

NOMENCLATURAL AND TAXONOMICAL NOTES ON THE SMUT FUNGI DESCRIBED BY BOLESŁAWA KAWECKA-STARMACHOWA

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Abstract: The date of effective publication of a work on smut fungi by Bolesława Kawecka-Starmachowa is discussed. The rediscovered type specimen of *Tuburcinia lolii* Kawecka-Starmachowa is briefly described and the typification discussed. It is a heterotypic synonym of *Urocystis bolivarii* Bubák & Gonz. Frag. The records of that species in Poland are also reevaluated. *Entyloma crepidis* Kawecka-Starmachowa is confirmed as a synonym of *Entyloma hieracii* Syd. & P. Syd. ex R. Ciferri.

Key words: *Entyloma crepidis*, *Entyloma hieracii*, *Tuburcinia lolii*, *Urocystis bolivarii*, taxonomy, nomenclature, type specimen, Ustilaginomycetes

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Bolesława Kawecka-Starmachowa (1902–1965) was, next to Józef Kochman, one of the pioneer researchers of smut fungi in Poland (Seidl 1987). She published one major monograph in two parts (Kawecka-Starmachowa 1934, 1936, 1939a, b) as well as several small papers including information on these fungi (Starmachowa 1963a, b, 1964, 1965, 1966; Starmachowa & Kućmierz 1967). At that time the monograph was a valuable contribution to the regional geography and taxonomy of Ustilaginomycetes. It is commonly overlooked that both of them appeared as preprints in book form some months before they were published in a journal. In the case of the first part it has no significance, because no nomenclatural novelties were published therein. In the second part, Kawecka-Starmachowa (1939a, b) proposed two new species, and this case needs some comments.

The work entitled 'Głównie i śniecie Polski (Materiały do monografii). Część II. Śniecie' appeared in volume 73 of *Sprawozdanie Komisji Fizjograficznej*. Every article in this volume has the annotation: 'appeared as a separate item on ...', and from this it is known that the first article appeared as a preprint on 30 October 1938 (Starmach 1939: 146), and the last article appeared in that form on 25 August 1939 (Karczewski 1939: 306). From this it is evident that the whole journal

appeared no earlier than 25 August 1939 (and probably not later than 1 September 1939, because of the outbreak of the Second World War). The separate publication of the work by Kawecka-Starmachowa (1939a, b) was printed on 20 April 1939; this date is given on page 224. The preprint appeared four months earlier than the journal, and the new names should be cited as published in a book, not in *Sprawozdanie Komisji Fizjograficznej* (according to Art. 31.2 of ICBN; Greuter *et al.* 2000). The book has the following inscription on its heading: 'Osobne odbicie ze *Sprawozdań Komisji Fizjograficznej Polskiej Akademii Umiejętności* – tom LXXIII (1938)' [= 'Separate printing from *Sprawozdanie Komisji Fizjograficznej Polskiej Akademii Umiejętności*, vol. 73 (1938)'], which indicates the original place of publication. The year 1938 may be slightly confusing and may suggest that the journal appeared at that time. In fact volume 73 came out in 1939 and includes papers prepared in 1938.

In the book, Kawecka-Starmachowa described two new smuts, *Entyloma crepidis* Kawecka-Starmachowa and *Tuburcinia lolii* Kawecka-Starmachowa. Unfortunately, both of these names were subsequently reduced to synonyms with other species.

Entyloma crepidis was originally described from a leaf of '*Crepis praemorsa* (L.) Tausch' col-

lected in 1913 by Antoni Wróblewski in the neighborhood of Kolomyja in the Eastern Carpathians (now in Ukraine). For a long time it was treated either as a synonym of *Entyloma picridis* Rostr. (Kochman & Majewski 1973) or as a separate species (Vánky 1985). Vánky (1990) reexamined the type material, which comprised only one leaf, and showed that the host plant belonged to a *Hieracium* sp. (of the *murorum* group), and the smut is identical to *Entyloma hieracii* Syd. & P. Syd. ex R. Ciferri, validly published previously in 1924.

Tuburcinia lolii was described on the basis of smutted plants of *Lolium perenne* L. collected in 1937 by Tadeusz Stachyra in the Kotlina Sądecka basin in the Western Carpathians. However, 17 years earlier, Bubák and González Fragoso (in Bubák 1922) described the same species as new under the name *Urocystis bolivarii*¹ Bubák & Gonz. Frag., found on *Lolium perenne* in Spain. Hence, *Tuburcinia lolii* is a later, heterotypic synonym of *Urocystis bolivarii*.

When completing their monograph of Polish smut fungi, Kochman and Majewski (1973) could not locate the original material of *Tuburcinia lolii*, and they decided that the specimen no longer existed and thus could not be checked. Nor did Vánky (1985, 1994) find it during preparation of monographs of Carpathian and European smut fungi. Quite unexpectedly I found the specimen in KRAM in an unnumbered collection of parasitic fungi of B. Kawecka-Starmachowa. Apparently her family preserved this collection and it was only recently incorporated into KRAM. That is why it those authors could not locate or study it. The locality data, year of collection and name of collector in the protologue are exactly the same as that on the label. The only exception is the name of the fungus given on the label, '*Tuburcinia americana* (Spegazzini) Liro' [now *Urocystis americana* (Speg.) De Toni], but apparently that was only a provisional identification of this specimen before it was finally described as the new

species *Tuburcinia lolii*. This conclusion would have resulted from the realization that *Urocystis americana* occurs on a different host, that is, *Glyceria fluitans* (L.) R. Br. (Zundell 1953), and is not known from Europe (Vánky 1994). It may seem strange that on the label there is no indication of doubt about the *Tuburcinia americana* name, nor any reference to the *Tuburcinia lolii* name, but I believe this was simply an oversight on the part of Kawecka-Starmachowa, or that she forgot to add a suitable annotation on the label. Supporting this interpretation is the name of the collector of this specimen: Tadeusz Stachyra. That specimen is the only one of his in Kawecka-Starmachowa's collection.

The rediscovered material contains several smutted leaves and one stem with an inflorescence typical of *Lolium perenne*, so the correct determination of the host is not in doubt. The fungus formed sori in the leaves in the form of long black streaks between the veins. These black streaks are composed of powdery masses of spore balls, which are globose, ovoid or irregular, 16.5–29.0 (–37.5) μm diam., with 1–2(–4) spores completely surrounded by sterile cells. Spores are globose or ovoid, light brown, 12.5–18.0 μm in diameter, and the sterile cells are globose and paler than the spores (Fig. 1). All these characters well match the original description of *Tuburcinia lolii* as well as *Urocystis bolivarii*, and there can be no doubt that the two names refer to the same species. Because no other material exists and because this collection appears to be the original material from which the fungus was described, it is considered the holotype of *Tuburcinia lolii*. A small portion of the holotype was sent to Dr. Kálmán Vánky (Tübingen, Germany) for his Herbarium Ustilaginales Vánky (HUV).

All the aforementioned may be summarized as follows:

***Entyloma hieracii* Syd. & P. Syd. ex R. Ciferri**

Bull. Soc. Bot. Ital. **1924**: 50. 1924.

Entyloma crepidis Kawecka-Starmachowa, Głównie i śniecie Polski **2**. Śniecie: 173. 20 Apr. 1939. – TYPE: *In foliis Crepidis praemorsae*. (...) Bania Berezowska

¹ The commonly using spelling '*Urocystis bolivari*' should be replaced by '*Urocystis bolivarii*' according to ICBN [Art. 60C.1(b); Greuter *et al.* 2000].

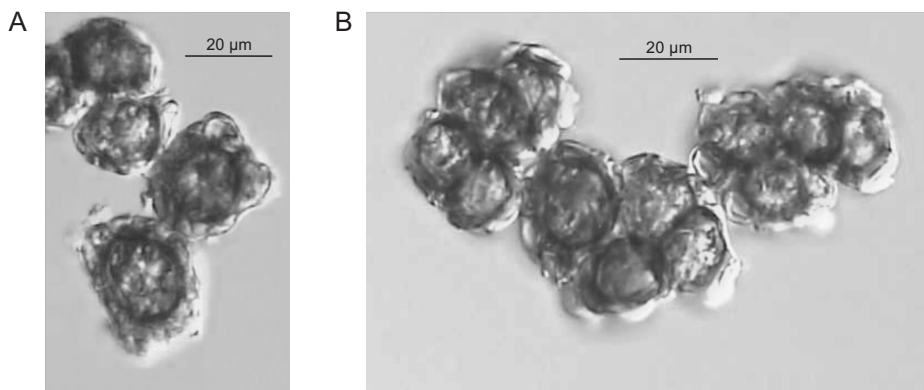


Fig. 1. Spore balls of *Urocystis bolivarii* Bubák & Gonz. Frag. from the type specimen of *Tuburcinia lolii* Kawecka-Starmachowa: a – with one spore, b – with four spores.

1913, Wróblewski {HOLOTYPE: ‘Entyloma Calendulae (Oud.) na Crepis praemorsa – Bania Berezowska na Rokiecie – VI-1913 (= June 1913) – [Karpaty Pokuckie] – Entyloma crepidis ozn. Starm. – zb. A. Wróblewski’, KRAM 2521!}. Note: the leaf belongs to *Hieracium* sp. (cf. *H. murorum* group), det. K. Vánky, 1989.

***Urocystis bolivarii* Bubák & Gonz. Frag.**

in Bubák, Bol. Real Soc. Esp. Hist. Nat., Secc. Biol. **22**: 205. 1922.

Tuburcinia lolii Kawecka-Starmachowa, Głównie i śniecie Polski **2**. Śniecie: 181. 20 Apr. 1939. – TYPE: *In foliis Lolii perennis* L. (...) Czerniec koło Łącka 1937, zb. Tad. Stachyra [HOLOTYPE: ‘*Tuburcinia americana* (Spegazzini) Liro. – na *Lolium perenne* L. – Czerniec koło Łącka 11/6 37. (= 11 June 1937) zb. Stachyra’, KRAM 51539!]. Note: part of holotype is preserved in HUV 19746!

Urocystis bolivarii has been collected rarely in Poland. Kochman and Majewski (1973) reported only two localities, Dąbroszyn near Kostrzyn and Czerniec near Łącko, but they stated that both are doubtful. The site in Dąbroszyn (Tamsel) was found by P. Vogel on 13 July 1909, and the smut distributed in Sydow’s *Mycotheca Germanica* No. 882, as ‘*Urocystis agropyri* (Preuss) J. Schroet.’ found on leaves of *Lolium perenne*; the host suggests that the fungus is *Urocystis bolivarii*. Lindberg (1959) checked three sets of these exsiccati and showed that they are misnamed and actually

leaves of *Agropyron repens* (L.) P. Beauv. smutted by true *Urocystis agropyri* (Preuss) A. A. Fisch. Waldh. (see also Kochman & Majewski 1973). The set preserved in KRAM contains only infected leaves without inflorescences and the host plant cannot be verified. In such a case this record must be treated as doubtful. The locality in Czerniec (Kawecka-Starmachowa 1939a, b) is now confirmed thanks to the discovery of the original collection. Besides only Kućmierz (1976) found *U. bolivarii* in Poland. He observed the fungus on

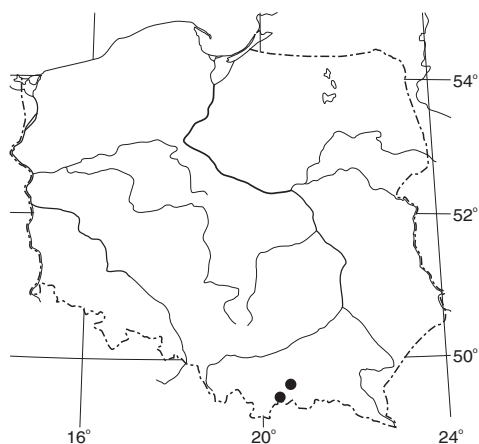


Fig. 2. Distribution of *Urocystis bolivarii* Bubák & Gonz. Frag. in Poland.

Lolium perenne growing in a pasture in Czorsztyn, Pieniny Mts. Taken together, there are two certain localities of the fungus in the country. Evidently this is a very rare representative of the Polish smut fungi (Fig. 2).

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