

NOTA

TWO NEW COMBINATIONS FOR NORTHWESTERN ARGENTINE MOSSES

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Summary Two new combinations for northwestern argentine mosses. Two new combinations are made for species originally described from Tucumán Province, Argentina by C. Müller. *Anomodon pellicula*, recently which was recognized in *Leskea*, is transferred to *Lindbergia*, and *Hookeria lorentzii* is transferred to *Cyclodictyon*. Both species are described and illustrated.

Resumen Dos nuevas combinaciones de musgos para el noroeste argentino. Se realizan dos nuevas combinaciones de especies originalmente descritas por C. Müller de la Provincia de Tucumán, Argentina. Se transfiere *Anomodon pellicula*, que fuera reconocida en *Leskea*, a *Lindbergia* y *Hookeria lorentzii* a *Cyclodictyon*. Ambas especies son descritas e ilustradas.

Key words: NW Argentina, mosses, *Lindbergia*, *Cyclodictyon*.

As part of the VI Congreso Latinoamericano de Botánica in Argentina in October, 1994, the senior author had the opportunity to take part in a field trip to northwestern Argentina led by the junior author. As a result of collections made during that excursion, it was realized that the following new combinations are necessary.

Lindbergia pellicula (C. Müll.) Buck & Schiavone, *comb. nov.*
(Pl.1)

Anomodon pellicula C. Müll., *Hedwigia* 36: 137. 1897;
Leskea pellicula (C. Müll.)

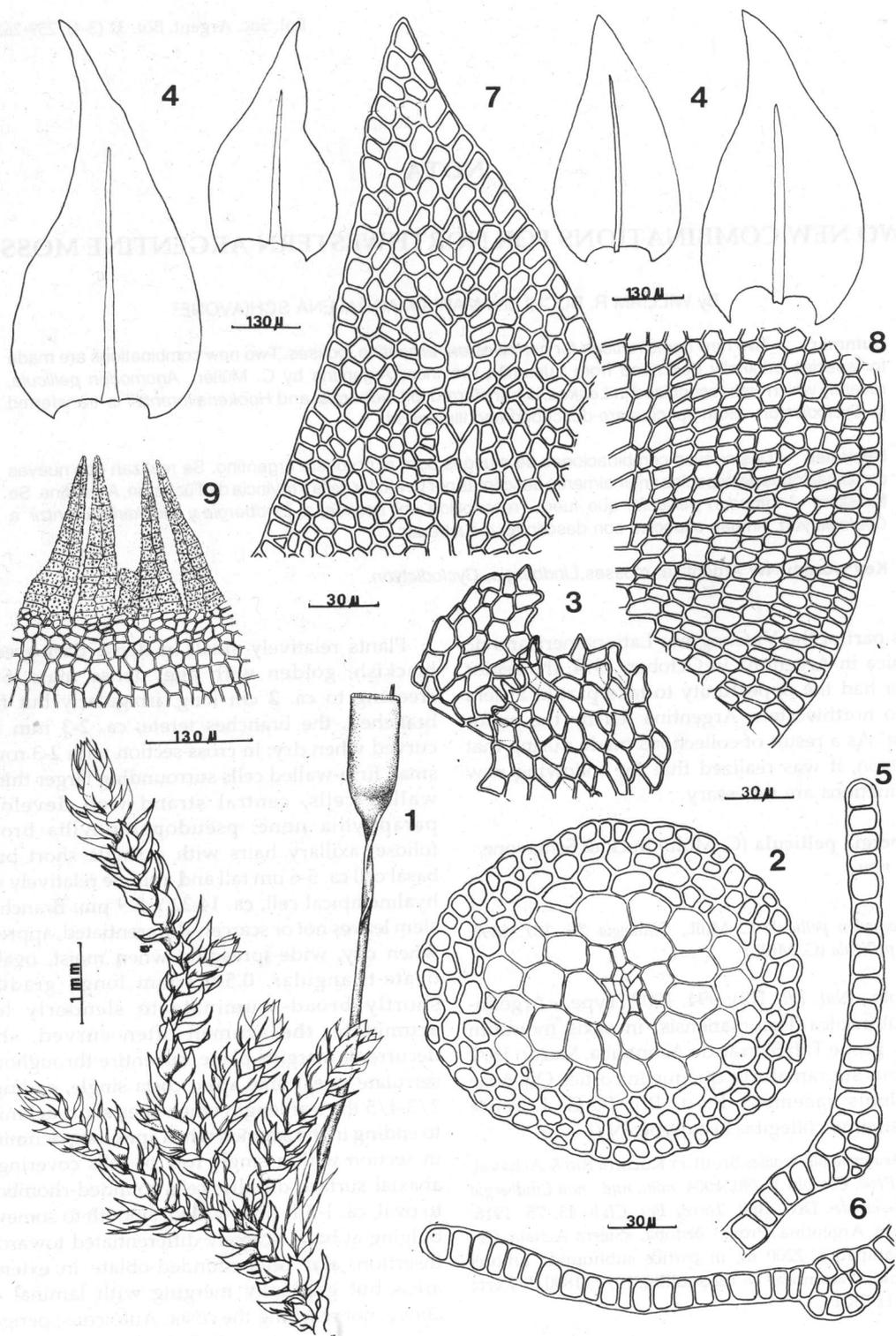
Broth., *Nat. Pfl.* 1(3): 994. 1907. Type. «Argentina subtropica Tucumanensis, in saxis montium excels. prope Tafi Sierrae de Aconquija, Martio 1872 fructibus supramaturis, quoque in cortice Queñoae (*Polylepis racemosa* R. u. P.): P. G. Lorentz copiosissime collegit». Lectotype: NY!

Leskea pseudoleskeoides Broth. ex Kurtz in Río & Achával, *Geogr. Prov. Córdoba* 1: 290. 1904, *nom. nud.*, non *Lindbergia pseudoleskeoides* Dix., *Bull. Torrey Bot. Club* 43: 75. 1916. Based on: Argentina. Prov. Córdoba, «Sierra Achala, Cerro Champaqui, 2200 m, in cortice subhumida arboris *Polylepidis racemosae* [= *Tabaquillo*], 10/2/1890, F. Kurtz 6892» (H-BR!).

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Plants relatively small in dense dark-green to blackish, golden with age, dense mats. Stems creeping to ca. 2 cm long, irregularly but freely branched, the branches terete, ca. 2-3 mm long, curved when dry; in cross-section with 2-3 rows of small firm-walled cells surrounding larger thinner-walled cells, central strand well developed; paraphyllia none; pseudoparaphyllia broadly foliose; axillary hairs with a single short brown basal cell ca. 5-6 μm tall and a single relatively short hyaline apical cell, ca. 14-32 x 8-9 μm . Branch and stem leaves not or scarcely differentiated, appressed when dry, wide-spreading when moist, ovate to ovate-triangular, 0.5-0.9 mm long., gradually shortly broad-acuminate to slenderly long-acuminate, the acumen often curved, short-decurrent; margins plane, subentire throughout or serrulate at extreme apex; costa single, ending ca. 2/3-4/5 the leaf length when apex short-acuminate to ending in the acumen when apex long-acuminate, in section with a single row of cells covering the abaxial surface distally; cells rounded-rhomboidal to oval, ca. 1-3:1, firm-walled, smooth to somewhat bulging at back, scarcely differentiated toward the insertion, alar cells rounded-oblately in extensive areas but gradually merging with laminal cells above, not reaching the costa. Autoicous; perigonia numerous along stems, bulbiform. Perichaetia along stems, leaves erect but not particularly convolute, ovate-lanceolate, to ca. 1.2 mm long., \pm gradually acuminate; margins plane, entire; costa single, weak, ending slightly above midleaf; cells long-



Pl. 1.— *Lindbergia pellicula*. 1. Habit, moist. 2. Cross-section of stem. 3. Pseudoparaphyllium. 4. Leaves. 5. Medial cross-sections of leaf. 6. Basal cross-section of leaf. 7. Apical leaf cells. 8. Alar cells. 9. Portion of peristome. Figs. 1, 4-6 from Buck 26183; 2, 3, 7-9 from Buck 26227.

hexagonal, ca. 4-6:1, firm-walled, smooth, becoming rectangular toward insertion. Setae reddish, twisted, 5-11 mm long, smooth; capsules erect and symmetric (but sometimes appearing somewhat curved and asymmetric when green), cylindrical, 1.5-2 mm long; exothecial cells subquadrate to short-rectangular, firm-walled, becoming smaller and oblate in 2-4 rows at the mouth; annulus not differentiated; operculum conic; peristome double, pale when dry, inserted somewhat below the mouth, exostome teeth incurved when dry, erect when moist, lanceolate, ca. 275 μm long, gradually acuminate, densely spiculose-papillose throughout, scarcely trabeculate at back; endostome with a medium-high basal membrane, ca. 60-80 μm high, densely papillose, segments rudimentary, to ca. 20 μm , cilia none. Spores spherical, 15-17 μm in diameter, densely papillose. Calyptrae cucullate, naked or more often sparsely hairy, smooth or slightly roughened at extreme apex.

Range: Northwestern Argentina (Jujuy, Salta, Tucumán, Córdoba), southeastern Brazil (Santa Catarina); grow on tree trunks in humid hardwood (especially *Polylepis*) forests at 940-2200 m.

In the proper habitats, this is one of the most common mosses growing on tree trunks. Depending on exposure it ranges from dark-green to blackish. Also varying with microhabitat is the structure of the leaf apex. In shaded situations the leaf apex is shortly and broadly acuminate but in more exposed habitats the leaf apex is more elongate with the costa ending in the acumen. Both of these morphotypes are present in the NY lectotype. The long-acuminated form is the basis of *Leskea pseudoleskeoides*. However, even Brotherus recognized the synonymy of it with *L. pellicula* as indicated by his annotation on the specimen at Helsinki.

This species was previously reported for Brazil as *Lindbergia patentifolia* Dixon (Schäfer-Verwimp, 1992). Indeed *L. patentifolia* is morphologically very similar to the African *L. patentifolia*, and the two may very well be synonymous. However, the type of *L. patentifolia* has not been seen, and is beyond the scope of this paper. It should be noted that *pellicula* is the older epithet.

Material studied: ARGENTINA. *Prov. Córdoba:* Sierra Achala, Cerro Champaqui, 2200 m, Kurtz 6892 (H-BR, basis of *Leskea pseudoleskeoides*). *Prov. Jujuy:* Dpto. Tumbaya, just N of Arroyo de la Quebrada de Coiruro along Ruta Nacional 9, 39 km N of San Salvador de Jujuy, 23°53'S, 65°33'W, 2087 m, Buck 26183 (LIL, NY). *Prov. Salta:* Dpto. La Caldera, km 1644 along Camino de Cornisa, ca. 2 km S of Jujuy provincial border, 24°35'S, 65°21'W, 1340 m, Buck 26221 (NY), 26227 (LIL, NY), 26232 (NY), 26236 (NY). *Prov. Tucumán:* Sierra de Aconquija, prope Tafi, Mar 1872, Lorentz (NY, type); El Indio, Km 28 on Ruta Provincial 307,

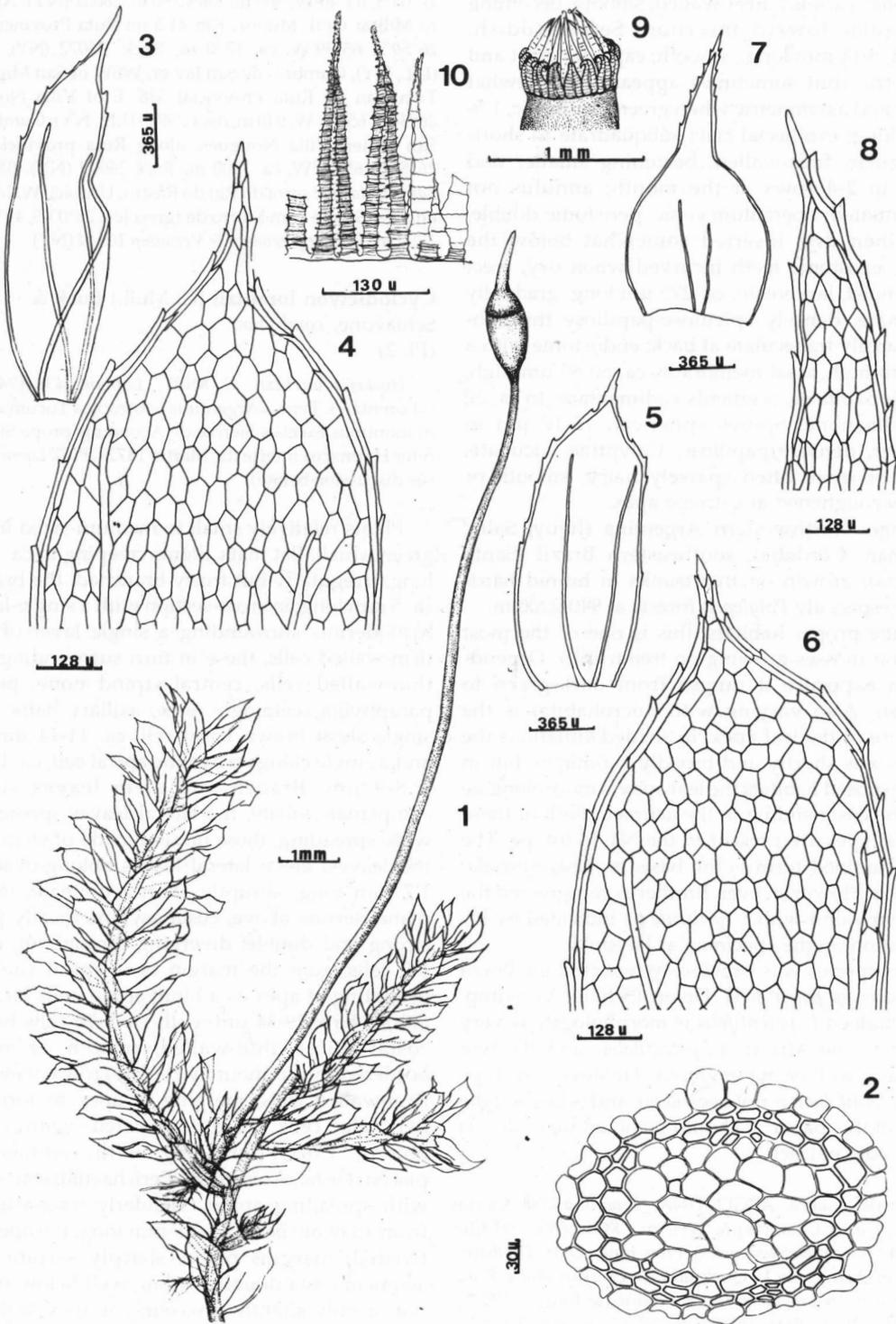
27°03'S, 65°40'W, 960 m, Buck 26030, 26031 (NY); Apeadero Militar Gral. Muñoz, Km 41.5 on Ruta Provincial 307, 26°59'S, 65°39'W, ca. 1700 m, Buck 26072 (NY), 26073 (LIL, NY); Cumbres de San Javier, WSW of San Miguel de Tucumán on Ruta Provincial 338, E of Villa Nogués, 26°54'S, 65°21'W, 940 m, Buck 25989 (LIL, NY); Cumbres de San Javier, Villa Nogués, along Ruta provincial 338, 26°54'S, 65°22'W, ca. 1200 m, Buck 26009 (NY). BRAZIL. *Santa Catarina:* serra do Rio do Rastro, Urubici, Waldweide and der Straße zum Morro da Igreja [ca. 28°03'S, 49°24'W], 1750 m, Schäfer-Verwimp & Verwimp 10544 (NY).

Cyclodictyon lorentzii (C. Müll.) Buck & Schiavone, *comb. nov.*

(Pl. 2)

Hookeria lorentzii C. Müll., *Linnaea* 43: 474. 1882 («Lorentzi»). Type. «Argentina subtropica Tucumanensis, in montibus excelsis Sierrae de Aconquija prope Siambón inter Hypraceae intertexta, Martio 1872». P. G. Lorentz (n.v., see discussion below).

Plants relatively small to medium-sized in pale-green, small, flat mats. Stems creeping to ca. 1.5 cm long, irregularly but freely branched, the branches ca. 5 mm long; in cross-section with a single-layered hyalodermis surrounding a single layer of large, firm-walled cells, these in turn surrounding large, thin-walled cells, central strand none; pseudo-paraphyllia seemingly none; axillary hairs with a single short brown basal cell, ca. 11-14 μm long, and a single elongate hyaline apical cell, ca. 100-125 \times 8-9 μm . Branch and stem leaves similar, complanate-foliate, the lateral leaves spreading to wide-spreading, those on underside of stems (ventral leaves) erect; lateral leaves oblong-ovate, 1.4-1.7 mm long, abruptly short-acuminate; margins plane, serrate above, costa asymmetrically placed, strong and double, diverging throughout, ending 1-2 cells from the margin near apical shoulders, projecting at apex as a blunt spine, cells large, lax, (40-)45-86 \times 29-34 μm , with ca. 9-10 cells between costal apices, thin-walled, smooth, at margins bordered throughout by (1-)2(-3) rows of elongate, firm-walled cells, merging at apex to form (2-)3 tiers; alar cells not differentiated; ventral leaves oblong, 1.0-1.4 mm long, with symmetrically placed costa. Autoicous. Perichaetial leaves erect with spreading apices, slenderly long-acuminate from an ovate base, 1.5-1.9 mm long, the apex often twisted; margins plane, sharply serrate in the acumen; costa double, ending well below midleaf, not or only slightly projecting at apex; cells long-hexagonal, to ca. 115 \times 20 μm , firm-walled. Setae reddish, twisted, 10-15 mm long, smooth; capsules horizontal, cylindrical, \pm symmetric, to ca. 1.5 mm long; exothecial cells subquadrate to short-rectangular, firm-walled, weakly collenchymatous,



Pl. 2.—*Cyclodictyon lorentzii*. 1. Habit, moist. 2. Cross-section of stem. 3. Lateral leaf. 4. Apical cells of lateral leaf. 5. Ventral leaf. 6. Apical cells of ventral leaf. 7. Perichaetial leaf. 8. apical cells of perichaetial leaf. 9. Peristome, dry. 10. Portion of peristome. Figs. 1, 2, 9, 10 from Schiavone 1265; 3-8 from Buck 26019.

becoming thicker-walled and oblate in 2-4 rows at mouth; annulus and operculum not seen; exostome teeth dark-red, incurved when dry, erect when moist, lanceolate, to ca. 400 μm long, on front surface strongly furrowed, cross-striolate below, coarsely papillose above, trabeculate at back; endostome with a high basal membrane, ca. 145 μm tall, smooth, segments keeled, perforate, with baffle-like crosswalls, finely papillose, about as long as the teeth, cilia none. Spores spherical, 15-20 μm in diameter, very finely roughened. Calyptrae not seen.

Range: Seemingly rare and restricted to northwestern Argentina (Tucumán); growing on moist soil at moderate elevations.

Cyclodictyon lorentzii seems not, until recently, to have been collected since the original gathering by Lorentz in 1872. The basionym, *Hookeria lorentzii*, has languished since its original description as an unknown taxon (Brotherus, 1907, 1925; Kühnemann, 1938). However, the original description by Müller (1882) leaves no doubt as to the generic disposition of the species, as evidenced by «margine ... ubiquo limbo» and «nervis binis ... ante apicem ... evanidis percursa». Unfortunately the type has not been found and may well no longer be extant. However, two recent collections, from which the above description has been drawn,

from the same general area and matching the protologue, have been found. There seems to be little doubt that the original and recent collections are the same. Because of the large number of species in the genus and lack of a monograph, there is no way to know if *C. lorentzii* is truly a rare, local endemic, or whether it is a disjunct population of a more widespread species.

Material studied: ARGENTINA. *Prov. Tucumán:* Km 15.5 on ruta Provincial 307, SSE of Tafí del Valle, 27°06'S, 65°36'W, ca. 550 m; soil banks along moist forest, *Buck 26019* (NY); Depto. Monteros, Ruta Provincial 307 at Km 15.5, 550 m; sobre suelo al lado del camino, *Schiavone 1265* (LIL, NY).

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