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Notes on *Chorivalva* and *Stenolechia* species in Korea, with new synonyms (Lepidoptera, Gelechiidae)

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Summary

Two Korean species of the genus *Chorivalva* Omelko, 1988 and two of *Stenolechia* Meyrick, 1894 are discussed. The genitalia of both sexes are illustrated. The genus *Gibbosa* Omelko, 1988 is synonymised with *Stenolechia*. *C. hodgesi* Park, 1989 and *G. celeris* Omelko, 1988 are synonymised with *C. unisaccula* Omelko, 1988 and *S. notomochla* Meyrick, 1935 respectively. *C. bisaccula* Omelko, 1988 and *S. notomochla* Meyrick are reported for the first time from Korea.

Résumé

Note sur deux espèces Coréennes du genre *Chorivalva* Omelko, 1988 et deux du genre *Stenolechia* Meyrick, 1894, avec figures des genitalia des deux sexes. Le genre *Gibbosa* Omelko, 1988 est mis en synonymie avec *Stenolechia*. *C. hodgesi* Park, 1989 et *G. celeris* Omelko, 1988 sont mis en synonymie avec respectivement *C. unisaccula* Omelko, 1988 et *S. notomochla* Meyrick, 1935. *C. bisaccula* Omelko, 1988 et *S. notomochla* Meyrick sont signalés pour la première fois de Corée.

In 1989, the author described a new genus, *Neochronistis*, based on the type species, *hodgesi* Park, 1989, from Korea. However, in 1991 he placed it in synonymy with *Chorivalva* Omelko, 1988, and *hodgesi* is here synonymised with the type species of that genus, *unisaccula* Omelko. Another species of the genus, *bisaccula* Omelko, 1988, is reported for the first time from Korea.

Gibbosa celeris Omelko, 1988, has been found to be identical to the Japanese species *Stenolechia notomochla* Meyrick, 1935. As the former is the type species of the genus *Gibbosa* Omelko, 1988, this genus is synonymised with *Stenolechia* Meyrick, 1894.

The terminology for the genitalia used in this review follows Kuznetsov (1967) and Omelko (1988).

Chorivalva Omelko

Chorivalva Omelko, 1988, Ent. Obozr. 67 (1) : 143.
Type-species : *C. unisaccula* Omelko, 1988.
Neochronistis Park, 1989, Korean J. Appl. Entom. 28 (3) : 162.
Type-species : *N. hodgesi* Park, 1989 (synonymized by Park, 1991).

The genus *Chorivalva* Omelko comprises only 3 species i.e. *unisaccula, bisaccula*, Omelko and *grandialata*, Omelko from the Southern Maritime Territory and Korean peninsula. The external characters of the genus are closely similar to the genus *Parachronistis*, especially in having the hair-like scale-tufts in the fold between the 1st and 2nd segment, considered by Omelko (1986) to be andriconia. However, *Chorivalva* can be separated from *Parachronistis* as follows : taenioid valvella in the male genitalia ; androconial scale-tufts more hair-like, rather than scale-like as in *Parachronistis* ; 8th tergite rather larger and triangular, 8th sternite with long hair-pencils laterobasally.

Chorivalva unisaccula Omelko

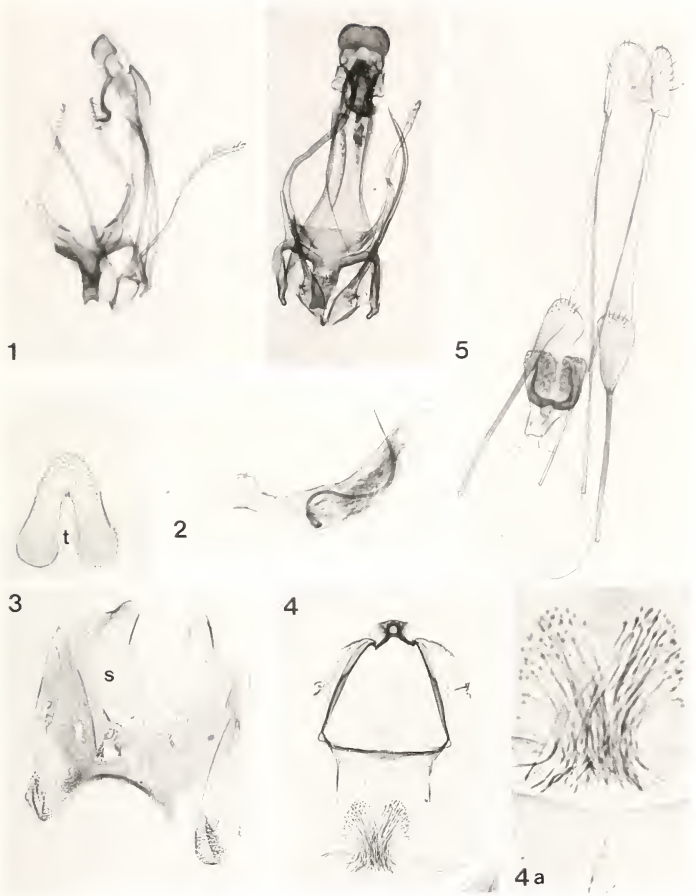
Chorivalva unisaccula Omelko, 1988, Ent. Obozr. 67 (1) : 143, figs. 2, 8.
Neochronistis hodgesi Park, 1989, Korean J. Appl. Entom. 28 (3) : 163, figs. 23-25.
Chorivalva hodgesi : Park, 1991, Annls. hist. nat. Mus. natl. hung. 83 : 120, **syn.n.**

Material examined : **South Korea** : 1 ♂, 1 ♀, Mt. Jumbong-san, Gangwon Prov., 22.VI.1992 ; 1 ♂, Mt. Yumyung-san, 3.VIII.1990 ; 1♀, Chuncheon, 28.V.1990 ; 6 ♀♀, Chuncheon, 21.VII.1992 ; 1 ♂, 3 ♀♀, Pyungchang, Gangwon Prov., 31.VII.1991. [North Korea] : 2 ♀♀, Mt. Kumgang-san, 25.VII.1982 ; 1 ♂, 2 ♀, Kaesung, 29.VII.1982 ; 1 ♂, Mt. Daesung-san, 31.V.1985 ; 1 ♀, Mt. Ryongak-san, 27.V.1985. **Russia** : Both sexes of paratype of this species and *C. grandialata*, borrowed from the Zoological Institute, Academy of Sciences, St. Petersburg, were examined and compared.

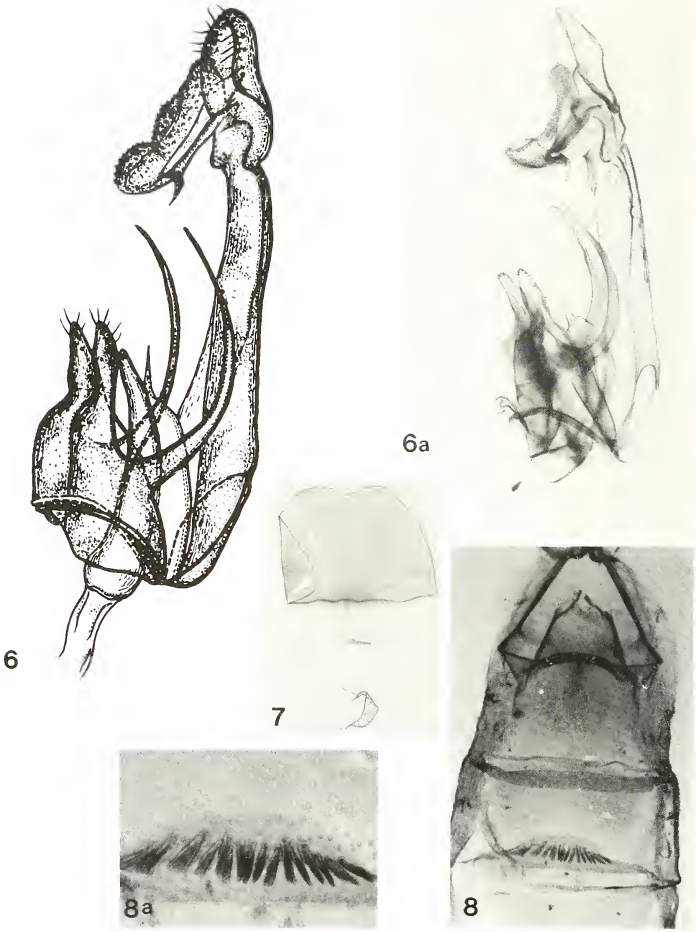
This species is common in Korea. The species *hodgesi* Park is a junior synonym of *C. unisaccula*. The male genitalia illustrated by Omelko (Fig. 2) are identical to those of *hodgesi* Park, but the female genitalia illustrated by him seem to be those of *grandialata* Omelko. This species is very close to the latter, but it can be distinguished by the following : distal part of uncus in male genitalia moderate (larger and emarginated on distal margin in *grandialata*) and distal part of cucullus rather coiled (Omelko, 1988).

Male and female genitalia : See Park (1989 : 163-166, Figs 23-25), Omelko (1988 : Figs 2 & 8).

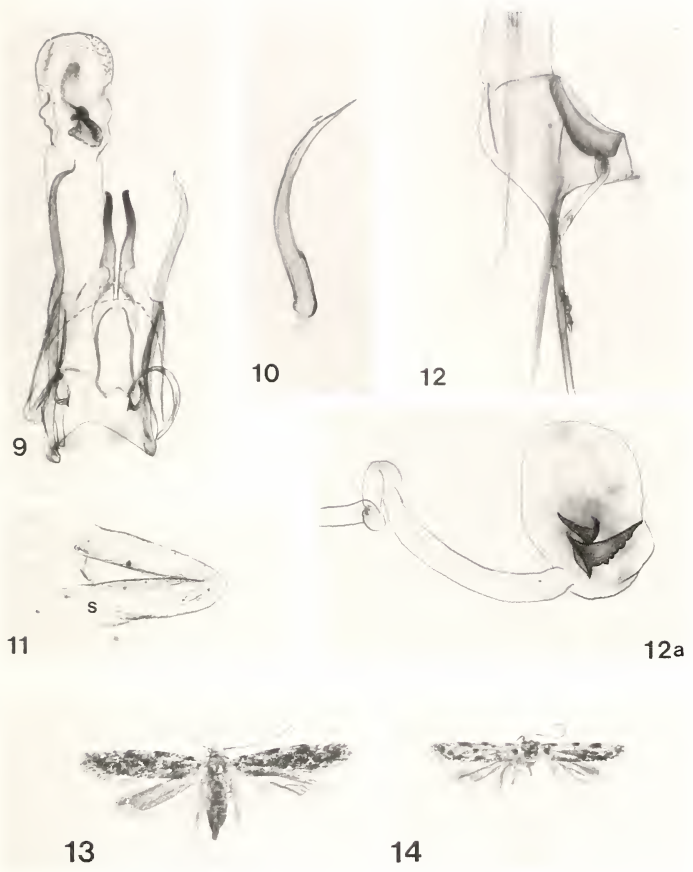
Distribution : Korea (North and South), Russian Far East.



Figs. 1-5. *Chorivalva bisaccula* Omelko. 1 — male genitalia ; 2 — aedeagus ; 3 — 8th tergite and sternite ; 4 — hairly scale-tufts between the 1st and 2nd segment (4a, greater magnification) ; 5 — female genitalia.



Figs. 6-8. *Stenolechia notomochla* Meyrick. 6 — male genitalia (6a, photo) ; 7 — 8th tergite and sternite ; 8 - scale-tufts between 2nd & 3rd segment (8a, greater magnification).



Figs. 9-14. 9 — male genitalia of *Stenolechia bathrodyas* Meyrick ; 10 — ditto, aedeagus ; 11 — ditto, 8th sternite ; 12 - ditto, female genitalia ; 13 — adult of *Chorivalva bisaccula* Omelko ; 14 — adult of *Stenolechia bathrodyas* Meyrick.

***Chorivalva bisaccula* Omelko** (Fig. 13)

Chorivalva bisaccula Omelko, 1988, Ent. Obozr. 67 (1) : 144, figs. 1, 5-7.

MATERIAL EXAMINED : **South Korea** : 1 ♂, Gwanglung, Gyunggi Prov., 8.V.1977, gen. prep. no. 1407 ; 1 ♂, Gwanglung, Gyunggi Prov., 4.VIII.1988 ; 1 ♂, 1 ♀, Mt. Dodram-san, Gyunggi Prov., 19.V.1990 ; 1 ♂, Mt. Myungji-san, Gyunggi Prov., 27.VI.1992 ; 11 ♂, 1 ♀, Chuncheon, Gangwon Prov., 29.V.1989, gen. prep. no. 1799 (male) & 1867 (female) ; 3 ♂, Chuncheon, 7.V.1989 ; 1 ♂, Chuncheon, 16.V.1989, gen. prep. no. 1866 ; 1 ♂, Chuncheon, 12.VI.1989 ; 2 ♂, Chuncheon, 21.VII.1992 ; 1 ♂, Yangyang, Gangwon Prov., 6.VI.1987 ; 2 ♂, Mt. Jumbong-san, Gangwon Prov., 21-22.VI.1992. **Russia** : Both sexes of paratypes of this species, borrowed from the Zoological Institute, Academy of Sciences, St. Petersburg, were examined and compared.

HABITUS : Wingspan 10-13 mm. Pattern of markings on forewings generally similar to *unisaccula*, but ground colour rather darker. However, ground colour of forewings and body quite variable among individuals — dark grey, yellowish or greyish orange on head, thorax and forewings.

MALE GENITALIA (Figs 1-2) : See also Omelko (1988 : Fig. 6). Eighth sternite large, length shorter than width, emarginated at middle of distal margin with short lobes laterally, bearing long hair-pencils at base ; 8th tergite triangular in outline with round distal margin, strongly emarginated on anterior margin (Fig. 3). Uncus short, crown-shaped, with small emargination at middle of distal margin. Cucullus long, lanceolate, globular at base ; arms of aedeagal fulcrum curved inwardly, slightly exceeding end of cucullus ; lobe of sacculus digitate, about 1/4 of aedeagal fulcrum ; valvella slender, as long as cucullus, bearing long sparse setae. Aedeagus curved, clavate at base, truncate from middle to tip dorsally, with long thread-like S-shaped cornutus ; strongly fused with saccus at base. Hairy scale-tufts, usually beneath the 1st tergite (Fig. 4), very long, in two separated pouches.

FEMALE GENITALIA (Fig. 5). See also Omelko (1988 : Fig. 7). Very close to *Parachronistis jiriensis* Park, 1986.

HOST : *Quercus mongolica* Fish (Omelko, 1988).

DISTRIBUTION : Korea (South), Russian Far East.

REMARKS : This species is reported for the first time from Korea. Moths were collected in Korea from early May to early August.

Stenolechia Meyrick, 1894

Stenolechia Meyrick, 1894, Entom. Mon. Mag. 30 : 230.
Type-species : *Phalaena (Tinea) gemmella* Linnaeus, 1758.

Poecilia Heinemann, 1870, Schmett. Dtl. Schweiz. (2) 2 (1) : 281.
Gibbosa Omelko, 1988, Ent. Obozr. 67 : 152, **syn.n.**

Omelko based the separation of the genus *Gibbosa* from *Stenolechia* on the shape of ostium bursae in the female genitalia and the valvella in the male genitalia, but considering the variation between individuals, these characters hardly seem to be sufficient. The genital character of the genus *Gibbosa* is generally identical to that of the type species, *S. gemmella* Linnaeus. One of the striking characters of this genus is the scale-tufts being situated in the fold between the 2nd & 3rd abdominal tergite, whereas in *Parachronistis* and *Chorivalva* they are between the 1st & 2nd tergite.

The Japanese species, *squamifera* Kanazawa and *rectivalva* Kanazawa, which were placed in his 3rd group of *Stenolechia* (Kanazawa, 1984), also have characters in common with the genus *Angustialata* Omelko, 1988. However, the 3rd group can be separated from the latter by the absence of androconial scales in the fold between 2nd and 3rd segment, and the characteristic shape of the signa in the female genitalia. Nevertheless, I consider that the 3rd group of *Stenolechia* is better placed in the genus *Angustialata* Omelko, 1988. The species *S. bathrodyas* Meyrick also shows some differences from the members of *Stenolechia*, especially in the absence of scale-tufts between 2nd & 3rd tergite. Also, it has well-developed long hair-pencils at the base of 8th sternite. Thus, I consider that the taxonomic position of *bathrodyas* is uncertain and may best be placed in a new genus. Of the 3 groups of *Stenolechia* described by Kanazawa (1984) only the 2nd group (*notomochla* and *robusta*) fits well with the general character of the type species of the genus (unfortunately, Kanazawa did not mention the androconial scales in his work).

Stenolechia notomochla Meyrick

Stenolechia notomochla Meyrick, 1935, Exot. Microlep. 4 : 583 ; Okada, 1962 : 47 ; Clarke, 1969 : 387 ; Kanazawa, 1984 : 105.
Gibbosa celeris Omelko, 1988, Ent. Obozr., 67 : 152, figs. 21- 24. **syn.n.**

Material examined : **South Korea** : 2 ♂♂, Namhae, Gyungnam Prov., 25.VII.1985, gen. prep. no. 1692 ; 1 ♂, Yangyang, Gangwon Prov., 10.VII.1987, gen. prep. no. 1677. **Russia** : some paratypes of *C. celeris* Omelko were examined and compared.

Habitus : Wingspan 9 mm in male. Forewing markings differ from the European species *gemmella* Linnaeus, by the several distinct spots scattered from base to apex, and from the *Parachronistis* species, in that the costal patch is nearly connected to an oblique median fascia,

whereas it terminates near the middle of inner margin in the latter genus. However, the widely elongate plate of scale-tufts between the 2nd & 3rd tergite and genital characters fit well within the genus.

Female : Unknown.

Male genitalia (Figs 6) : Eighth sternite very large, roundly emarginated in middle of distal margin ; 8th tergite very small, about 1/5 length of 8th sternite (Fig. 7). Uncus longer than wide, convex in middle of distal margin. Gnathos cupuliform, covered with numerous sclerotised granules ventrally, with well developed acute median projection. Cucullus falcate, moderately long, arcuately curved ventrally, broadened towards base. Aedeagal fulcrum with a pair of sclerotised digitate lobes, setose along inner margin, rather curved laterally. Valvella broad at base, with subulate processes apically. Aedeagus cylindrical, narrower towards distal end. Scale-tufts between 2nd and 3rd tergite widely elongated, not divided, bearing about 20 short scale bundles (Fig. 8).

Distribution : Korea (South), Japan, Russian Far East.

Remarks : This species was thought to be an endemic species of Japan, but it is now reported for the first time from Korea. The larva of this species is reported to feed in the shoots of *Quercus dentata* Thunb., (Kanazawa, 1984). Moths collected in Korea mid to end of July.

***Stenolechia bathrodyas* Meyrick** (Fig. 14)

Stenolechia bathrodyas Meyrick, 1935, Exot. Microlep., 4 : 583 ; Okada, 1962 : 33 ; Moriuti, 1982 : 53 ; Park, 1983 : 86.

Material examined : **South Korea** : 2 ♂♂, 1 ♀, Suweon, Gyunggi Prov., 29.VII.1977, larvae collected from the leaves of *Juniperus chinensis* L. ; 1 ♀, Suweon, 12.IX.1983 ; 1 ♂, Suweon, 17.IV.1982 ; 1 ♂, Suweon, 31.V.1982 (Y. B. Lee) ; 1 ♂, 1 ♀, Seoul, 8.VI.1980, larvae collected from the leaves of *Juniperus* sp. **Japan** : Lectotype, female, BM slide no. 8266/ Clarke.

Habitus : Wingspan about 7 mm. Ground colour of forewings well in accordance with representative species of the group : white to ochreous, spekled with brownish-yellow scales, with some dark fuscous markings consisting of raised scales. This species is a leaf-miner and a serious pest of *Juniperus* sp. in Japan and Korea.

Male genitalia (Figs 9-11) : See also Okada, 1962 : Figs. 22-23 ; Kanazawa 1984 : Fig. 3.

Female genitalia (Fig. 12) : See also Okada, 1962 : Figs. 32-34 ; Kanazawa, 1984 : fig. 4.

DISTRIBUTION : Korea (South), Japan.

REMARKS : This species differs in certain respects from the other *Stenolechia* species. The androconial scales between the 2nd & 3rd tergite are absent and there are well developed hair-pencils at the base of tegumen. The present taxonomic status of this species should therefore be reconsidered.

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