Phytomyza krygeri and its parasitoid *Seladerma simplex* new to the fauna of The Netherlands (Diptera: Agromyzidae; Hymenoptera: Pteromalidae)

LOUISA J. W. DE GOFFAU & YDE JONGEMA

GOFFAU, L. J. W. DE & Y. JONGEMA, 1993. *PHYTOMYZA KRYGERI* AND ITS PARASITOID *SELADERMA SIMPLEX* NEW TO THE FAUNA OF THE NETHERLANDS (DIPTERA: AGROMYZIDAE; HYMENOPTERA: PTEROMALIDAE). – *ENT. BER., AMST.* 53 (2): 17-18.

Abstract: In 1987 *Phytomyza krygeri* was reared from seeds of *Aquilegia vulgaris*, together with its parasitoid *Seladerma simplex*. Both species are new to the Dutch fauna.

L. J. W. de Goffau, Plant Protection Service, P.O. Box 9102, 6700 HC Wageningen, The Netherlands.
Y. Jongema, Department of Entomology, Agricultural University Wageningen, P.O.Box 8031, 6700 EH Wageningen, The Netherlands.

Introduction

In May 1987 some flies were found in a sample of columbine seeds (*Aquilegia vulgaris* L.). The seeds originated from plants already established for 10 years in the garden of Dr. P. Oomen, in Wageningen. The seeds had been harvested around September 1986, and, after having been dryed for two weeks at 18 °C, were placed in a plastic container and maintained at 12-15 °C.

When examined, some of the seeds showed holes in them and were empty. Adults and dark brown pupae of agromyzids, as well as two hymenopterous parasitoids were found among the black seeds. At the end of April 1989 Dr. Oomen brought a second sample of *Aquilegia* seeds harvested in his new garden, a few streets from his old one. These had been stored in an unheated room since harvest in July 1988 (the winter of 1988-89 was a mild one). When examined the sample was found to contain a single (dead) agromyzid. At the beginning of the following month two parasitoids were found in the sample.

Phytomyza krygeri Hering

The agromyzids were identified by the first author as *Phytomyza krygeri* with the aid of Spencer's key (1976) based on morphological characters and male genitalia. *P. krygeri* is already known to occur in Denmark, Norway, Finland and in England (Oxfordshire) (Spencer, 1976). A related species, *P. thalictri* Escher-Kundig is known from Switzerland, from the seed heads of *Thalictrum aquilegifolium* L.. Males of *P. thalictri* have not been reported, and according to Spencer (1973) the possibility cannot be excluded that *P. thalictri* is identical to *P. krygeri*.

Hendel (1938) suggested that *P. thalictri* may be the same as *P. clematidis* Kaltenbach. However, *P. clematidis* is certainly not identical with *P. krygeri*. We have 3 reared specimens of *P. clematidis*, two males and one female (ex larva August 13) of *P. clematidis* at our disposal, grown from withered shoot tips of *Clematis* cv Marie Bisselot from Boskoop (Burger et al., 1985). There are also clear morphological differences as pointed out in the key of Spencer, who only studied a poorly preserved female of *P. clematidis* (Spencer, 1972). Moreover, the larvae of *P. krygeri* develop in seeds, while *P. clematidis* is reported in The Netherlands from shoot tips of *Clematis*. Beside that, while the colour of the pupae of *P. krygeri* is dark brown, the colour of *P. clematidis* pupae

is light brown to yellow. As a matter of fact Spencer considers *P. clematidis* a synonym of *P. loewii* Hendel, an American species (Spencer, 1981, 1990).

Specimens of both *P. krygeri* and *P. clematidis* have been deposited in the collections of the Plant Protection Service in Wageningen.

Seladerma simplex (Thomson)

The parasitoids were identified by the second author as *Seladerma simplex* (Pteromalidae; Miscogasterinae), previously reported as a parasitoid of *P. krygeri* (Graham, 1967). This species is already known from Britain, Denmark and Sweden (Graham, 1969). *Seladerma simplex* can be distinguished from other *Seladerma* species by the shorter apical mid-tibial spur. Of the 33 species of *Seladerma* known from Northwest Europe, the hosts are known for 12, and these are mainly Agromyzidae. In general, species of Miscogasterinae are larval-pupal parasitoids.

Another parasitoid which attacks *P. krygeri* is *Chrysocharis orbicularis* (Nees) (Eulophidae). This species is widely distributed in Europe, including The Netherlands (Hansson, 1985). Records of *Seladerma sabbas* (Walker) as a parasitoid of *P. krygeri* are probably based on misidentifications (Graham 1967, 1969).

Specimens of *S. simplex* (3 females, 4 males) have been deposited in the collection of the Agricultural University Wageningen and in the collections of the Plant Protection Service in Wageningen.

Acknowledgements

We wish to express our thanks to Dr. P. Oomen for bringing this interesting case to our attention. Thanks are due to Mr. B. Brugge of the Instituut voor Taxonomische Zoölogie (Amsterdam), Mr. Delfos of the Nationaal Natuurhistorisch Museum (Leiden) and Mr. M. J. Gijswijt for allowing to examine their collections and to Dr. A. Polaszek for comments and corrections of the text.

References

BURGER, H. C., A. VAN FRANKENHUYZEN, L. J. W. DE GOFFAU & S. A. ULENBERG, 1985. Bijzondere aantastingen door insekten in 1984. – *Ent. Ber., Amst.* 45: 157-165.

GRAHAM, M. W. R. DE V., 1967. Phytomyza krygeri Hering (Dipt., Agromyzidae) and its Chalcid parasite Telepsogos simplex (Thomson), new to Britain. – *Entomologist* 100: 75-76.

GRAHAM, M. W. R. DE V., 1969. The Pteromalidae of North-Western Europe (Hymenoptera: Chalcidoidea). – *Bull. Br. Mus. nat. Hist.* Entomology, supplement 16: 194.

HANSSON, C., 1985. Taxonomy and biology of the Palearctic species of Chrysocharis Förster 1856. – *Entomologia scand.* Suppl. 26: 37-39.

HENDEL, F., 1938. Agromyzidae. – In: *Fliegen palaearkt. Reg.* (Lindner ed.) 59: 1-570. Schweizerbart, Stuttgart.

SPENCER, K. A., 1972. Diptera, Agromyzidae. – *Handbk Ident. Br. Insects* x 5(g): 1-136.

SPENCER, K. A., 1973. Agromyzidae (Dipt.) of Economic importance. – *Series Ent.* 9: i-xi, 1-418.

SPENCER, K. A., 1976. The Agromyzidae (Dipt.) of Fennoscandia and Denmark. – *Fauna ent. Scand.* 5: 305-606.

SPENCER, K. A., 1981. A revisionary study of the leafmining flies (Agromyzidae) of California. – *Univ. Calif., Div. Agric. Sciences*, Spec. Publ. 3273: 1-489.

SPENCER, K. A., 1990. Host specialization in the world Agromyzidae (Diptera). – *Series Ent.* 45: i-xii, 1-444.

Accepted 12.viii.1992.