

# Two Unrecorded Species of the Genus *Phytomyza* (Diptera: Agromyzidae) from Korea

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**Two leaf-miner flies, *Phytomyza japonica* and *Phytomyza yasumastui*, are newly added to the Korean fauna. A key to Korean species of the genus *Phytomyza* is given. The known host plants and domestic localities are included.**

The genus *Phytomyza* Fallén is the largest group of the family Agromyzidae, and is comprised of over 400 species throughout the world. The generic characteristics are as follows: orbital setulae proclinate; costa extending to vein R<sub>4+5</sub>; the second cross-vein absent.

The first record of this genus from Korea was determined by Machida and Aoyama (1930) who listed 'endohamoguribae' (= *P. horticola*) as a pest of Leguminosae. After then, Ku (1969) recorded *Phytomyza nigra* being injurious to *Hordeum vulgare*. Recently, Choi et al. (1992) gave an ecological observation of *Phytomyza albiceps* injurious to *Chrysanthemum morifolium*.

In this paper, we report two species hitherto unrecorded to the Korean fauna. As the result, a total of five species of the genus *Phytomyza* are known to exist in Korea.

*Phytomyza japonica* Sasakawa, 1953  
(Fig. 1)

*Phytomyza japonica* Sasakawa, 1953: 15

Diagnosis: Head (Fig. 1A) about 1.5-1.6 times as high as long in profile; frons white or whitish yellow; orbit somewhat brownish tinged; first upper orbital bristle fine or absent; inner vertical bristle situated on edge of black area but outer vertical bristle on black area; jowl white, somewhat deepened posteriorly, about 0.4-0.5 eye height. Antenna black; third segment 1.0-1.2 times as long as wide, minute pilose; arista shortly pubescent. Mesonotum black with brownish grey pollen, with 3-4 acrostichal bristle rows; upper margin of mesopleuron narrowly white. Leg with coxae and femora black; tibiae and tarsi dark brown; all knees somewhat pale. Wing (Fig. 1B) about 2.5-3.0 times as long as wide;

second cross-vein absent; calypter white, fringe black; halter white. Epandrium with numerous setulae on inner anteroventral margin; surstylus (Fig. 1C and D) small and spatulate, armed with about 15 setae. Ejaculatory apodeme (Fig. 1E) minute and somewhat rectangular. Hypandrium (Fig. 1F) rather broad, especially at anterior part, with 1-2 setae on apex of inner process. Basiphallus (Fig. 1G and H) short; para- and hypophallus narrow, longer than hypandrium; ventral process U-shaped; distiphallus (Fig. 1G, H and I) slender and bifurcate, weakly chitinized at end.

Length: body: 2.5-3.0 mm; wing: 2.8-3.0 mm.  
Material examined: 4 ♂♂, 3 ♀♀, 27 X 1984, Hwanghaksan Kyeongsangbukdo (SJ Suh); 1 ♂, 3 ♀♀, from larvae, 31 X 1985 on *Aster koraiensis*, Hwanghaksan Kyeongsangbukdo, emerged 15 XI 1985 (SJ Suh).  
Locality. Kyeongsangbukdo: Hwanghaksan.  
Distribution. Korea (new record: South), Japan.  
Host. *Aster indicus*, *Bellis perennis*, *Hieracium japonicum* (cf. Sasakawa, 1961); *Aster koraiensis*.

*Phytomyza yasumatsui* (Sasakawa, 1955)  
(Fig. 2)

*Napomyza yasumatsui* Sasakawa, 1955: 16  
*Napomyza yasumatsui anemoneae* Sasakawa, 1955: 130

Diagnosis: Head (Fig. 2A) about 1.4-1.5 times as high as long in profile; frons white or whitish yellow, slightly wider than eye; orbit with first upper orbital bristle fine or absent; inner vertical bristle situated on edge of yellow area but outer vertical bristle on black area; jowl white, somewhat deepened posteriorly, about 1/4 eye height; Antenna black; third segment 1.0-1.1 times as long as wide, minute pilose; arista shortly pubescent. Mesonotum black with brownish grey pollen, with 2 acrostichal bristle rows; scutellum whitish yellow laterally adjoining mesonotum; side of thorax conspicuously white; humerus dark tinged centrally. Leg with coxae

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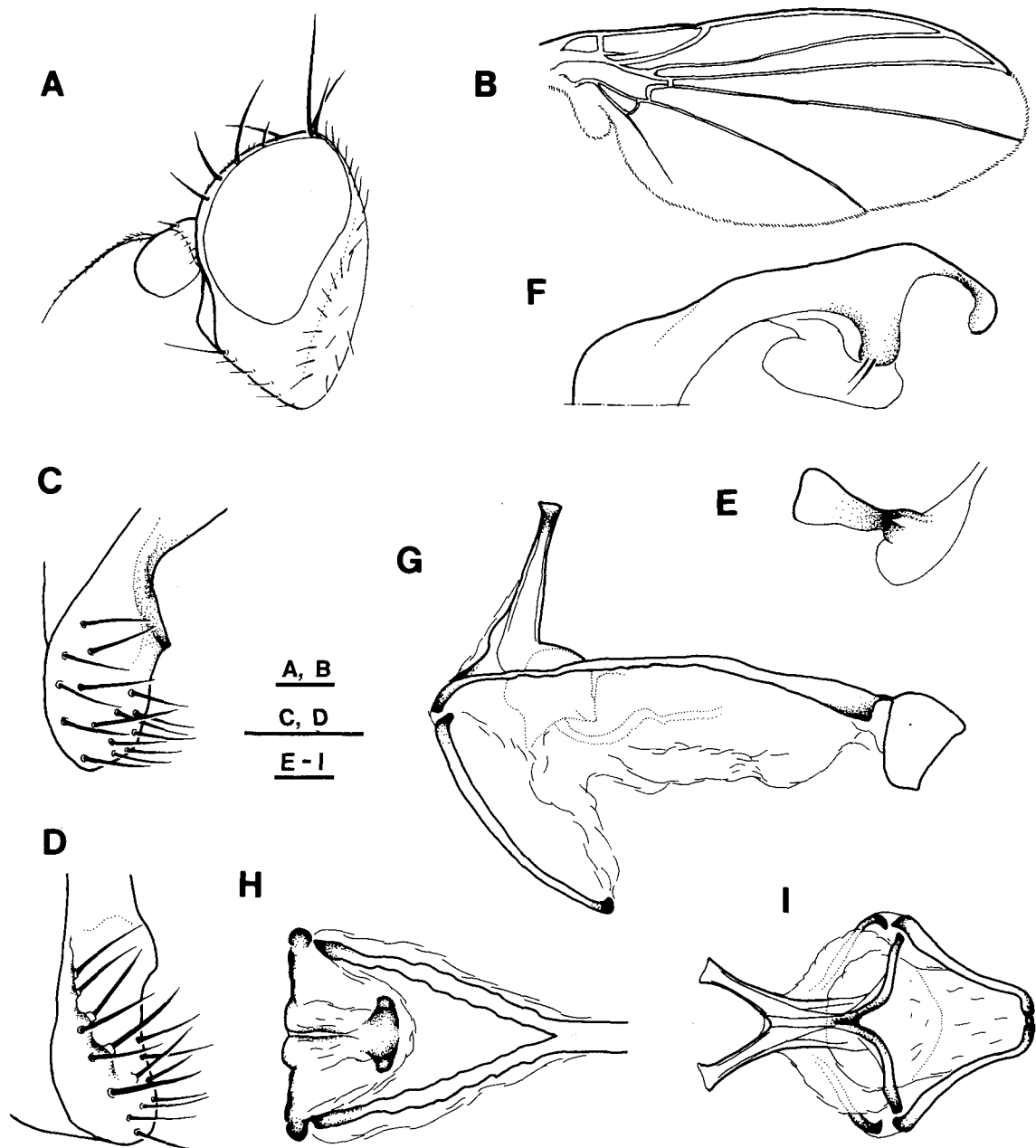


Fig. 1. *Phytomyza japonica*. A, Head, lateral view. B, Wing. C, Surstylus, dorsal view. D, Ditto, caudodorsal view. E, Ejaculatory apodeme. F, Half of hypandrium, ventral view. G, Aedeagus, lateral view. H, Ditto, ventral view. I, Ditto, caudoventral view. Scale bars=0.05 mm.

and femora yellow; tibiae and tarsi dark brown. Abdomen black or brownish black with whitish lateral stripe. Wing (Fig. 2B) rather dark tinged, about 2.0-2.5 times as long as wide; costa extending vein  $R_{4+5}$ ; second cross vein present; calypter white, margin and fringe black; halter white. Surstylus (Fig. 2C and D) small and conical shaped, armed with about 13 setae. Ejaculatory apodeme (Fig. 2E) somewhat spatulate. Hypandrium (Fig. 2F) with slender sidepiece. Basiphallus (Fig. 2G and H) rather rectangular; hypophallus and

mesophallus slender; distiphallus sinuate, bifurcate, and weakly chitinized at end.

Length: body: 1.8-2.5 mm; wing: 2.0-2.8 mm.

Material examined. 6 ♂♂, 5 ♀♀, from larvae, 2 IX 1985 on *Clematis apiifolia*, Kyeongju, Kyeongsangbukdo, emerged 25 IX 1985 (SJ Suh); 9 ♂♂, 8 ♀♀, from larvae, 31 X 1985 on *Clematis apiifolia*, Hwanghaksan, Kyeongsangbukdo, emerged 15 XI 1985 (SJ Suh); 1 ♂, 1 ♀, from larvae, 31 X 1985 on *Clematis*

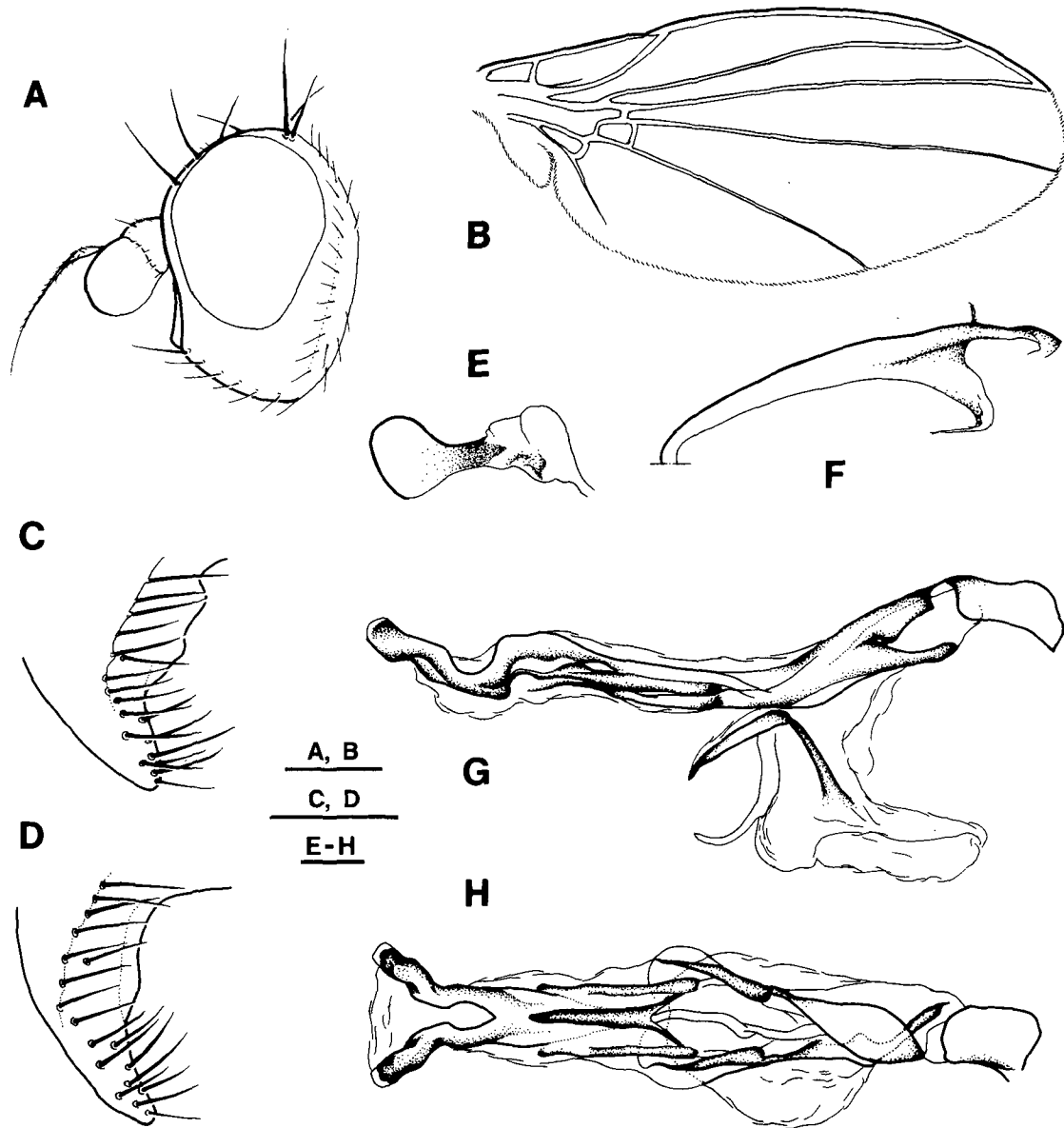


Fig. 2. *Phytomyza yasumatsui*. A, Head, lateral view. B, Wing. C, Surstylus, dorsal view. D, Ditto, caudodorsal view. E, Ejaculatory apodeme. F, Half of hypandrium, ventral view. G, Aedeagus, lateral view. H, Ditto, ventral view. Scale bars=0.05 mm.

*heracleifolia*, Hwanghaksan, Kyeongsangbukdo, emerged 15 XI 1985 (SJ Suh); 1 ♂, Obongsan Kangwondo, 12 V 1985 (SJ Suh); 1 ♀, Hwanghaksan, Kyeongsangbukdo, 31 X 1985 (SJ Suh).

Locality. Kyeongsangbukdo: Kyeongju, Hwanghaksan; Kangwondo: Obongsan.

Distribution. Korea (new record: Central, South), Japan.

Host. *Anemone japonica*, *Clematis* spp. (cf. Sasakawa, 1961); *Clematis apiifolia*, *Clematis heracleifolia*.

Key to the Korean *Phytomyza* species

1- Mesonotum with 3-4 acrostichal bristle rows -----2

- Mesonotum with 2 acrostichal bristle rows or lacking ----- 3
- 2 - Humerus and notopleuron whitish yellow---*albiceps*
- Humerus and notopleuron black ----- *japonica*
- 3 - First upper orbital bristle distinctly shorter than second upper orbital bristle or lacking -----
- *yasumastui*
- First upper orbital bristle equal to second upper orbital bristle ----- 4
- 4 - Eye with conspicuously short pilosity -----*nigra*
- Eye virtually bare -----*horticola*

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