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## First record of the tropical fungus *Hobsonia mirabilis* (PECK) LINDER (Atractiellales) in Austria

by

Manfred SPECKMAIER <sup>1</sup>, Thorsten RENNEBARTH <sup>2,3</sup>, Wolfgang HOFBAUER <sup>4\*)</sup>

## Erstfund des tropischen Pilzes *Hobsonia mirabilis* (PECK) LINDER (Atractiellales) in Österreich

**Synopsis:** In June 2009 in the glass houses of the Botanical Garden of the Vienna University several colonies of a gelatinous fungal mass were recognised in several plant pots. Although the gelatinous mass vanished soon the phenomenon reoccurred from time to time until now. Close investigation revealed that the emergences were caused by growth of the tropical fungus *Hobsonia mirabilis*. This is the first documentation of an occurrence of this fungus in Austria. Distribution and taxonomy are discussed briefly.

### 1. Introduction:

The genus *Hobsonia* was first described by MASSEE (1891) after a herbarium specimen. Originally placed within the so called helicospored fungi (Hyphomycetes) the genus is now recognised as a Basiomycete within the order of the Atractiellales without a family assignment yet and with the type species *Hobsonia mirabilis* (PECK) LINDER (BAUER et al. 2006). There are named two more species, *H. christiansenii* LOWEN, BRADY, HAWKSWORTH & PATERSON and *H. santessonii* LOWEN, BRADY, HAWKSWORTH & PATERSON (LOWEN et al. 1986), but according to recent genetic investigations they do not belong to the same clade and are organized within the Ascomycetes (SIKAROODI et al. 2001). Whereas *H. christiansenii* and *H. santessonii* are lichenicoluos fungi (LOWEN et al. 2001), *H. mirabilis* is a saprophyte (e.g.: MARTIN 1959, UDAGAWA & UCHIYAMA 2000, HEREDIA-ABARCA et al. 2002).

\*) Addresses of the authors: <sup>1</sup> Botanischer Garten der Universität Wien, Rennweg 14, 1030 Vienna, Austria

<sup>2</sup> Michael-Aumüller-Straße 19, 82291 Mammendorf, Germany

<sup>3</sup> Fraunhofer-Institute for Building Physics, Fraunhoferstraße 10, 83626 Valley, Germany

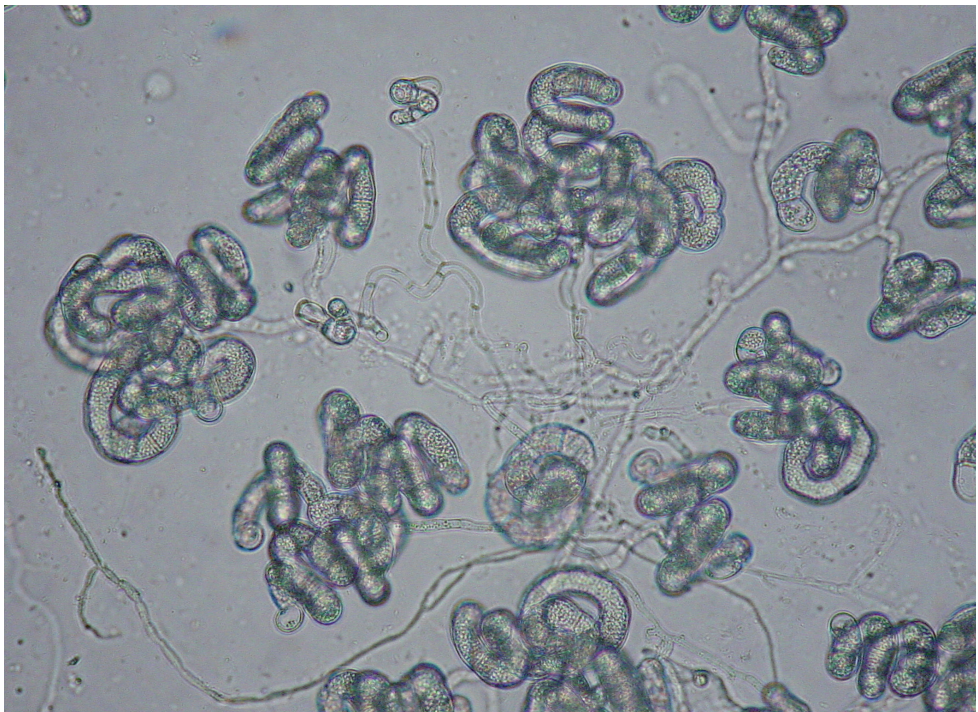
<sup>4</sup> Fraunhofer-Institute for Building Physics, Fraunhoferstraße 10, 83626 Valley, Germany

## 2. Material and Methods:

In June 2009 whitish gelatinous emergences in several pots where orchids are cultured within the glass houses of the Botanical Garden of the Vienna University were observed. These colonies were collected and microscopically investigated (Zeiss Axioscop 40). Digital photographs were taken by use of Sony CyberShot camera attached to the microscope. Soon the gelatinous masses collapsed and vanished. Afterwards from time to time until now the phenomenon reoccurred irregularly in pots of cultured orchids.

## 3. Results and Discussion:

The microscopic investigation revealed that the gelatinous masses are sporodochia of an imperfect stadium of a fungus. According to the characteristic features of hyphae, conidiophores and spores the species belongs undoubtedly to *Hobsonia mirabilis*. The distinctive features correspond very well to figures and photographs in the literature (e.g. MARTIN 1959, UDAGAWA & UCHIYAMA 2000, HEREDITA-ABARCA 2002, LÓPEZ & GARCIA 2005). Typical colourless spores are developed abundantly (Fig. 1). The hyphae resp. sporangia show a distinctive mode of branching and the spore development is also very characteristic (Fig. 2). A specimen will be produced and deposited at the herbarium of the Natural History Museum Vienna. Despite several attempts it was not possible to achieve axenic cultures.



**Figure 1:** Sporulation of *Hobsonia mirabilis*, note the big coiled and septate spores which contain numerous small droplets of storage products.



**Figure 2:** In the centre of the picture a typical branching pattern of sporulating *Hobsonia mirabilis* can be seen, left there are immature sporangia in different stages of development.

*Hobsonia mirabilis* is almost confined to tropical regions, mainly in South America, but also in the palaeotropis, and has rarely been found in temperate zones (MARTIN 1959, UDAGAWA & UCHIYAMA 2000, HEREDITA-ABARCA 2002, LÓPEZ & GARCIA 2005). The occurrence in a glass house of the Botanical Garden of the Vienna University may be by accident, but in future the species might be distributed to other glass houses via exchange of plants if not introduced into the environment promoted by global change.

#### 4. Conclusions:

*Hobsonia mirabilis* is for the first time documented for Austria and seems to be well capable of adapting to the conditions present in a glass house of the Botanical Garden of the Vienna University. Since the fungus managed to sporulate several times until now it seems to be a stable population, but only time and further observation will show if this tropical fungus succeeds in acquiring a foothold strong enough to sustain in viable perennial population.

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Autor(en)/Author(s): Speckmaier Manfred, Rennebarth Thorsten, Hofbauer Wolfgang K.

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