

## First Record of *Horidiplosis ficifolii* Harris 2003 (Diptera: Cecidomyiidae) in the Czech Republic

JAKUB BERÁNEK<sup>1</sup> and, IVANA ŠAFRÁNKOVÁ<sup>2</sup>

<sup>1</sup>Unit of Integrated Plant Protection Methods, State Phytosanitary Administration, Brno, Czech Republic; <sup>2</sup>Department of Crop Science, Breeding and Plant Medicine, Faculty of Agronomy, Mendel University in Brno, Czech Republic

### Abstract

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In November 2009 the gall midge species *Horidiplosis ficifolii* Harris 2003 was detected in the Czech Republic on leaves of an ornamental fig *Ficus microcarpa*. The insect is native to South East Asia, where it lives on the genus *Ficus*. No information is currently available on the prevalence of the pest in the countries of its origin. Imported *Ficus* plants from China into the Netherlands are sometimes heavily infested with the gall midge. In Europe it is also known from Denmark and the United Kingdom. As *Horidiplosis ficifolii* is a tropical species, no environmental and social damage is expected.

**Keywords:** Diptera; Cecidomyiidae; *Holidiplosis ficifolii*; *Ficus*; pest

*Horidiplosis ficifolii*, an ornamental fig pest, is relatively new to science. This gall midge species was described as late as in 2003 by Harris and de Goffau based on insects reared from *Ficus benjamina* L. originating from China. Infested plants were intercepted by plant health inspectors in the Netherlands and Denmark in 2001 and 2002. In addition to the Netherlands and Denmark, *H. ficifolii* was also recorded in the United Kingdom (HARRIS & DE GOFFAU 2003), Italy (SUMA *et al.* 2007) and United States (STECK & KRUEGER 2008). In Denmark and in the United Kingdom the gall midge was recorded on plants imported from China via the Netherlands (HARRIS & DE GOFFAU 2003).

*H. ficifolii* is a very small fly, whose larvae attack leaves of *Ficus* spp. It is unknown how many of the *Ficus* species this gall midge attacks. In the Netherlands, trees of *Ficus microcarpa*, *F. retusa*,

*F. nitida* and *F. panda* were infested (VAN DER GAAG *et al.* 2006). In Florida, the galls have been found exclusively on *F. microcarpa* bonsai plants in a nursery and on large trees in the landscape. Although *F. benjamina* is very abundant in Florida, and was recorded to grow under infested *F. microcarpa* trees, it has not been found to be infested (STECK & KRUEGER 2008).

The egg stage and the first larval stages are tiny and difficult to detect and may therefore remain undetected. Due to the relatively large galls later stages are easy to detect (VAN DER GAAG *et al.* 2006). These gall midges apparently attack young leaves (STECK & KRUEGER 2008). In the early stages of larval development galls appear as light coloured blisters on green leaves. Later, the attacked leaves become increasingly discoloured, showing as light to dark-brown, irregular blotches (HARRIS & DE



Figure 1. Leaves of *Ficus microcarpa* infested by the gall midge *Horidiplosis ficifolii*; left – upper side, right – bottom side (photo Beránek)

GOFFAU 2003). Heavily infested leaves may drop from the plant. The gall midge larvae feed inside the blisters, and only one larva has been found in each blister. The larvae 2 mm or less in length are white in their early stages and become bright orange or orange-rose as they mature (STECK & KRUEGER 2008). Vacated galls have small circular exit holes, about 1–2 mm in diameter, on their upper surfaces through which the larvae exit to pupate in soil or other substrates. The blister-like

lesions then collapse so that the leaves appear to have been damaged by fungal or bacterial leaf-spot diseases (HARRIS & DE GOFFAU 2003).

The monitoring of infested plants in the Netherlands in a commercial greenhouse for about three months indicated that *H. ficifolii* can complete a lifecycle under glasshouse conditions. If the ambient temperature is around 20°C, the lifecycle of this species is approximately one month (VAN DER GAAG *et al.* 2006).



Figure 2. The leaf blister galls of *Horidiplosis ficifolii* showing exit holes through which the mature larvae emerged (photo Beránek)



Figure 3. Larva of *Horidiplosis ficifolii* near an exit hole (photo Beránek)

In the Czech Republic *H. ficifolii* was recorded indoors by a bonsai end-user in Brno on November 13, 2009 on *Ficus microcarpa*. We compared the larvae which were present in blisters of the attacked leaves with detail drawings of the anterior and posterior segments in HARRIS and DE GOFFAU (2003).

Because *Ficus* trees do not grow in outdoor conditions, this gall midge does not pose a pest threat in the Czech Republic. Sometimes its occurrence may be possible, *H. ficifolii* could have occurred on some *Ficus* plants in garden centres. Because the climatic conditions are unfavourable for this tropical species, the probability of *H. ficifolii* entering *Ficus* production sites from plants sold to end-users is considered to be very low.

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#### Corresponding author:

Ing. JAKUB BERÁNEK Ph.D., Státní rostlinolékařská správa, Sekce ochrany proti škodlivým organismům, oddělení metod integrované ochrany rostlin, Zemědělská 1a, 613 00 Brno, Česká republika  
tel.: + 420 545 137 056, e-mail: [jakub.beranek@srs.cz](mailto:jakub.beranek@srs.cz)

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## BOOK REVIEW

### **Mycota (Huby). Ascomycota (Vreckaté huby). Taphrinomycetes: Taphrinales (Grmanníkotvaré), čel. Protomycetaceae, čel. Taphrinaceae Flóra Slovenska X/2**

BACIGÁLOVÁ, K.

VEDA, vydavateľstvo Slovenskej akadémie vied, Bratislava, 2010, 184 p., ISBN 978-80-244-1096-0

The book presents the first elaboration of *Taphrinales* in Slovakia. Members of this group are biotrophic fungi parasitizing ferns and higher plants. They are dimorphic organisms with a saprobic yeast stage and a parasitic mycelial stage on host plants, causing characteristic morphological changes on infected tissues, e.g. hypertrophy and hyperplasia. Some economically important species belong to the family *Taphrinaceae*.

The monograph describes 57 taxa of the order, 21 species of the family *Protomycetaceae* and 36 species of the family *Taphrinaceae*, parasitizing on 112 host plant species. The occurrence of 29 species on 52 host plant species was recorded in the territory of Slovakia. Nine new taxa for the mycobiota of Slovakia and for the Carpathian region were documented by the author, specialist to this group of microfungi. Moreover, the occurrence of new host plant species and localities for many fungal species were detected.

The general part of this book contains characteristics of life cycle, taxonomy, morphology, symptomatology and ecology of this group of fungi. A brief history of investigation and present distribution of species belonging to the families *Protomycetaceae* and *Taphrinaceae* are presented. Survey of fungi and their hosts and data on the distribution in Slovakia and Europe are arranged in tables.

The special part of the monograph is focused on taxonomic and chorological characteristics of fungal species, host plants and the localities of their occurrence in phytogeographic districts of Slovakia. Their distribution in the world and additional notes complete the information. Most descriptions are supplemented by drawings, microphotos and maps of distribution.

The monograph is written in the Slovakian language, but it is provided with English identification keys and summary. Index of Latin names of fungi and host plants terminates the book.

This publication provides mycologists, plant pathologists and students with complex information and is a very useful handbook. It also contributes to the knowledge of European mycoflora and inspires to further research on this group of plant pathogens.

RNDr. Jaroslava Marková, CSc., Prague  
e-mail: markovaj@natur.cuni.cz