

First confirmed record of *Golovinomyces neosalviae* from Argentina

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In the 1990s, powdery mildew was collected on *Salvia officinalis* in Argentina and assigned to *Erysiphe biocellata* (= *Golovinomyces biocellatus*). The material concerned has been re-examined and identified as *Golovinomyces neosalviae*. This is the first confirmed record of this species from Argentina and possibly the first South American record at all.

Zusammenfassung: Braun, U. & Havrylenko, M. 2018: Erster bestätigter Fund von *Golovinomyces neosalviae* aus Argentinien. *Schlechtendalia* **34**: 101–102.

In den 1990er Jahren wurde in Argentinien Echter Mehltau auf *Salvia officinalis* gefunden und zu *Erysiphe biocellata* (= *Golovinomyces biocellatus*) gestellt. Das Material wurde neu untersucht und als *Golovinomyces neosalviae* identifiziert. Dabei handelt es sich um den ersten bestätigten Nachweis dieser Art für Argentinien und wahrscheinlich auch für Südamerika überhaupt.

Key words: Powdery mildew, *Golovinomyces*, *Salvia officinalis*, new record, South America.

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Salvia officinalis, native to the Mediterranean region, is a popular, frequently cultivated plant, used as ornamental garden plant and for culinary and medical purposes (Clebsch & Barner 2002). Powdery mildew on this host was previously assigned to *Erysiphe biocellata* Ehrenb. (= *Golovinomyces biocellatus* (Ehrenb.) Heluta) or *Erysiphe salviae* (Jacz.) S. Blumer (Amano 1986, Braun 1995, Braun & Cook 2012). Scholler et al. (2016) published a comprehensive revision of *Golovinomyces biocellatus* s. lat. and split it into *G. biocellatus* s. str., *G. monardae* (G.S. Nagy) M. Scholler, U. Braun & Anke Schmidt, *G. salviae* (Jacz.) M. Scholler, U. Braun & Anke Schmidt, and the new species *G. neosalviae* M. Scholler, U. Braun & Anke Schmidt with *Salvia officinalis* as type host and *S. officinalis* subsp. *lavandulifolia* and *S. fruticosa* as additional hosts. *G. neosalviae* is genetically clearly separated from *G. salviae* and morphologically readily distinguishable by its characteristic, quite distinct conidiophores, which are very long, often with a single or several short basal cells followed by a much longer cell. The basal septum is almost always distinctly elevated above the junction with the supporting hypha. Götz et al. (2018) described a new unusual branching pattern in conidiophores of *G. neosalviae*. A Mediterranean origin of this species can be postulated. Scholler et al. (2016) examined collections on *Salvia officinalis* from Germany and Switzerland and included several German collections in phylogenetic analyses. *Golovinomyces* on *Salvia officinalis* has been recorded from several European countries [Bulgaria, Czech Republic, France, Hungary, Italy, Switzerland (Amano 1986, Braun 1995, Bolay 2005), Croatia (Radisek et al. 2012)]. *Golovinomyces* infections on *S. officinalis* in Germany are undoubtedly not rare (Jage et al. 2010, Scholler et al. 2016, Götz et al. 2018). Non-European powdery mildew records on *S. officinalis* are from Argentina (Havrylenko 1997, Cabrera et al. 2010), New Zealand (Amano 1986) and South Africa (Gorter 1993). Voytyuk et al. (2009) reported *Golovinomyces biocellatus* on *Salvia fruticosa* from Israel. Most collections of *Golovinomyces* on *S. officinalis* and *S. fruticosa* seem to belong to *G. neosalviae*, but they need to be re-examined and confirmed.

Havrylenko (1997: 94–96, fig. 15 A–D) described and illustrated *Erysiphe* aff. *biocellata* on *Salvia officinalis* from Argentina characterized by having conidiophores with long foot-cells, up to 140 µm, and ellipsoid-doliiform conidia, 28–40 × 16–21 µm. A duplicate of this material has been re-examined [Argentina, Provincia de Río Negro, Bariloche, San Carlos de Bariloche, garden, on *Salvia officinalis*, May 1996, M. Havrylenko 540 (HAL 544 F)] and turned out to be identical with *G. neosalviae*. The conidiophores are either composed of a very long foot-cell followed by 1–3 short cells or shorter basal cells followed by a much longer cell and 1–3 shorter cells, and the basal septum is always elevated, 5–25(–30) µm. This is the first confirmation of

Golovinomyces neosalviae for Argentina and probably for South America in general. The description and illustration of *Golovinomyces biocellatus* on *Salvia officinalis* found in Corrientes, Argentina (Cabrera et al. 2010) does not agree with *G. neosalviae* (conidiophores consistently composed of a long foot-cell, on average $66.5 \times 11.25 \mu\text{m}$, followed by short cells, basal septum at the junction with the mother cell or only slightly elevated, conidia smaller, on average $33.2 \times 16.5 \mu\text{m}$). The identity of this collection is unclear and requires molecular examinations. It might belong to *Golovinomyces salviae* or the infection could be caused by a plurivorous species of *Golovinomyces*.

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