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# On the taxonomic identity of *Bartramia microbasis* Müll. Hal. and *Mielichhoferia modesta* Müll. Hal.

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**ABSTRACT.** The taxonomic status of two poorly known Andean species is reviewed. Their diagnostic characters are illustrated and discussed. *Bartramia microbasis* Müll. Hal. is proposed as a new synonym of *Anacolia laevisphaera* (Taylor) Flowers and *Mielichhoferia modesta* Müll. Hal. is reduced to synonymy of *Pohlia wahlenbergii* (F. Weber & D. Mohr) A. L. Andrews. Four new lectotypes are selected, including for *Glyphocarpa laevisphaera* Taylor and *Bartramia subsessilis* Taylor.

**KEYWORDS.** *Anacolia laevisphaera*, Argentina, Bartramiaceae, Bolivia, Bryaceae, *Pohlia wahlenbergii*.



*Bartramia microbasis* Müll. Hal. and *Mielichhoferia modesta* Müll. Hal. are two poorly known moss species. In the course of revising the mosses of the Andean region we found that these two species are misplaced in the genera concerned. Having examined type specimens of these names deposited in BM and H, we reevaluated the taxonomic status of the two species and found that *B. microbasis* is identical to *Anacolia laevisphaera* (Taylor) Flowers, whereas *M. modesta* matches perfectly *Pohlia wahlenbergii* (F. Weber & D. Mohr) A. L. Andrews.

*Bartramia microbasis* was described from material collected by P. G. Lorentz in February 1871 in Cordoba, Argentina (Müller 1882). Later, Bizot

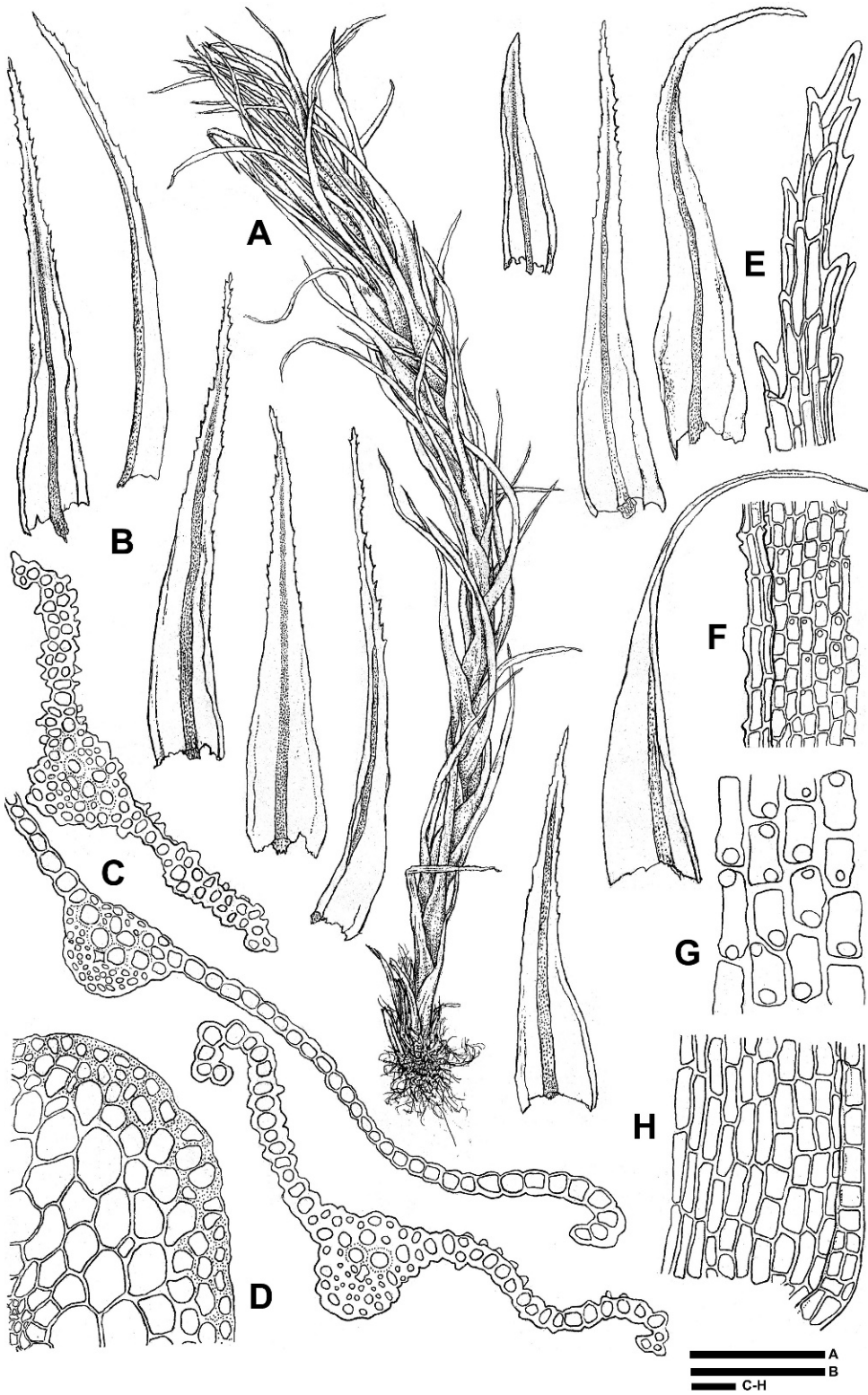
(1969) recorded the species for Rio Negro, a southern province in Argentina.

The type material of *Bartramia microbasis* has stems lacking a hyalodermis and narrowly lanceolate leaves with a poorly differentiated base. The mid-leaf cells are subquadrate with papillae weakly projecting at the end (**Fig. 1**). Furthermore, the axillary hairs are terminated by a short and globose cell, a feature that is not compatible with an inclusion in *Bartramia* Hedw., which has axillary hairs ending with an elongate and not inflated cell (Allen 2002). These features of the type are in fact characteristic of *Anacolia* Schimp., and the material agrees in all details with typical phenotypes of *A. laevisphaera* (Taylor) Flowers. Accordingly, these two species are considered conspecific. The synonymy proposed here for *B. microbasis* parallels the case of *B. subsessilis*.

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**Anacolia laevisphaera** (Taylor) Flowers in Grout, Moss Fl. N. Amer. 2: 155. 1935. = *Glyphocarpa laevisphaera* Taylor, London J. Bot. 5: 56. 1846. = *Bartramia laevisphaera* (Taylor) Müll. Hal., Syn. Musc. Frond. 1: 506. 1849. = *Glyphocarpus laevisphaerus* (Taylor) A. Jaeger, Gen. Sp. Musc. 1: 526. 1875. Type citation: On Pichincha; growing on shaded trunks of tree, and on the ground; September 23, 1826. Prof. W. Jameson, (Dr. Greville's herbarium). [Lectotype (selected here): Ecuador, Pichincha, *Jameson 1827*, FH!; islectotype: LIL-Matteri!]

*Bartramia subsessilis* Taylor, London J. Bot. 6: 334. 1847. = *Glyphocarpus subsessilis* (Taylor) A. Jaeger, Gen. Sp. Musc. 1: 524. 1875. = *Anacolia subsessilis* (Taylor) Broth. in Engl. & Prantl, Nat. Pflanzenfam. 1(3): 634, f. 477. 1904. Type citation: On Pichincha; Prof Jameson. Nov. 1846. [Lectotype (selected here): Ecuador, Pichincha, 1846, Prof. W. Jameson, FH!; islectotype: LIL-Matteri! First synonymized by Flowers (1952)].

*Bartramia microbasis* Müll. Hal., Linnea 43: 409. 1882. Type citation: Patria Argentina Cordobensis temperata, Sierra de Cordoba, Las Peñas, Febr. 1871. [Lectotype (selected here): Sierra de Cordoba, Las Peñas, Febr. 1871, *P. G. Lorentz* BM!] Syn. nov. (**Fig. 1**).

The genus *Mielichhoferia* Nees, Hornsch. & Sturm is gametophytically similar to *Pohlia* Hedw., but they immediately differ in sporophytic characters. In *Mielichhoferia* perichaetia and sporophytes appear lateral by subfloral innovations and the peristome is usually single and exostomial, or double with a rudimentary endostome (versus double and well-developed peristome in *Pohlia* (Suárez & Schiavone 2011)).

*Mielichhoferia modesta* was described by Müller (1897) from the Andes of Bolivia. The type material of *M. modesta* is characterized by the laminal cells that are 65–170 µm long and 8–20 µm wide. This leaf areolation and terminal sporophytes with urceolate

capsules are typical of *P. wahlenbergii* (F. Weber & D. Mohr) A.L. Andrews and therefore *M. modesta* is reduced to synonymy with the latter species name. *Pohlia wahlenbergii* is a variable species and many phenotypes were once treated as distinct species in South America (Suárez & Schiavone, 2010; Ochyra & Suárez, 2011).

### ***Pohlia wahlenbergii* (F. Weber & D. Mohr)**

A.L. Andrews in Grout, Moss Fl. N. Amer. 2: 203. 1935. = *Hypnum wahlenbergii* F. Weber & D. Mohr, Bot. Taschenbuch: 280. 1807. = *Bryum wahlenbergii* (F. Weber & D. Mohr) Schwägr., Sp. Musc. Frond. Suppl. 1: 92, f. 70. 1816. = *Webera wahlenbergii* (F. Weber & D. Mohr) Fürnr., Flora 12 Ergänzungsbl. 2: 35. 1829. = *Mniobryum wahlenbergii* (F. Weber & D. Mohr) Jenn., Man. Mosses W. Pennsylvania: 146. 1913. Type citation: *Bryum albicans* Wahlenb. Fl. lappon. msr. ['Hab. ubi aqua fontana per terram sterilem glareosam diff. uit praecipue in Nordlandia inferalpina passim, sed rarissime capsuliferam ex. gr. ad Storstensnäs Tromsöae lectum' (Wahlenberg 1812: p. 353)]. In arena insull. *Danubii* pr. *Ratish.* Funck (ante 12 annos). [Lectotype (see Ochyra et al. 2008): Nordlandia Norvegia; in margine terra sabuloso madefacto juxta mare ad Storstensnäs juxta Tromsöam lectum d. 16 Juli 1800 Mniium albicans, UPS, not seen].

*Mielichhoferia modesta* Müll. Hal. Nuovo Giorn. Bot. Ital., N. Ser., 4: 29. 1897. Type citation: Habitatio. Bolivia, Ingenio del Oro, 10,000 ped. alta, Martio 1886: Dr. med. *H. H. Rusby*. [Lectotype (selected here): Ingenio del Oro, Bolivia, 10,000 ft., Mar., 1886. Leg. *H. H. Rusby*, *M. D.*, BM!] Syn. nov.

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**Figure 1.** *Anacolia laevisphaera* (from the type of *Bartramia microbasis*). **A.** Habit when moist. **B.** Leaves. **C.** Leaf cross section. **D.** Stem cross section. **E.** Apical leaf cells. **F.** Median leaf cells. **G.** Median leaf cells detail. **H.** Basal leaf cells. Scale bars: A=1 mm, B=0.50 mm, C–H= 25 µm.

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