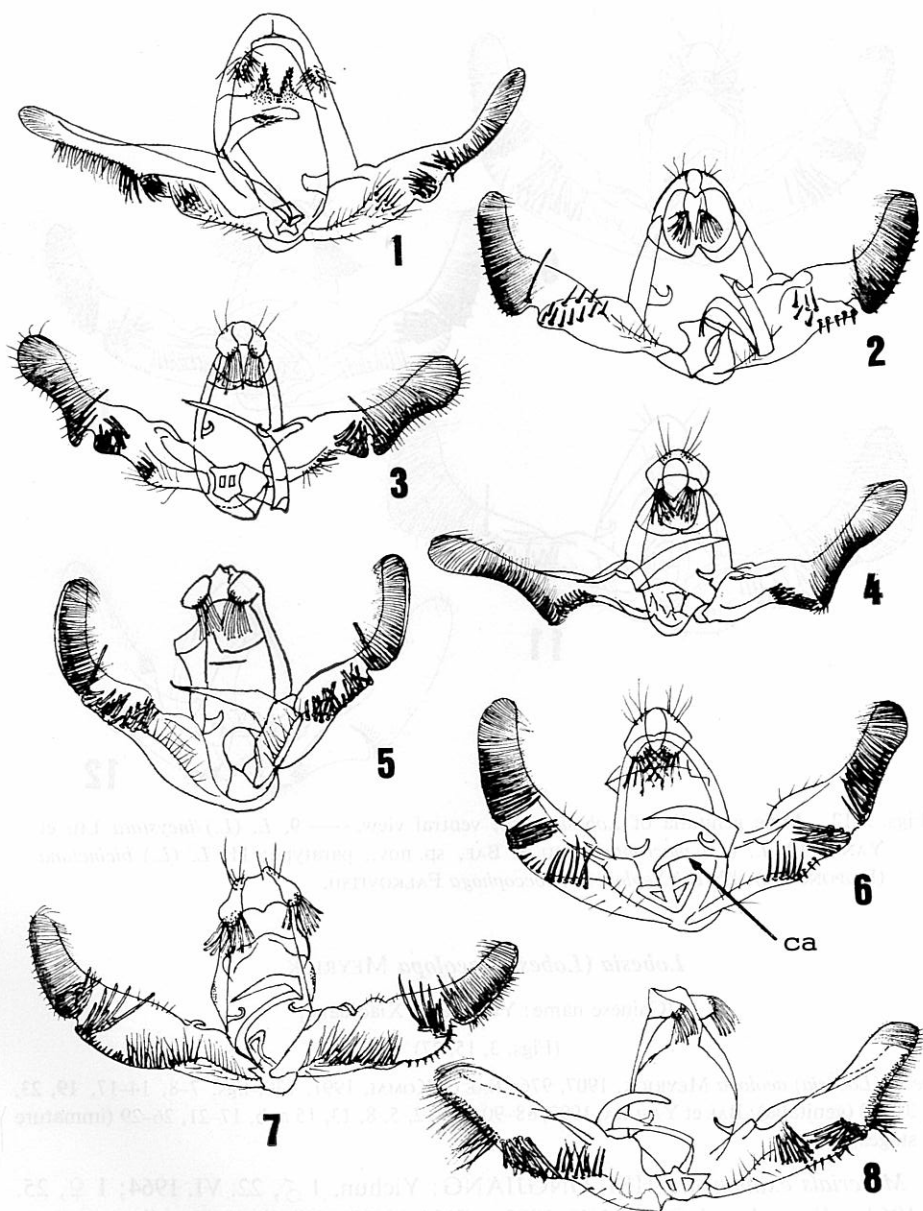
*Lobesia (Lobesia) lithogonia* DIAKONOFF, 1954, 49-53, figs. 20-21, 26.

*Materials examined.* YUNNAN: Menglun, 1 ♂, 9. IV. 1982. Xiaomenglun, 1 ♂, 12. XII. 1982. Mengla, 1 ♀, 21. IV. 1982.

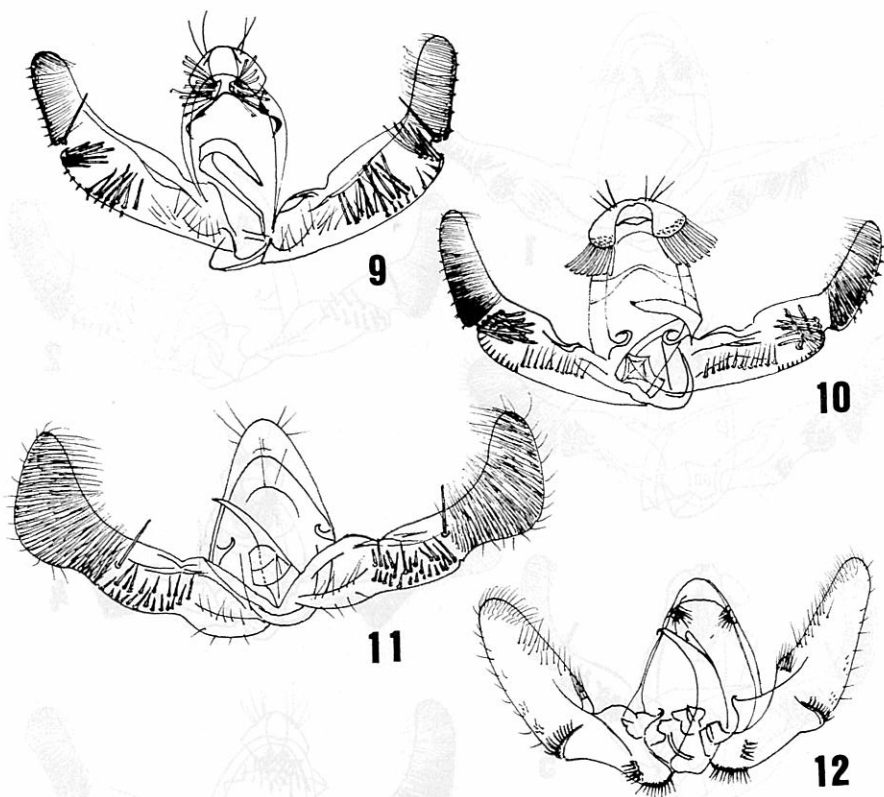
*Distribution.* China (Yunnan, Taiwan), Thailand, Sumatra, Java and Borneo.

*Host plant.* Unknown in China. *Eugenia densiflora* WILLD. (Myrtaceae) in Java (DIAKONOFF, 1954).

*Remarks.* This species is new to continental China.



Figs. 1-8. Male genitalia of *Lobesia* spp., ventral view. — 1, *L. (Lomaschiza) genialis* MEYRICK; 2, *L. (Lobesia) lithogonia* DIAKONOFF; 3, *L. (L.) aeolopa* MEYRICK; 4, *L. (L.) ambigua* DIAKONOFF; 5, *L. (L.) sutteri* DIAKONOFF; 6, *L. (L.) reliquana* (HÜBNER); 7, *L. (L.) virulenta* BAE et KOMAI; 8, *L. (L.) pyriformis* BAE et PARK. ca: caulis.



Figs. 9–12. Male genitalia of *Lobesia* spp., ventral view. — 9, *L. (L.) incystata* LIU et YANG; 10, *L. (L.) macroptera* LIU et BAE, sp. nov., paratype; 11, *L. (L.) bicinctana* (DUPONCHEL); 12, *L. (Neolobesia) coccophaga* FALKOVITSH.

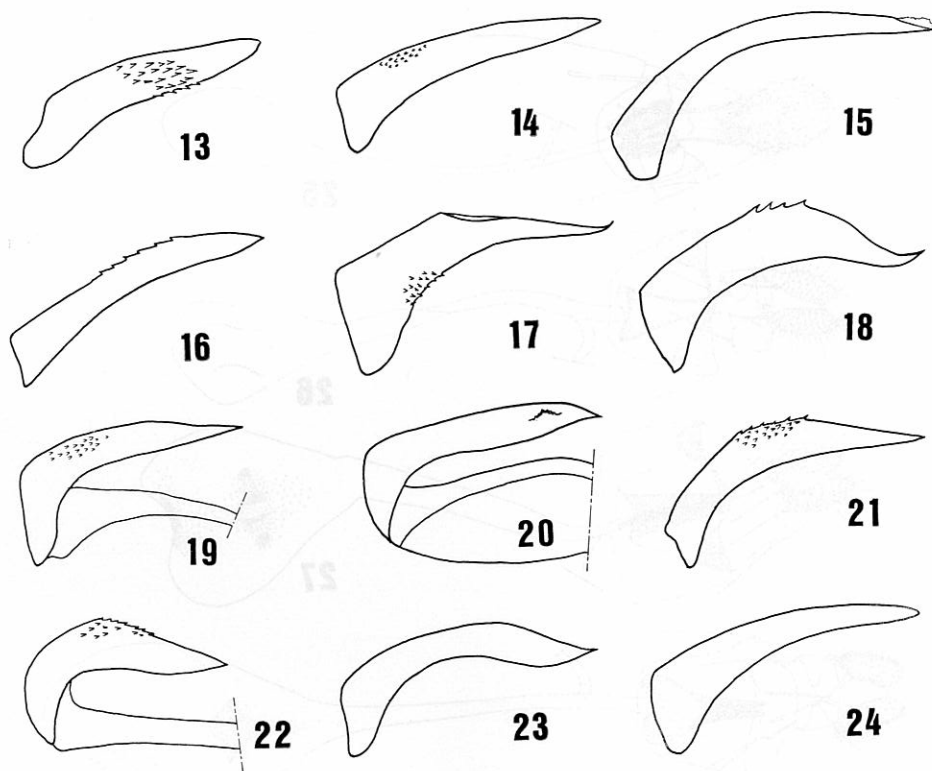
***Lobesia (Lobesia) aeolopa* MEYRICK**

[Chinese name: Yu Huachi Xiaojuane]

(Figs. 3, 15, 27)

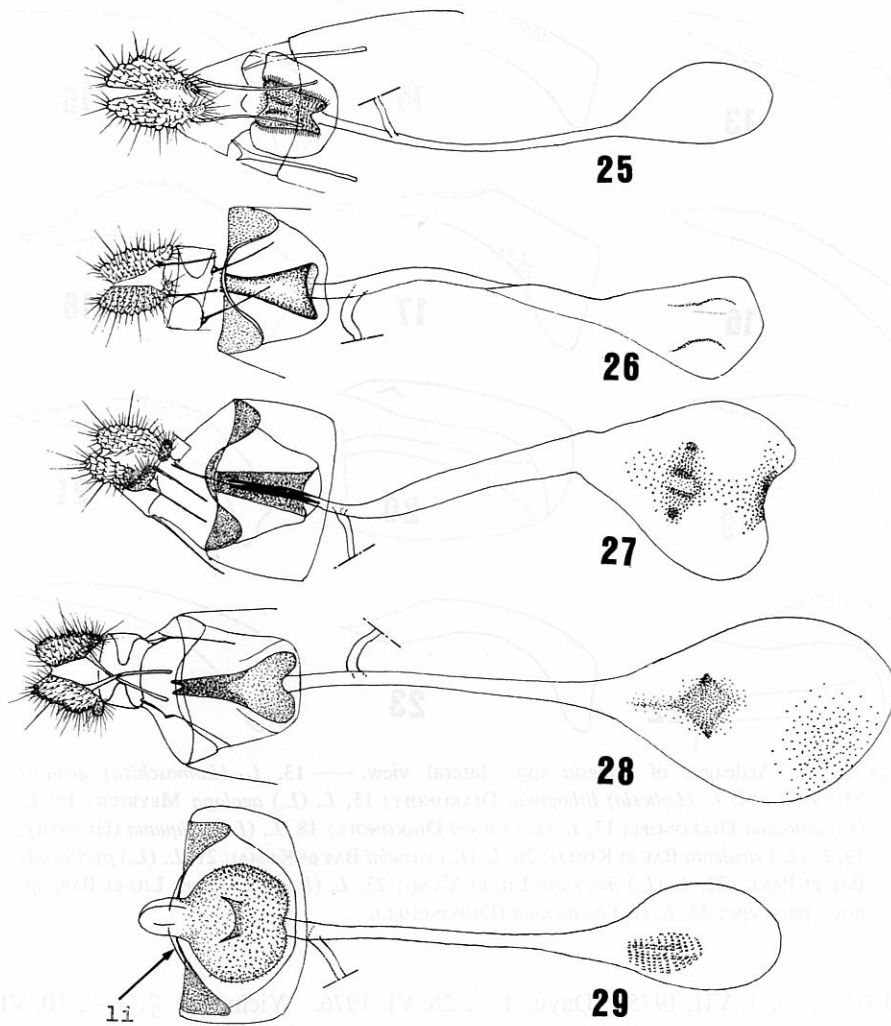
*Lobesia (Lobesia) aeolopa* MEYRICK, 1907, 976; BAE et KOMAI, 1991, 130, figs. 7–8, 14–17, 19, 23, 31, 43 (genitalia); BAE et YASUDA, 1992, 88–90, figs. 2, 5, 8, 13, 15 a–b, 17–21, 26–29 (immature stages).

*Materials examined.* HEILONGJIANG: Yichun, 1 ♂, 22. VI. 1964; 1 ♀, 25. VI. 1964. Jingpohu, 1 ♀, 11. VII. 1983. SHAANXI: Qinling (Huoditang), 1 ♀, 17. VI. 1987. HENAN: Kaifeng: 1 ♂, IX. 1956. ANHUI: Jiuhuashan, 1 ♀, 23. VII. 1979. Xuancheng, 1 ♂, 17. X. 1978. ZHEJIANG: Linan, 1 ♂, 1 ♀, 10. IX. 1989. Hangzhou, 1 ♀, 25. VII. 1972. Tianmushan, 1 ♀, 12. IX. 1989. JIANGXI: Nanchang, 1 ♂, 7. IX. 1975; 1 ♀, 20. VIII. 1975. Jinggangshan, 1 ♂, 18. VI. 1978; 1 ♂, 1. VII. 1978. Jiulianshan, 1 ♂, 21. V. 1977. Lusan, 1 ♂, 18.



Figs. 13–24. Aedeagus of *Lobesia* spp., lateral view. — 13, *L. (Lomaschiza) genialis* MEYRICK; 14, *L. (Lobesia) lithogonia* DIAKONOFF; 15, *L. (L.) aeolopa* MEYRICK; 16, *L. (L.) ambigua* DIAKONOFF; 17, *L. (L.) sutteri* DIAKONOFF; 18, *L. (L.) reliquana* (HÜBNER); 19, *L. (L.) virulenta* BAE et KOMAI; 20, *L. (L.) yasudai* BAE et KOMAI; 21, *L. (L.) pyriformis* BAE et PARK; 22, *L. (L.) incystata* LIU et YANG; 23, *L. (L.) macroptera* LIU et BAE, sp. nov., paratype; 24, *L. (L.) bicinctana* (DUPONCHEL).

VI. 1975; 1 ♂, 1 VII. 1975. Dayu, 1 ♂, 26. VI. 1976. Yichun, 1 ♂, 1 ♀, 10. VI. 1978. Ganzhou, 1 ♂, 1. VI. 1977. Shangyou, 1 ♀, 31. VIII. 1984. SICHUAN: Xichang, 1 ♂, 30. VII. 1980; 2 ♀, 2. VIII. 1980. Qingchengshan, 1 ♂, 1 ♀, 3. VII. 1980. Omeishan, 1 ♂, 22. V. 1979; 1 ♀, 20. VI. 1980; 1 ♂, 1 ♀, 13. VII. 1990; 2 ♂, 2 ♀, 18. V. 1979. Dukou, 1 ♂, 20. VIII. 1980. Luzhou, 1 ♂, 1 ♀, 1986. FUJIAN: Nanping, 1 ♂, 26. X. 1980. Putain, 2 ♂, 1 ♀, 3. VII. 1978; 1 ♀, 30. VI. 1978. Shaxian, 1 ♂, 1 ♀, 30. III. 1981. Tianyou, 1 ♀, 26. VI. 1982. Wuyishan, 1 ♂, 4. II. 1982. Huangkeng, 1 ♂, 28. VI. 1980. GUANGXI: Guilin, 1 ♂, 1 ♀, 16. VI. 1976. GUANGDONG: Guangzhou (Botanical Garden), 2 ♂, 1 ♀, 27–31. III. 1984; 1 ♂, 1 ♀, 26–28. IV. 1978; 2 ♂, 19. V. 1978; 1 ♀, 22. V. 1978; 2 ♂, 1–2. VI. 1978. HAINANDAO: Janfengling, 1 ♂, 22. III. 1978; 1 ♂, 1 ♀, 17. V. 1978; 1 ♂, 26. V. 1978. YUNNAN: Jinghong, 1 ♂, 1 ♀, 15. IV. 1982. Meng-



Figs. 25-29. Female genitalia of *Lobesia* spp., ventral view. — 25, *L. (Lomashiza) genialis* MEYRICK; 26, *L. (Lobesia) lithogonia* DIAKONOFF; 27, *L. (L.) aeolopa* MEYRICK; 28, *L. (L.) ambigua* DIAKONOFF; 29, *L. (L.) globostigma* LIU et BAE, sp. nov., holotype. li: limen.

hai, 1 ♀, 18. IV. 1982. Menglun, 1 ♀, 12. XII. 1982. Mengla, 2 ♀, 21. IV. 1982.

*Distribution.* China (Heilongjiang, Shaanxi, Henan, Anhui Zhejiang, Jiangxi, Sichuan, Fujian, Guangxi, Guangdong, Hainandao, Yunnan, Taiwan), Japan, Korea, India, Sri Lanka, Thailand, Java, Solomon Is., Africa and Madagascar.

*Host plants.* Unknown in China. Injurious to 14 families, 21 genera of

plants in Japan and Java (NASU, 1993).

*Remarks.* This species is the most widespread of the genus *Lobesia* in China.

***Lobesia (Lobesia) ambigua* DIAKONOFF**

[Chinese name: Sang Huachi Xiaojuane]

(Figs. 4, 16, 28)

*Lobesia (Lobesia) ambigua* DIAKONOFF, 1954, 40-44, figs. 9, 11.

*Materials examined.* SHANGDONG: Taishan, 1 ♂, 12. IX. 1988. JIANGXI: Yushan, 1 ♀, 20. VIII. 1985. Dexin, 1 ♀, 11. VIII. 1985. FUJIAN: Sangan, 1 ♀, 24. X. 1980; 1 ♀, 10. X. 1980. Shaxian, 1 ♀, 30. III. 1981. YUNNAN: Anning, 1 ♂, 1 ♀, 28. III. 1982.

*Distribution:* China (Shangdong, Jiangxi, Fujian, Yunnan, Taiwan), Thailand and Java.

*Host plants.* Unknown in China. *Morus alba* L. (Moraceae) and *Crotalaria* sp. (Leguminosae) in Java (DIAKONOFF, 1954).

*Remarks.* This species is new to continental China.

***Lobesia (Lobesia) globosterigma* LIU et BAE, sp. nov.**

[Chinese name: Qiu Huachi Xiaojuane]

(Figs. 29, 36)

*Female* (Fig. 37). Wing-expanse 11 mm. Head pale ochereous; vertex mixed with pale brown scales. Antenna pale yellowish brown, annulated with light brown. Labial palpus whitish ochereous; median segment tolerably expanded outward, finely irrorated with dark brown. Thorax light yellowish brown, mixed with dark brown.

Fore wing narrow, with a well-defined pterostigma; ground color whitish ochereous, overlaid with plumbeous; basal to middle costa with dark brown strigula; markings pale yellowish ochereous, mixed with grayish brown; basal patch sprinkled with plumbeous and strigulated with gray, angulated in outer edge; central fascia narrow, fuscous; space between basal patch and central fascia with a blackish gray suffusion on lower half; pretornal patch triangular, tinged with black; terminal patch large, rounded, yellowish brown, the top narrowly extending to costa; apical spot oval, yellowish brown. Cilia light ochereous; tornus yellowish ocher. Hind wing triangular, with apex rather acute, and with termen tolerably straight; grayish brown. Cilia white ochereous, with a grayish brown subbasal line.

Female genitalia (Fig. 30). Limen forming a convex median band, with a large subtriangular lobe on each side. Sterigma pomelo-shaped, aciculate, slightly concave anteriorly, gradually tapering posteriorly. Ductus bursae long and narrow. Corpus bursae small, with an oblong signum.

*Male.* Unknown.

*Material examined.* Holotype: ♀, Changbaishan, Jilin, China, 8. VII. 1974 (Y. Q. LIU), Gen. sl. no. 84032.

*Distribution.* China (Jilin).

*Host plant.* Unknown.

*Remarks.* This species is distinguishable easily from other described species of the genus by the pomelo-shaped sterigma.

*Etymology.* The specific name is derived from the characteristics of the female sterigma: Latin *globo* (to make into a ball)+sterigma.

***Lobesia (Lobesia) sutteri* DIAKONOFF**

[Chinese name: Yin Huachi Xiaojuane]

(Figs. 5, 17)

*Lobesia (Lobesia) sutteri* DIAKONOFF, 1956, 58–60, fig. 2.

*Material examined.* YUNNAN: Mengyang (Ganlanba), 1 ♂, 17. XII. 1982.

*Distribution.* China (Yunnan) and East Sumba (Indonesia).

*Host Plant.* Unknown.

*Remarks.* This species is new to China.

***Lobesia (Lobesia) reliquana* (HÜBNER)**

[Chinese name: Huachi Xiaojuane]

(Figs. 6, 18)

*Asthenia reliquana* HÜBNER, 1825, 381; BAE et KOMAI, 1991, 123–125, figs. 1–2, 20–21, 27, 35, 39.

*Materials examined.* HEILONGJIANG: Yichun, 1 ♂, 22. VI. 1964. SICHUAN: Luzhou, 1 ♂, no detail data, 1986, ex *Sorghum valgara* PERS, Gen. sl. no. 91067.

*Distribution.* China (Heilongjiang, Sichuan), Korea, Japan, Russia (Primorsk, Siberia), Asia Minor, northern Iran and Europe.

*Host plants.* China: *Sorghum valgara* PERS. (Gramineae). Korea: *Prunus* sp. (Rosaceae) (PARK, 1983). Europe: *Solidago* (Compositae), *Anchusa officinalis* L. (Boraginaceae), *Betulla* spp. (Betulaceae), *Fagus* spp. (Fagaceae) (HANNEMANN, 1979); *Quercus* (Fagaceae), *Prunus spinosa* L. (Rosaceae), *Juniperus* spp. (Cupressaceae) (BRADLEY *et al.*, 1979).

*Remarks.* This species occurs only in the North-eastern part of China.

***Lobesia (Lobesia) virulenta* BAE et KOMAI**

[Chinese name: Luoyesong Huachi Xiaojuane]

(Figs. 7, 19, 30)

*Lobesia (Lobesia) virulenta* BAE et KOMAI, 1991, 127–129, figs. 3, 4, 13, 22, 29, 37, 41 (genitalia); BAE et YASUDA, 1992, 86–88, figs. 1, 4, 7, 12, 14 a–b, 22 a–b, 23, 30 (immature stages).



*Materials examined.* HEILONGJIANG: Yichun (Wuyin), 2 ♂, 13. VII. 1981; 1 ♀, 7. VII. 1981. SHANGHAI: 1 ♂, 1 ♀, 26. VI. 1933. ZHEJIANG: Hangzhou, 1 ♂, 25. VII. 1972. Tianumshan, 1 ♂, 1 ♀, 12. IX. 1989. HUNAN: Sanzhi (Tianpingshan), 1 ♂, 8. VII. 1981; 1 ♀, 18. VIII. 1981. SICHUAN: Qingchenshan, 1 ♂, 25. VII. 1980; 1 ♂, 26. VII. 1980; 1 ♀, 20. VI. 1980; 1 ♀, 13. VII. 1980; 1 ♀, 2. VIII. 1990. Emeishan, 1 ♂, 18. VII. 1980. FUJIAN: Sangan, 1 ♂, 17. IX. 1987. Wuyishan, 1 ♂, 7. VIII. 1988. Huangganshan, 1 ♂, 15. VI. 1981.

*Distribution.* China (Heilongjiang, Shanghai, Zhejiang, Hunan, Sichuan, Fujian, Taiwan), Korea and Japan.

*Host plants.* Unknown in China. *Larix leptolepis* (SIEB. et ZUCC.) GORDEN (Pinaceae); *Pyrus serotina* REHDER var. *culata* REHDER (Rosaceae); *Angelica* sp. (Umberlliferae); gall of *Ceratovacuna nekoashi* (SASAKI) (Aphididae) on *Styrax japonicus* SIEB. et ZUCC. (Styracaceae) in Japan (BAE et KOMAI, 1991). *Pyrus* sp. (Rosaceae) in Korea (PARK, 1983).

*Remarks.* This species is new to continental China.

***Lobesia (Lobesia) yasudai* BAE et KOMAI**

[Chinese name: Bao Huachi Xiaojuane]

(Fig. 20)

*Lobesia (Lobesia) yasudai* BAE et KOMAI, 1991, 129–130, figs. 5–6, 30, 38, 42; BAE et PARK, 1992 76–77.

*Materials examined.* HEILONGJIANG: Yichun (Wuying), 2 ♂, 13. VIII. 1981. LIAONING: Xifeng, 1 ♂, no detailed data, VIII. 1985.

*Distribution.* China (Heilongjiang, Liaoning), Korea and Japan.

*Host plants.* Unknown in China. Japan: *Hydrangea paniculata* SIEB. (Saxifragaceae); *Rosa rugosa* THUNB. *Prunus ssiori* FR. SCHM. (Rosaceae) (BAE and KOMAI, 1991).

*Remarks.* This species is new to China.

***Lobesia (Lobesia) pyriformis* BAE et PARK**

[Chinese name: Li Huachi Xiaojuane]

(Figs. 8, 21, 31)

*Lobesia (Lobesia) pyriformis* BAE et PARK, 1992, 77–79, figs. 3–4 8, 12.

*Materials examined.* JILIN: Changbaishan, 1 ♂, 8. VII. 1974. SICHUAN: Luzhou, 1 ♀, no detailed data, 1986.

*Distribution.* China (Jilin, Sichuan) and Korea.

*Host plant.* Unknown.

*Remarks.* This species is new to China. The valvae of Chinese specimen (Fig. 8) and the holotype from Korea seem to be slightly different from each other.

This may be, however, caused by different positions of the valvae mounted in the genitalia slides.

***Lobesia (Lobesia) incystata* LIU et YANG**

[Chinese name: Yunnan Youshan Huachi Xiaojuane]

(Figs. 9, 22, 32)

*Lobesia (Lobesia) incystata* LIU et YANG, 1987, 35–44, figs. 1–4.

*Lobesia (Lobesia) arguta* BAE et KOMAI, 1991, 125–127, figs. 9, 28, 36, 40. syn. nov.

*Materials examined.* SICHUAN: Dukou, 2 ♀, 22. VIII. 1980. YUNNAN: Holotype, ♂, Anning, 25. IX. 1984; paratypes, 10 ♂, 10 ♀, same data as holotype.

*Distribution.* China (Yunnan) and Japan.

*Host plants.* *Keteleeria evelyniana* MAST. (Pinaceae) in China (LIU and YANG, 1987). *Abies sachalinensis* (FR. SCHM.) MASTER, *A. homolepis* SIEB. et ZUCC., *Tsuga sieboldii* CARR., *T. diversifolia* (MAXIM) MASTERS, *Picea* sp. (Pinaceae) in Japan (SUZUKI and KOMAI, 1984).

*Remarks.* The above new synonymy is to be introduced since the Japanese representative named *arguta* is completely identical with the holotype and paratypes of *incystata* from Yunnan Province. The bionomics, parasitic insects and control measures of this species were well described by YANG, CAO and LIU (1987).

***Lobesia (Lobesia) longisterigma* LIU et BAE, sp. nov.**

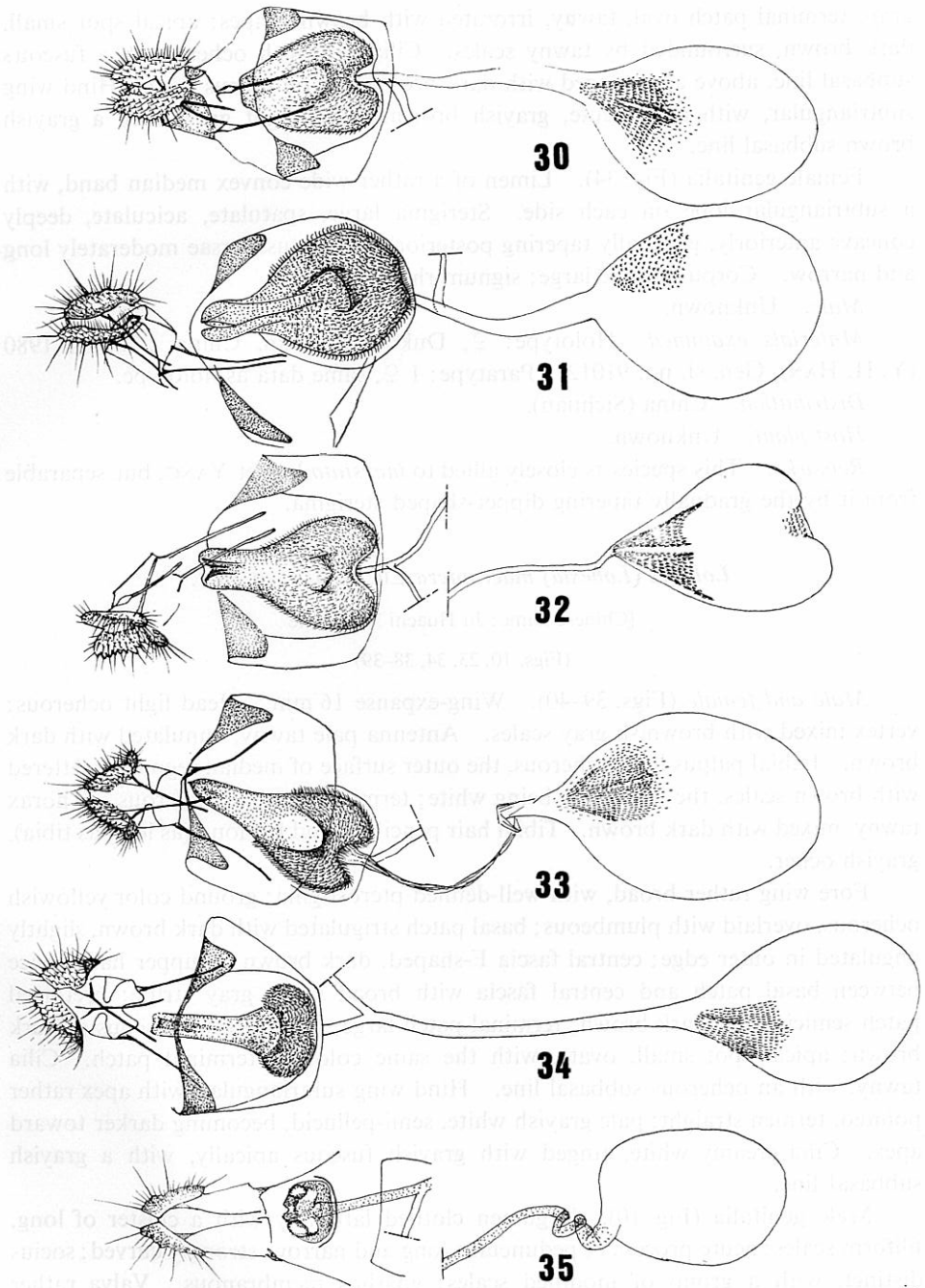
[Chinese name: Chang Huachi Xiaojuane]

(Figs. 33, 37)

*Female* (Fig. 38). Wing-expanse 11 mm. Head with face light tawny; vertex irrorated with tawny fuscous scales. Antenna light ochreous, annulated with dark brown. Labial palpus light tawny; median segment expanded, outwardly tinged with dark brown; terminal segment slender, drooping. Thorax tawny, with scattered dark brownish scales.

Fore wing narrow, dilated, with well-defined pterostigma; ground color white ochreous, overlaid with plumbeous; costa with dark brown strigula; basal patch suffused with white ochreous, the outer angulated edge with tawny brown stripes; central fascia narrow, rather oblique, subtriangular, the inner edge with two protuberances, the outer edge angulated in middle, the upper half suffused with dark brown; space between basal patch and central fascia with a blackish gray suffusion on lower half; pretornal patch triangular, tawny brown, surrounded by blackish

Figs. 30–35. Female genitalia of *Lobesia* spp., ventral view. — 30, *L. (L.) virulenta* BAE et KOMAI; 31, *L. (L.) pyriformis* BAE et PARK; 32, *L. (L.) incystata* LIU et YANG; 33, *L. (L.) longisterigma* LIU et BAE, sp. nov., holotype; 34, *L. (L.) macroptera* LIU et BAE, sp. nov., holotype; 35, *L. (Neolobesia) coccophaga* FALKOVITSH.



gray; terminal patch oval, tawny, irrorated with brown stripes; apical spot small, dark brown, surrounded by tawny scales. Cilia brownish ocher, with a fuscous subbasal line, above apex tinged with dark brown and on tornus gray. Hind wing subtriangular, with apex acute, grayish brown. Cilia light gray, with a grayish brown subbasal line.

Female genitalia (Fig. 34). Limen of a rather wide convex median band, with a subtriangular lobe on each side. Sterigma large, spatulate, aciculate, deeply concave anteriorly, gradually tapering posteriorly. Ductus bursae moderately long and narrow. Corpus bursae large; signum rhomboid.

*Male.* Unknown.

*Materials examined.* Holotype: ♀, Dukou, Sichuan, China, 22. VIII. 1980 (Y. H. HAN), Gen. sl. no. 91012. Paratype: 1 ♀, same data as holotype.

*Distribution.* China (Sichuan).

*Host plant.* Unknown.

*Remarks.* This species is closely allied to *incystata* LIU et YANG, but separable from it by the gradually tapering dipper-shaped sterigma.

***Lobesia (Lobesia) macroptera* LIU et BAE, sp. nov.**

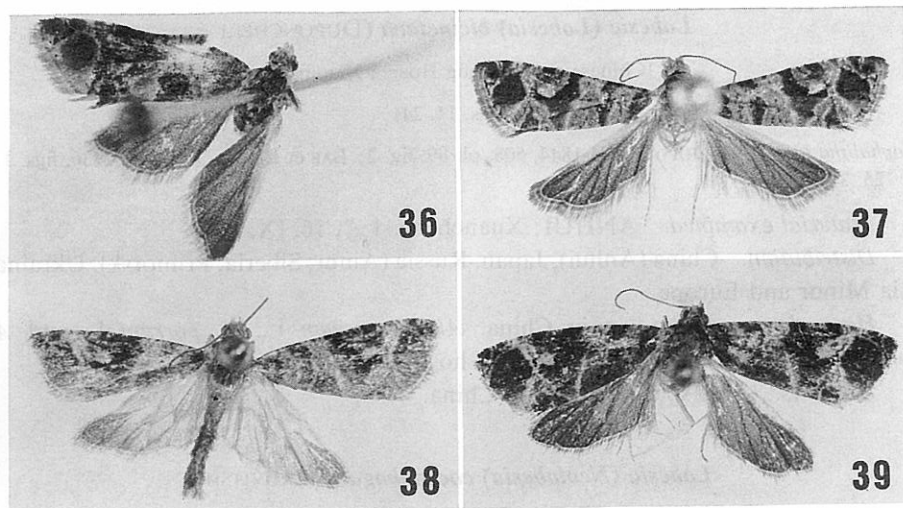
[Chinese name: Ju Huachi Xiaojuane

(Figs. 10, 23, 34, 38–39)

*Male and female* (Figs. 39–40). Wing-expanse 16 mm. Head light ocherous; vertex mixed with brownish gray scales. Antenna pale tawny, annulated with dark brown. Labial palpus light ocherous, the outer surface of median segment scattered with brown scales, the inner side being white; terminal segment ocherous. Thorax tawny, mixed with dark brown. Tibial hair pencil of hind leg long (as long as tibia), grayish ocher.

Fore wing rather broad, with well-defined pterostigma; ground color yellowish ocherous, overlaid with plumbeous; basal patch strigulated with dark brown, slightly angulated in outer edge; central fascia F-shaped, dark brown on upper half; space between basal patch and central fascia with broad silver gray stripe; pretornal patch semicircular, dark brown; terminal patch large, subquadrate, fuscous or dark brown; apical spot small, ovate, with the same color as terminal patch. Cilia tawny, with an ocherous subbasal line. Hind wing subtriangular, with apex rather pointed, termen straight; pale grayish white, semi-pellucid, becoming darker toward apex. Cilia creamy white, tinged with grayish fuscous apically, with a grayish subbasal line.

Male genitalia (Fig. 10). Tegumen clothed laterally with a cluster of long, filiform scales; acute process of pedunculus long and narrow, strongly curved; socius distinct, with a group of modified scales; gnathos membranous. Valva rather broad; cucullus slender, with rather pointed apex; sacculus narrow, more or less sclerotized;  $Spc_1$  dense, forming a cluster of different sized spines;  $Spc_2$  consisting



Figs. 36–39. Adults of *Lobesia* spp. — 36, *L. (Lobesia) globosterigma* LIU et BAE, sp. nov., female, holotype; 37, *L. (L.) longisterigma* LIU et BAE, sp. nov., female, holotype; 38, *L. (L.) macroptera* LIU et BAE, sp. nov., male, paratype; 39, *ditto*, female, paratype.

of a row of spines; small spines present between  $\text{Sp}_1$  and  $\text{Sp}_2$ . Aedeagus (Fig. 23) moderately long, strongly curved ventrally, obviously expanded near apex, distally tapering upward, without minute dents on its left wall.

Female genitalia (Fig. 35). Limen of a rather wide convex median band, with a subtriangular lobe on each side. Sterigma long, tubular, flower vase-shaped, aciculate. Ductus bursae more or less short, narrow. Corpus bursae large; signum rhomboid.

*Materials examined.* Holotype: ♂, Wolong, Sichuan, China, 14. VIII. 1980 (Y. Q. LIU), Gen. sl. no. 91027. Paratypes: 18 ♂, 13 ♀, same data as holotype, except for Gen. sl. no. 91028.

*Distribution.* China (Sichuan).

*Host plant.* Unknown.

*Remarks.* This species is very similar and allied to the Taiwanese *atsushii* BAE, but differs from it in the following points: in *L. macroptera* sp. nov., the adult smaller (wing-expanse 16 mm); the tibial hair pencils as long as tibia; the acute process of pedunculus of male genitalia long, narrow, strongly curved, but in *L. atsushii* BAE, it rather larger (wing-expanse 18 mm), the tibial hair pencils ca. 0.5 times as long as tibia, and the acute process of pedunculus broad slightly curved.

The flower vase-shaped sterigma of *macroptera* is quite distinct, and this is a good characteristic for separating this species from the other congeners.

***Lobesia (Lobesia) bicinctana* (DUPONCHEL)**

[Chinese name: Cong Huachi Xiaojuane]

(Figs. 11, 24)

*Grapholitha bicinctana* DUPONCHEL, 1844, 508, pl. 89, fig. 2; BAE et KOMAI, 1991, 135–136, figs. 11, 25, 33, 45.*Material examined.* ANHUI: Xuancheng, 1 ♂, 16. IX. 1980.*Distribution.* China (Anhui), Japan, Russia (Amur, Siberia, Primorsk), Ukraina, Asia Minor and Europe.*Host plants.* Unknown in China. *Allium roseum* L., *A. porrum* L. and *A. oleraceum* L. (Liliaceae) are known as the host plants in Europe (RAGNOT, 1894).*Remarks.* This species is new to China.***Lobesia (Neolobesia) coccophaga* FALKOVITSH**

[Chinese name: Rendong Huachi Xiaojuane]

(Figs. 12, 35)

*Lobesia coccophaga* FALKOVITSH, 1970, 62–63, fig. 1; BAE et KOMAI, 1991, 138, figs. 12, 26, 34, 46 (genitalia); BAE et YASUDA, 1992, 90–93, figs. 3, 6, 9–11, 16a-b, 24a-b, 25, 31 (immature stages).*Materials examined:* ZHEJIANG: Tianmushan, 1 ♂, 29. VII. 1976. JIANGXI: Jinggangshan, 1 ♂, 2. VII. 1978. YUNNAN: Anning, 1 ♂, 25. V. 1982; 1 ♂, 10. VIII. 1982.*Distribution.* China (Zhejiang, Jiangxi, Yunnan), Korea, Japan and Russia (Primorsk).*Host plant.* Unknown in China. *Lonicera japonica* THUNB. ex MURRAY (Caprifoliaceae) in Primorsk (FALKOVITSH, 1970), Korea (PARK, 1983) and Japan (BAE and KOMAI, 1991).*Remarks.* This species is new to China.**Acknowledgments**

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