Cryptogamie, Bryologie, 2008, 29 (2): 183-191

New records of Pottiaceae (Bryophyta) for South America

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(Received 8 October 2007, accepted 17 January 2008)

Abstract – *Didymodon asperifolius* and *Globulinella globifera* are reported for the first time for South America, from Bolivia and Ecuador, respectively. New country records for South America are reported for 16 taxa of Pottiaceae: *Aloinella galeata* var. *galeata* (Ecuador and Peru), *Barbula arcuata* (Argentina), *B. indica* var. *gregaria* (Ecuador), *Bryoerythrophyllum bolivianum* (Chile), *B. campylocarpum* (Peru), *Didymodon patagonicus* (Bolivia), *D. rigidulus* var. *rigidulus* (Bolivia), *Globulinella benoistii* (Peru), *Plaubelia sprengelii* (Bolivia), *Saitobryum lorentzii* (Bolivia), *Scopelophila cataractae* (Bolivia), *Syntrichia ammonsiana* (Bolivia), *Trichostomum sinaloense* (Bolivia, Colombia, and Paraguay), *Uleobryum peruvianum* (Paraguay), *Weissia jamaicensis* (Bolivia) and *Willia brachychaete* (Chile).

Pottiaceae / Distribution / South America

Resumen – *Didymodon asperifolius* y *Globulinella globifera* son citados por primera vez en Sudamérica de Bolivia y Ecuador, respectivamente. Además, 16 taxones de Pottiaceae son citados de diferentes países sudamericanos: *Aloinella galeata* var. *galeata* (Ecuador y Peru), *Barbula arcuata* (Argentina), *B. indica* var. *gregaria* (Ecuador), *Bryoerythrophyllum bolivianum* (Chile), *B. campylocarpum* (Peru), *Didymodon patagonicus* (Bolivia), *D. rigidulus* var. *rigidulus* (Bolivia), *Globulinella benoistii* (Peru), *Plaubelia sprengelii* (Bolivia), *Saitobryum lorentzii* (Bolivia), *Scopelophila cataractae* (Bolivia), *Syntrichia ammonsiana* (Bolivia), *Trichostomum sinaloense* (Bolivia, Colombia y Paraguay), *Uleobryum peruvianum* (Paraguay), *Weissia jamaicensis* (Bolivia) y *Willia brachychaete* (Chile).

Pottiaceae / Distribución / Sudamérica

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INTRODUCTION

The bryophyte diversity in South America is very high. In fact, the tropical Andes represent likely the most species-rich area for mosses (Churchill *et al.*, 1995). One of the families best represented in species number in this area are the Pottiaceae that are dominant in ecoregions such as deserts, humid puna, sub- and superpáramo, and dry inter-Andean valleys. The inaccessibility of areas or even regions within South America often means herbaria collections do not well represent the distribution of species, and that there are too few specimens to show the range of variability of a particular species. During the 19th and first half of the 20th centuries numerous species were described in this family, however, their taxonomic status have often not been re-evaluated since their original descriptions. Only a few species level revisions (Zander, 1972, 1978), generic revisions (Zander, 1993), or floristic accounts have been published.

Over the last several years we have been engaged in studies of the South American Pottiaceae (Cano, in press; Cano & Gallego, 2008; Cano *et al.*, 2008; Gallego & Cano, 2007a, 2007b; Gallego *et al.*, 2006, Jiménez, 2007; Jiménez & Cano, 2006, 2007, 2008). Due to the scarcity of collections in critical areas of South America, we are conducting field work in unexplored areas of the Andes. These new collections will provide a better means to assess the variability of many species, which were previously only known from or a few localities.

MATERIAL AND METHODS

Most of the mosses presented in this paper were collected by the authors in Bolivia, Chile, Ecuador, Paraguay and Peru. The localities studied on some of these trips are listed on the web site www.pottiaceae.com. Specimens are deposited at MO and MUB, with duplicates in BOLV, CONC, HSB, LOJA, LPB, PY, USM and USZ. Also included are specimens sent for identification from NY and Ph. Sollman, and some previously unnamed specimens from Bolivia and Paraguay housed at LPB or MO.

RESULTS

1. *Aloinella galeata* (Müll. Hal.) Broth. var. *galeata*

New records. Ecuador. Chimborazo: *pr.* Palmira, 02º05′20″S, 79º44′32″W, *Cano 3083a* (MUB). Peru. Moquegua: pontón Cuellar, 16º59′15″S, 70º41′38″W, *Cano 2397* (MUB, USM).
Differentiation. This taxon was described by Müller (1879) based on an Argentinean specimen collected by Lorentz. This type has, however, not been relocated (Delgadillo, 1975). Recently Delgadillo and Schianove (2004) found a specimen from Tucumán (Argentina) that exhibits the characters given in the protologue for *A. galeata*: papillose cells on distal half of the leaf, cucullate to tubulose leaf apex, smooth, strong costa with filaments to eight cells long and thin-walled and hyaline distal marginal cells. Moreover, they indicated that *Aloinella galeata* var. *andina* (Delgad.) Delgad. & Schianove can be distinguished from var. *galeata* by the leaf apex with the tube roughly papillose about 1/3 of the leaf length. Delgadillo and Schianove (2004) illustrated the Tucumán specimen.

Distribution and habitat. The new records of this variety from Peru and Ecuador significantly extend its range. The Ecuadorian record was collected on exposed talus at 3185 m elevation in a "pajonal" formation, and the Peruvian specimen on a hillside associated with *Polylepis besseri* Hieron. (Rosaceae) and Cactaceae at 3950 m.

2. *Barbula arcuata* Griff.

New record. Argentina. Salta: on Salta-Cafayate road at río Osma, *Steere 60-112* (NY).
Differentiation. The sample was sterile, but it shows the characters of *Barbula arcuata* in its typical expression: triangular-lanceolate leaves, smooth laminal cells, dentate apex and recurved leaf margins.
Distribution and habitat. This species is known from Mexico, Central and South America, Western Indies, Asia and Southwestern Pacific (Allen, 2002). In South America, it is known from Bolivia (Churchill & Fuentes, 2005), Colombia, Ecuador, Peru (Churchill *et al.*, 2000), Brazil and Venezuela (Zander, 1994a). According to Matteri (2003), this species has previously not been reported in Argentina. The collection was found on soil from a roadside bank.

3. *Barbula indica* var. ***gregaria*** (Mitt.) R.H. Zander

New records. Ecuador. Azuay: *pr.* Andacocha, 02º46′56″S, 78º41′20″W, *Cano et al. 2812* (LOJA, MUB). Loja: *pr.* Catamayo, 04º02′11″S, 79º22′20″W, *Cano & Gallego 3004b* (LOJA, MUB); *pr.* Catacocha, 04º01′54″S, 79º41′28″W, *Cano & Gallego 3059a* (MUB); sur de San Lucas, 03º47′51″S, 79º15′38″W, *Cano & Gallego 2953a* (LOJA, MUB). Zamora-Chinchipe: Cordillera del Condor, 4.5 km sur de Guayzimi por San José, 04°03′54″S, 78°42′16″W, *Churchill et al. 24230* (LOJA, MO, QCNE).
Differentiation. *Barbula indica* (Hook.) Spreng. is best characterized by the roughened back of the leaf costa due to papilla-like projections at both cell ends. Zander (1981) recognized two varieties: var. *indica* and var. *gregaria*. The latter is characterized by more broadly ovate leaves than var. *indica*, plane margins and elliptic to spherical pluri-celled gemmae in distal leaf axils which are absent in var. *indica*. After studying the type material of *Tortula gregaria* Mitt., Sollman (2000) considered this taxon as distinct from *B. indica* and similar or identical to *B. amplexifolia* (Mitt.) A. Jaeger. However, Köckinger & Kučera (2007) recognized *B. amplexifolia* and *B. gregaria* (Mitt.) A. Jaeger as two distinct species. Although the species level seems more adequate for this taxon, we maintained it as a variety of *B. indica* until the genus is critically revised in South America.
Distribution and habitat. This variety has been recorded in Mexico, West Indies, Central America and South America. The specimens cited above are the first records for Ecuador. The new records were collected on talus, vertical sandstone, and exposed soils in dry inter-Andean valleys or montane, forested, sandstone mesas between 925 to 2490 m.

4. *Bryoerythrophyllum bolivianum* (Müll. Hal.) R.H. Zander

New record. Chile. Región I (Tarapacá): *pr.* Zapahuira, 18º20′46″S, 69º33′18″W, *Cano 265c* (MUB).
Differentiation. This species is recognized by its ovate to ovate-triangular leaves that are appressed when dry, broadly rounded to obtuse, non-apiculate apices, leaf margins recurved nearly to the leaf apex, and costae without a ventral stereid band. It could be mistaken with *Bryoerythrophyllum* species with rounded apices, such as *B. berthoanus* (Thér.) J.A. Jiménez, *B. calcareum* (Thér.) R.H. Zander or *B. inaequifolium* (Taylor) R.H. Zander. The former is easily distinguished from *B. bolivianum* by its plane leaf margins above midleaf. *B. calcareum* and *B.*

inaequifolium differ from *B. bolivianum* in having masses of unicellular gemmae in the leaf axils, costa usually with two bands of stereids and more lingulate leaves.
Distribution and habitat. Churchill *et al.* (2000) and Zander (1994b) report this species from Bolivia, Ecuador, Mexico and Peru. Four species of *Bryoerythrophyllum* P.C. Chen have been reported from Chile (He, 1998; Jiménez, 2007): *B. berthoanus*, *B. campylocarpum* (Taylor) H.A. Crum, *B. fuscinervium* (Mitt.) R.H. Zander, and *B. jamesonii* (Taylor) H.A. Crum. The Chilean specimen was collected on a hillside associated with *Polylepis besseri* and Cactaceae at 3550 m.

5. *Bryoerythrophyllum campylocarpum* (Müll. Hal.) H. A. Crum

New records. Peru. Amazonas: Saullamur zw. Balsas u. Limebamba, *Hegewald & Hegewald 6718* (MO). Cajamarca: San Miguel-San Pablo (W of Cajamarca), *Kuc 34E* (Hb. Sollman). Huánuco: Mitocucho, *Cerrate 6847* (MO). Junín: Túnel de la Virgen, *pr.* La Merced, 11º11′05″S, 75º27′39″W, *Cano & Guerra 2091* (MUB, USM). *pr.* Palca, puente Yanango, 11º12′56″S, 75º30′10″W, *Cano & Guerra 2082d* (MUB). Puno: Melgar, 7 km E of pass La Raya, between Santa Rosa and Sicuani, *Hegewald & Hegewald 5529* (MO).
Differentiation. In South America, *B. campylocarpum* may be mistaken for *B. jamesonii*, which also has long-oblong to oblong-lanceolate, usually dentate leaves, with margins plane above midleaf. However, the former species is distinguished by the strongly differentiated inner basal cells that are enlarged, thin-walled compared to the elongate and thick-walled marginal basal cells; in *B. jamesonii* all basal cells have thick walls.
Distribution and habitat. This taxon is known from Europe (Hill *et al.*, 2006), sub-Saharan Africa (O´Shea, 2006), Mexico (Zander, 1994b), Caribbean, Central and South America (Allen, 2002). In South America it has been cited from Bolivia, Chile, Ecuador and Venezuela (Churchill *et al.*, 2000; He, 1998). The Peruvian specimens represent the first records of this species in Peru. These samples were collected on soil and rocks in puna formation and montane forests between 1480 and 4300 m.

6. *Didymodon asperifolius* (Mitt.) H.A. Crum, Steere & L.E. Anderson

New record. Bolivia. La Paz: Nor Yungas, laguna Kolini, along the road between the Cumbre de La Paz and Unduavi, 16°19′S, 68°02′W, *Lewis 88-800* (LPB, MO); Inquisivi, NE side of Río Sayaquira, ca. 2-4 km NW of Estancia Sayaquira, 17°03′S, 67°16′W, *Lewis 87-604* (MO).
Differentiation. It is difficult to confuse *D. asperifolius* with other South American *Didymodon* since it is the only species that has recurved and squarrose leaves when moist and lacks cauline central strand.
Distribution and habitat. Jiménez (2006) indicates this species is known from tropical Africa, North America, Europe, and Asia. This is the first report of the species in South America. The Bolivian specimens were collected in puna on soil between 4150 and 4650 m.

7. *Didymodon patagonicus* (Mitt.) Broth.

New record. Bolivia. Oruro: Cercado, Municipio Sepulturas, 10 km por el camino que va a Potosí, frente a la fundidora metalúrgica Vinto, 2 km sur de Sepulturas, *Linneo 288* (LPB, MO, MUB, USZ).
Differentiation. Because of its ovate leaves, cucullate apex, yellow colour of the lamina with KOH, and shape and size of the laminal cells, *Didymodon patagonicus* could be confused with *D. australasiae* (Hook. & Grev.) R.H. Zander. However, *D. patagonicus* differs from this latter by having appressed leaves when dry (crisped, twisted or incurved in *D. australasiae*), costa with two stereids band (without ventral stereids in *D. australasiae*) and basal cells not differentiated.

Distribution and habitat. *Didymodon patagonicus* was described by Mitten (1869) from a collection made by W. Lobb in Patagonia, and since then no other collections of it have been made. This record extends the geographic range northward into the southern Central Andes. The specimen was collected on soil in semi-humid puna associated with Cactaceae and Verbenaceae at 4000 m.

8. *Didymodon rigidulus* Hedw. var. *rigidulus*

New record. Bolivia. Chuquisaca: Azurduy, 14 km sudeste de Sucre (a Tarabuco), *Churchill et al. 20835-C* (HSB, MO, MUB, USZ).
Differentiation. *Didymodon rigidulus* may be confused with *D. humboldtii* (Herzog) E.H. Hegew. & P.D. Hegew. a little known species of Bolivia and Peru (Churchill *et al.*, 2000) because of similar leaf shapes, blunt and thickened leaf apices, lamina turning yellow with KOH, gemmae usually present in the axils of the leaves, and costa with one layer of guide cells and two stereid bands. The latter species is, however, distinguished by its strongly incurved leaves when dry, plane or slightly recurved leaf margins above midleaf, and rounded to oval distal laminal cells.
Distribution and habitat. This variety is known in South America from Argentina (Matteri, 2003), Brazil (Yano, 1995), Chile (He, 1988), Colombia, Ecuador, Peru and Venezuela (Churchill *et al.*, 2000). The specimen was collected in a dry inter-Andean valley on soil at 2840 m.

9. *Globulinella benoistii* (Thér.) Magill

New record. Peru. Arequipa, *pr.* Chivay, cara sur nevado Huarancante, 15º45′30″S, 71º32′43″W, *Cano 2163b* (MUB).
Differentiation. This species has leaves more oblong than those of *G. globifera* (Hampe) Steere and its costae are not spurred. The Peruvian material is sterile but it exhibits the characters of this species, including two costal bands of stereids.
Distribution and habitat. This species was previously known from two localities in Ecuador (Zander, 1993). Its range now extends to southern Peru. The specimen was collected on bare soil in a dry puna formation at 4540 m in elevation.

10. *Globulinella globifera* (Hampe) Steere

New record. Ecuador. Loja: *pr.* Catamayo, 04º05′47″S, 79º21′20″W, *Cano & Gallego 3007a* (MUB).
Differentiation. According to Magill (1977), *Globulinella globifera* can be distinguished from *G. benostii* by its costae that are ventrally spurred above, and sheathing perichaetial leaves. In addition, *G. globifera* lacks a basal membrane on its peristome, present in *G. benostii*, and has shorter setae as well as smaller spores than *G. benostii*. The Ecuadorian specimen was sterile, but it shows the ventral spurred costae that are typical for *G. globifera*.
Distribution and habitat. This species was previously known from Central America (Guatemala, El Salvador), USA (Texas), and Mexico (Magill, 1977). The above specimen represents the first record of *G. globifera* for South America. The new record was collected on hillside with *Croton* (Euphorbiaceae) and Cactaceae in a dry inter-Andean valley at 1390 m in elevation.

11. *Plaubelia sprengelii* (Schwägr.) R.H. Zander

New record. Bolivia. Tarija: Gran Chaco, a 25 km ca. sobre la carretera que va a Tarija, área del cañón formado por el río Pilcomayo, 21º13′24″S, 63º34′00″W, *Linneo & Nee 203* (MO, MUB).

Differentiation. This species is similar to *Hyophila involuta* (Hook.) A. Jaeger, but differs by several costal features including a well-developed ventral stereid band (undifferentiated or weak in *P. sprengelii*), small non-bulging superficial cells on the ventral surface (enlarged and bulging in *P. sprengelii*), and the shape of the dorsal stereid band which is flattened-lunate (semicircular in *Plaubelia*) see Allen (2002) and Eckel (2007). According to Zander (1983) and Eckel (2007), two varieties of this species can be recognized. The Bolivian material, identified as var. *sprengelii*, has narrowly lingulate to spathulate leaves, strongly incurved, apiculate apices, mammillose adaxial upper laminal cells, but smooth on both surfaces, and percurrent costae. The variation present in *P. sprengelii* is described, discussed and illustrated in Zander (1983).
Distribution and habitat. This species is known from North America, Mexico, West Indies, Central America, and South America (Eckel, 2007). In South America, it has been reported from Brazil and Venezuela. The Bolivian record was collected in loamy soil in Chaco Serrano forest formation at 468 m elevation.

12. *Saitobryum lorentzii* (Müll. Hal.) Ochyra

New records. Bolivia. Oruro: carretera La Paz-Oruro, *pr.* Lago Huayllamarca, 17º33′52″S, 67º21′10″W, *Cano et al. 3382* (LPB, MUB); *ibidem*, 17º32′47″S, 67º21′31″W, *Cano et al. 3387* (LPB, MUB).
Differentiation. This species could resemble species of *Globulinella* because of similar leaf shape. However, *Saitobryum lorentzii* differs from *G. globifera* and *G. benostii* in having red colour of the leaves with KOH and leaves with a wide band of smooth laminal cells along the upper margins that give way to pluri-papillose cells in the median part of the leaf .
Distribution and habitat. This taxon is known from Argentina (Matteri, 2003), Chile (Cano, 2003), Ecuador, Mexico and Peru (Churchill & Salazar-Allen, 2001). The specimens cited above represent the first records of this species in Bolivia. These samples were collected in exposed taluses in a dry puna formation between 3890 and 3935 m.

13. *Scopelophila cataractae* (Mitt.) Broth.

New records. Bolivia. La Paz: Puente Villa, 16°25′S, 67°39′W, *Fuentes 6309* (BOLV, HSB, LPB, MO, USZ); Boca río Aguilani, ca. 20 km NNW of Choquetanga,16°40′S, 67°21′W, *Lewis 89-1016* (LPB, MO); 1 km from Sorata towards Achacachi, 15°45′S, 68°42′W, *Lewis 79-1281* (LPB, MO).
Differentiation. This is a wide-ranging species associated with mineralized soils. It is distinguished from other species of *Scopelophila* by the broadly acute leaf apex, without a differentiated border of rounded and thicker-walled cells, and costa with differentiated superficial ventral cells.
Distribution and habitat. This species is known from Mexico, Europe, Asia and Central Africa, North, Central and South America (Zander, 2007). In South America it has been reported from Ecuador (Churchill *et al.*, 2000). The Bolivian specimens were found on rocks along streams or rivers in a montane (Yungas) forest at elevations from 1188-2710 m.

14. *Syntrichia ammonsiana* (H.A. Crum & L.E. Anderson) Ochyra

New record. Bolivia. Chuquisaca: Nuevo Mundo, 19°00′20″S, 64°19′54″W, *Churchill et al. 22938* (LPB, MO, MUB, USZ).
Differentiation. *Syntrichia ammonsiana* can be differentiated from other South American species of *Syntrichia* Brid. with leaf-like propagules such as *S. laevipila* Brid., *S. chisosa* (Magill, Delgad. & L.R. Stark) R.H. Zander and *S. costesii* (Thér.)

R.H. Zander by its spathulate to lingulate leaves that are not constricted at the middle, plane leaf margins, mucronate or apiculate leaf apices, costae weakly papillose on the dorsal surface, unistratose lamina, undifferentiated leaf margins, and median laminal cells 12.5-20.0 µm wide and the presence of brood leaves borne in clusters at the tip of the stems and on branched stalks in the axil of upper leaves. The species is discussed and illustrated in Gallego *et al*. (2006).

Distribution and habitat. Previously this species was known from North America, southern Africa, Peru (Gallego *et al.*, 2006), and Argentina (Gallego & Cano, 2007a). The Bolivian specimen was collected on rock in Tucumano-Boliviano montane forest at 2450-2500 m elevation.

15. *Trichostomum sinaloense* (E.B. Bartram) R.H. Zander

New records. Bolivia. Santa Cruz: Los Negros, 17°59′S, 64°09′W, *Churchill et al. 20928* (MUB, USZ). Colombia. Magdalena: Bonda, 11°13′N, 74°06′W, *Churchill & Linares 18381* (MO, MUB). Paraguay. Paraguarí: Paraguarí, *Balansa 4333* (MO).

Differentiation. The gametophytic characters of *Trichostomum sinaloensis* are similar to small forms of *Trichostomum brachydontium* Bruch, both species have lingulate leaves, with plane margins. However, they can be distinguished by sporophytic characters: in *T. sinaloensis* the capsules are subglobose and gymnostomous, whereas in *T. brachydontium* they are cylindrical and peristomate.

Distribution and habitat. This species is known from Mexico, West Indies, Central, and Northern South America (Allen, 2002). Churchill *et al.* (2000) reported the species from Venezuela and Galapagos Islands. The above records extend the geographic range to Bolivia, Colombia and Paraguay. The new records were collected on soil. The Colombian specimen is from a secondary coastal lowland tropical forest at 255 m elevation, and the Bolivian specimen from a dry inter-Andean valley formation at 1440 m elevation.

16. *Uleobryum peruvianum* Broth.

New record. Paraguay. Alto Paraguay: Cerro León, Parque Nacional Defensores del Chaco, 20°37′S, 59°56′W, *Churchill & Florentín 20108* (MO, MUB, PY).

Differentiation. This species is characterized by its small size, lingulate to elliptical leaves, pluripapillose laminal cells, spherical capsules with hyaline setae, and hexagonal exothecial cells that are hyaline and mamillose with the superficial walls centrally thickened and lens-like in transverse section (Zander, 1993). In addition the calyptrae are conic-campanulate, usually rough or pustulate apically, and the costae either lack or have weakly developed ventral stereid bands.

Distribution and habitat. Zander (1994c) reported this species from Mexico, St. Thomas (Virgin Island), and Peru. The above collection was made on soil in a xerophytic Chaco forest at 150-200 m elevation.

17. *Weissia jamaicensis* (Mitt.) Grout

New records. Bolivia. Chuquisaca: Provincia Hernando Siles, Canon Lacayotal, 20°19′21″S, 64°02′00″W, *Lozano 1673-B* (MO); Oropeza, comunidad de Nucchu, ca. 25 km SW de Sucre, 2400 m, 19°11′49″S, 65°17′43″W, *Lozano & Lliully 2394* (HSB, MO, MUB, USZ). Santa Cruz: Andrés Ibáñez, municipio de la Guardia, canton El Carmen, Km 9, barrio Muyurina, 17°48′S, 63°10′W, *Linneo 380* (MO, MUB); Cerro Herrandura, ca. 5 km E-NE de Bermejo, 18°07′S, 63°36′W, *Churchill et al. 21333* (MO, USZ); Roboré, quebrada San Luis a Roboré, 18°15′50″S, 59°45′37″W, *Sanjines 3010* (LPB, MO, MUB, USZ). Tarija: Arce, Reserva Natural Alarachi, zona Alarachi, La Lima, 22°10′59″S, 64°37′46″W, *Churchill et al. 23291-A* (MO, MUB, USZ); Gran Chaco, Yacuiba, al Este 2 km de la plaza, 22°00′37″S, 63°41′59″W, *Linneo & Velásquez 1017* (MO, MUB, USZ).

Differentiation. This species differs from other species of this genus by long, linear-lanceolate leaves, from a much broader base with hyaline cells, sometimes extending up the margins in a distinct v-shaped pattern (Allen, 2002).
Distribution and habitat. *Weissia jamaicensis* is known from Mexico, West Indies, North, Central and South America (Allen, 2002). The Bolivian records were collected on soil, rocks and brick wall in Chiquitano dry forest, Tucumano-Boliviano montane forest and in a dry inter-Andean valley at elevations from 360 and 2400 m.

18. *Willia brachychaete* (Dusén) R.H. Zander

New record. Chile. Región IX (La Araucanía): Laguna Icalma, 38º49′06″S, 71º18′05″W, *Cano 485* (CONC, MUB).
Differentiation. This species is similar to some species of *Syntrichia* Brid., but is distinguished by the highly differentiated perichaetial leaves. In addition *W. brachychaete* is characterized by the presence of a high peristomial basal membrane and cucullate calyptra (Zander, 1993).
Distribution and habitat. This species was previously known from a few localities in Argentina (Matteri, 2003). The Chilean specimen was collected on a trunk of *Nothofagus* at 1230 m.

Acknowledgements. This research was carried out with financial support from National Science Foundation (DEB-0542422), the Spanish "Ministerio de Educación y Ciencia" [Projects CGL2006-00599 and CGL2007-60692/BOS co-financied by FEDER, and the "Juan de la Cierva Program"]. We are grateful to W. Buck for the loan of specimens from NY, Ph. Sollman for sending South American specimens for identification, and M. T. Gallego for field assistance. Several institutions and staff provided assistance during our field studies for which we are indebted: in Bolivia, Herbario Nacional de La Paz; Chile, Departamento de Botánica, Universidad de Concepción; Ecuador, Universidad Nacional de Loja; and Perú, Universidad de San Marcos of Lima.

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