



New synonyms of *Philonotis polymorpha* (Bartramiaceae, Bryophyta) from Southern South America

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Philonotis polymorpha (Müller 1883: 79) Kindberg (1889: 79) is a circumsubantarctic species recorded for almost all subantarctic islands, central and southern Chile and Argentina (Ochyra *et al.*, 2008; Müller, 2009; Bednarek-Ochyra, 2014). It was first described as *Bartramia polymorpha* Müll. Hal. based on specimens collected on Îles Kerguelen by Naumann in 1874, and subsequently transferred to *Philonotis* (Bridel 1827: 15) by Kindberg (1889). It is a medium sized plant, yellowish-green to reddish-brown below, commonly found growing sterile on wet rocks or soil in forests, near rivers and waterfalls. Diagnostic characters of this species are the dimorphic leaves, ovate to oblong-lanceolate, the abruptly short-acuminate apex, margins plane, serrate at the apex, entire at the base, the excurrent, robust and well defined costae, ending in a mucro, and the papillae projecting at proximal angles of laminal cells. The variability in the leaf morphology led to the description for many taxa along the history (Ochyra *et al.*, 2008). Recently, Bednarek-Ochyra (2014) proposed *Philonotis tenella* Kaalaas (1912: 109) from Îles Crozet, as a new synonym of *P. polymorpha*, completing with these results the range of this species in the subantarctic islands.

During the development of this work, we have examined type specimens of several names within the genus. As result, four new synonyms are proposed for *P. polymorpha*, and three lectotypes are designated. Most of the studied specimens are in perfect state of preservation, resulting in unambiguous identification. The new synonyms proposed are the following:

Philonotis nigroflava Müller (1897: 100) was described based on Patagonian samples collected by Moreno in 1882. This species is characterized by the presence of ovate leaves with acuminate apex ending in a mucro, margin entire to serrate at the apex, costae short excurrent, and laminal cells papillose at the proximal angles. Matteri (1985) proposed to reduce *Philonotis parallela* Dusén (1903: 97) under synonymy of *P. nigroflava*. During the analysis of the type specimens of these two species, housed at LIL-Matteri, NY, PC and S, we found the exact diagnostic characters of those present on *P. polymorpha* so they are proposed here as new synonyms of *P. polymorpha*. As Müller's herbarium has been destroyed during the war in Berlin (Suárez *et al.*, 2013), and due to the abundance and the well-preserved state, the sample housed at NY is here chosen as the lectotype of *P. nigroflava*. On the other hand, the important collections and type specimens of species described by Dusén are housed at S, and by the presence of sexual traits (sterile shoots and males plants intermixed), the sample from S is the most suitable lectotype of *P. parallela*.

The type specimens of *Philonotis nigricans* Herzog (1916: 249), a species described on sterile collections made in Mendoza and housed at JE and LIL-Matteri, exhibit the same diagnostic characters present in *P. polymorpha*, leaving no doubt that it belongs to the same taxon. Due to its abundance and excellent condition, and because it is housed at the herbarium where Herzog worked, the sample from JE (JE04008349) is the most appropriate as lectotype.

Finally, *Philonotis fragilicaulis* Williams (1915: 42) is a species described by Williams based on sterile samples collected by Mr. and Mrs. Rose in Araranca (Perú) in 1914. The holotype housed in NY is abundant and well-preserved, and shows the same set of diagnostic characters than those of *P. polymorpha*, so is reduced as a new synonym.

Taxonomic and nomenclatural conclusions

Philonotis polymorpha (Müll. Hal.) Kindb. *Enum. Bryin. Exot.*, Suppl. 1 93. 1889.

= *Philonotis fragilicaulis* R.S. Williams. *Bull. Torrey Bot. Club.* 42: 402. 25 f. 1–9. 1915. **Type citation:** Perú, Araranca, 4260 m. alt., August 31st 1914, *Mr. and Mrs. Rose 19513*. **Type:** Araranca, Perú, 14000 ft. alt, Aug. 31 1914, *Mr. and Mrs. Rose 19513*. **Holotype:** (NY! NY01201803) **Syn. nov.**

- = *Philonotis nigricans* Herzog, *Hedwigia* 57: 249. 1916. **Type citation:** An feuchten Stellen neben der Straße über den Uspallata-Paß (Grenzgebiet von Chile und Argentinien), ca. 3500 m, Febr. 1908, leg. *Th. Herzog*. **Type:** An feuchten Stellen neben der Straße über die “Cumbre”, ca. 3500 m, Febr. 1908, *Herzog s/n*. **Lectotype designated here:** (JE! JE04008349). **Isolectotype:** (LIL-Matteri!) **Syn. nov.**
- = *Philonotis nigroflava* Müll. Hal. *Hedwigia* 36: 100. 1897. **Type citation:** Patagonia, Río Mayo, 50°–53°: Moreno in Museo de La Plata 1884, *Dr. Otto Kuntze* misit 1894. **Type:** Patagonia, Río Maya [sic], 50°–53°, April 1882, *Moreno 762b*. **Lectotype designated here:** (NY! NY01201864). **Isolectotype:** (PC! PC0133480) **Syn. nov.**
- = *Philonotis parallela* Dusén., *Rep. Princeton Univ. Exp. Patagonia*, Botany, 8(3): 97. 22. 1903. **Type citation:** Patagonia australis in territorio fontinali fluminis Río Chico in paludosis, leg. *Hatcher*. **Type:** Patagonia, Río Chico, *Hatcher P 23*, 1896–97. **Lectotype designated here:** (S! B173719). **Isolectotype:** (LIL-Matteri!) **Syn. nov.**

For further synonyms, descriptions and illustrations see Ochyra *et al.* (2008) and Bednarek-Ochyra (2014).

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