

# A NEW CLEARWING MOTH ON THE *HIPPOPHAE* TREE FROM QINGHAI, CHINA (LEPIDOPTERA: SESIIDAE)

ZHENGUO XU, TAO JIN, AND XIAOLI LIU

Qinghai Institute of Forestry, Xining, Qinghai 810016, China

**ABSTRACT.**— The authors describe and figure the new species, *Synanthedon hippophae* sp. nov., from Qinghai, China, a pest of *Hippophae rhamnoides sinensis* (Eleagnaceae) trees.

**KEYWORDS:** Asia, Eleagnaceae, Oriental, Palearctic, *Synanthedon hippophae* n. sp., taxonomy.

The clearwing moth, *Synanthedon hippophae* n. sp., is an important pest of the tree, *Hippophae rhamnoides* subsp. *sinensis* Rousi (Eleagnaceae), in Qinghai Prov., China. In 1996, we surveyed Ninghe County, in Qinghai Prov., at an elevation of 1900m, and collected emerging adults of this new clearwing species from the host stems. Herein, we describe this new species, comparing it with the related species, *Synanthedon codeti* (Oberthür, 1881), *S. theryi* Le Cerf, 1916, and *S. sodalis* Püngeler, 1912 (see Bartel, 1912; Lastuvka, 1990). Type specimens of the new species are deposited in the Qinghai Institute of Forestry (QIF).

## *Synanthedon hippophae* Xu, sp. nov.

**Diagnosis.**— Wing expanse: 18-25mm. This species, though resembling *S. codeti*, *S. theryi* and *S. sodalis*, can be distinguished by several characters, especially the abdomen of the male which is mostly black (see remarks below).

**Description.**— **MALE:** *Head:* front gibbosity, black; occipital fringe red brown; vertex overlaid with black hairs; labial palpus roughened, black with elongate scales ventrally, smooth and pale dorsally 3rd segment short and smooth; antenna black with cilia row ventrally. *Thorax* black, shining. *Abdomen* mostly black dorsally and ventrally, a thin grey white line at the posterior edge of 4th segment dorsally; anal tuft circle shovel-shaped, black. *Legs* mostly black, some hind tibia pale laterally. *Forewing* with costal margin, apical area, discal spot and fringe of forewing black; inner margin of discal spot with a small point; basis of fork area between  $R_4$ ,  $R_6$  veins hyaline. *Hindwing* hyaline, fringe black. *Genitalia:* gnathos circular, fan-shaped; valve costally and terminally covered with bifurcate hairs; crista sacculi thicker, straight, with a short branching near sacculus, and its outer apex reaching distinctly beyond the middle of valve; aedeagus slightly curved at the anterior part.

**FEMALE:** differs from the male in the 2 yellow-green spots laterally on the thorax; abdomen dorsally and laterally black with segment 4th widely banded in white. *Genitalia:* ductus bursae elongate and sclerotized on posterior 2/3; corpus bursae small, ovate, no signum.

**Host.**— *Hippophae rhamnoides* subsp. *sinensis* Rousi (Eleagnaceae).



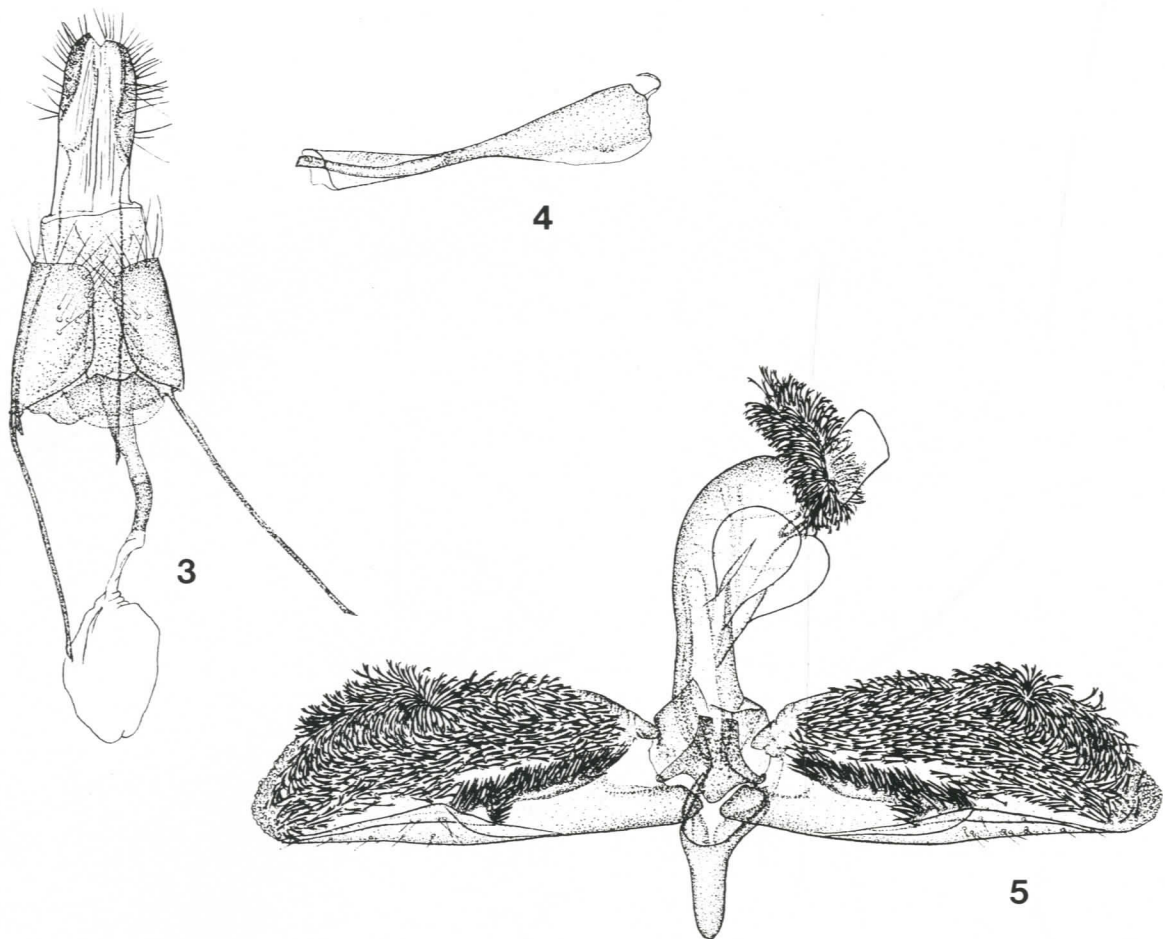
Fig. 1-2. *Synanthedon hippophae* n. sp.: 1) ♂. 2) ♀.

**Types.**— *Holotype* ♂: Qinghai Prov. (Minghe Co., 1900m, 8 Jun 1996 (collected emerging from the bored stems of hostplant in the laboratory), Zhenguo Xu, Tao Jin, and Xiaoli Liu (QIF).

*Allotype:* 1 ♀ (same data as holotype). *Paratypes:* 2 ♀, 4 ♂ (same data as holotype) (QIF).

TABLE 1. Comparison of character differences among Qinghai *Synanthedon* species.

Character	<i>S. hippophae</i>	<i>S. sodalis</i>	<i>S. theryi</i>	<i>S. codeti</i>
segmental dorsal of abdomen ♂	segment 4 with a very thin grey-white line	segment 4 with broader white belt	segment 2, 4, 6-7 with broad yellow belts	similar to <i>S. theryi</i>
gnathos	rounded, fan-shaped	(unknown)	less rounded, fan-shaped	similar to <i>S. theryi</i>
crista sacculi	straight, outer apex beyond the mid-valva	curved, outer apex not beyond the mid-valva	straight, outer apex not beyond the mid-valva	similar to <i>S. theryi</i>
anal flaps in male	black	(unknown)	yellow	black

Fig. 3-5. *Synanthedon hippophae* n. sp., genitalia: 3) ♀. 4) ♂ aedeagus. 5). ♂.

**Distribution.**— Minghe Co., Qinghai Prov., China.

**Remarks.**— This new species is allied to *S. codeti*, *S. sodalis* and *S. theryi*, especially in the crista sacculi character with short branching (differences between the four species are noted in Fig. 6-9, and Table 1).

#### ACKNOWLEDGMENTS

We wish to express our hearty thanks to the State Committee of Natural Science Fund, P. R. China, for their support.

LITERATURE CITED

Bartel, M.

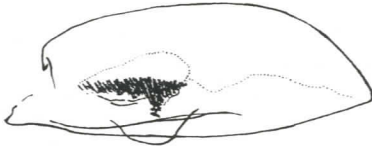
1912. Family: Aegeriidae (Sesiidae), In A. Seitz (ed.), *The Macrolepidoptera of the World. The Macrolepidoptera of the Palearctic Fauna. 2. Volume: The Palearctic Bombyces & Sphinges*, 375-416, pl. 50-52. Stuttgart: A. Kernen.

Lastuvka, Z.

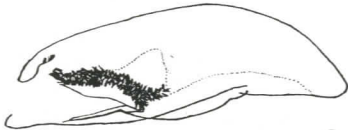
1990. Zur Systematik der palearktischen Gattungen der Tribus Synanthedonini, 1. Morphologie and klassifikation (Lep. Sesiidae). *Acta Univ. Agric. Fac. Agron. (Brno)*, 38:226-300.



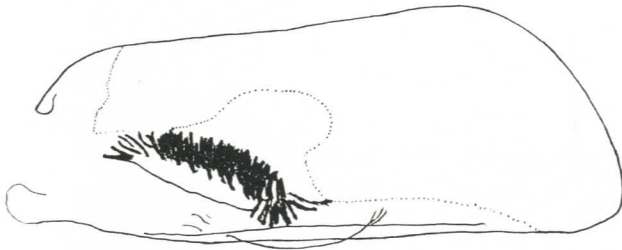
6



7



8



9

Fig. 6-9. The crista sacculi of the similar species: 6) *Synanthedon hippophae* n. sp., 7) *S. sodalis*, 8) *S. codeti*, 9) *S. theryi*.