

## *Chiloscyphus* subgenus *Phaeochiloscyphus* (Hepatophyta, Geocalyceae) from southern South America

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**Abstract:** *Chiloscyphus* subgenus *Phaeochiloscyphus* J. J. Engel & R. M. Schust. is revised and shown to contain two species, *C. durus* (Steph.) Hässel, comb. nov. and *C. magellanicus* Steph. Study of additional material has shown that *Chiloscyphus hookeri* J. J. Engel must be treated as a new synonym of *C. durus*, as is *Leptoscyphus decipiens* Mitt., nom. inval. *Chiloscyphus lobatus* Steph. is treated as a new synonym of *C. magellanicus*. The two accepted species are distinguished by a key; typification and synonymy are presented in full and all specimens studied from Chile and Argentina are cited along with a summary of distribution and ecology. Finally, *C. magellanicus* is fully described and illustrated for the first time.

**Key words:** Hepaticopsida, Liverwort, Geocalyceae, taxonomy, Chile, Argentina.

**Resumen:** Al revisar *Chiloscyphus* subgénero *Phaeochiloscyphus* J. J. Engel & R. M. Schust. se demuestra que contiene dos especies, *C. durus* (Steph.) Hässel comb. nov. y *C. magellanicus* Steph. El estudio de material adicional reveló que *Chiloscyphus hookeri* J. J. Engel debe ser tratado como nuevo sinónimo de *C. durus*, como así también *Leptoscyphus decipiens* Mitt. nom. inval. *Chiloscyphus lobatus* es considerado nuevo sinónimo de *C. magellanicus*. Se distinguen las dos especies a través de una clave; tipificaciones y sinonimia se presentan en detalle y se citan todos los ejemplares estudiados de Chile y Argentina con un resumen de distribución y ecología. Además por primera vez se describe en detalle y se ilustra *C. magellanicus*.

*Chiloscyphus* subgenus *Phaeochiloscyphus* J. J. Engel & R. M. Schust., was established by Engel & Schuster (1984) to include *Chiloscyphus hookeri* J. J. Engel and its two varieties. This is an easily distinguishable taxon, reported by Engel (1972:150) from Chile (Magallanes, Desolación I., Newton I., and B. Tekenika) and from Argentina (Tierra del Fuego and Malvinas Is.), and reported by the same author (1978:152) from the Brunswick Peninsula and (1990:115) from Malvinas Is. The correct name of this taxon is *C. durus* (Steph.) Hässel because its basionym *Lophocolea dura* Steph., has priority over *C. hookeri* J. J. Engel, a name slipped before into the synonymy of "*Leptoscyphus expansus*" (Grolle, 1962: 62).

*Chiloscyphus magellanicus* Steph. was placed by Engel & Schuster (1984: 400) in the genus *Heteroscyphus* Schiffn. The first defining character of this genus -"the androecia are consistently on abbreviated spicate intercalary branches, that totally lack normal vegetative leaves"- as indicated by Engel & Schuster (1984: 400), is not displayed by this particular species, as shown in the description and illustration presented below (Fig. 2.1).

The purpose of this study is to reinstate the

name *Chiloscyphus magellanicus* Steph. in *Chiloscyphus* Corda to which it truly belongs, and to add a new synonym, which had been wrongly placed in synonymy in another genus. *Chiloscyphus magellanicus* should also be included in subgenus *Phaeochiloscyphus* because it shares some characters with *C. hookeri* J. J. Engel, a taxon which must now be called *C. durus* (Steph.) Hässel.

***Chiloscyphus* subgenus *Phaeochiloscyphus***  
J. J. Engel & R. M. Schust., Nova Hedwigia 39:  
409, 1984.

Plants brown; leaves ovate, convex, entire, occasional basal distal teeth present, or bifid leaves on the same plant; antheridia stalks 2-seriate; gynoecia most frequently borne on short lateral intercalary branches; perianth originally trigonous, cylindric, campanulate to cupulate, mouth wide, broadly dentate to lacinate. Sporophyte only known from *C. durus* (Steph.) Hässel [Engel (1972:152 under *C. hookeri* J. J. Engel)]. No asexual reproduction known.

Type species: *Chiloscyphus hookeri* J. J. Engel

At present two taxa belong to this subgenus:

- 1) Plants robust, light green to light brown; stem 18-20 cells wide; leaves alternate, dorsal margin flat, dorsal stem middle line (free of leaves) up to 8 cells wide; central leaf cells 47-70 x 35-47  $\mu\text{m}$  in diam.; cell walls thin, trigones small; amphigastria connate on one side to one leaf; perianth obscurely trigonous at apex, ventral portion infolded, mouth with  $\pm$  40 laciniae all around, lateral portions obscurely bifid with additional straight to curved, elongated, unequal laciniae, at their base 2-4 cells wide, apex a uniseriate filament 3-9 cells long .....  
..... *Chiloscyphus durus* (Steph.) Hässel
- 2) Plants delicate, when dry brown or red brown; stem (6)-16 cells in diam.; leaves subopposite, dorsal margin slightly recurved, dorsal stem middle line (free of leaves) 2 (-3) cells wide; central leaf cells 51-80 x 44-61  $\mu\text{m}$  in diam., cells walls thickened on dorsal surface, trigones conspicuous; amphigastria connate on both sides to leaves; perianth cupulate, mouth wide, with  $\pm$  16 laciniae all around, lateral portions obscurely bisbifid with additional laciniae, each lacinia triangular elongated curved, at their base 4-10 cells wide, apex a uniseriate filament 4-10 cells long .....  
..... *Chiloscyphus magellanicus* Steph.

***Chiloscyphus durus*** (Steph.) Hässel comb. nov.

- ≡ *Lophocolea dura* Steph., Kongl. Svenska Vetenskapsakad. Handl. 46(9): 43, fig. 16 a-d, 1911; *basionym*. *Typus*: Chile, Patagonia Austr., Canal Gajardo, Strandfelsen am Inga Gletscher, Skottsberg 1908 [G 17780 *holotypus* of *Lophocolea dura* Steph. (Grolle 1962: 65) S, UPS *isotypi*].
- = *Leptoscyphus decipiens* Mitt. *nom. nud.*, London J. Bot. 3: 358, 1851. *syn. nov.* Original material: Cape Horn, Dr. Hooker (NY as *Leptoscyphus chilosophoides* with *Lophocolea pallidovirens* Taylor).
- = *Chiloscyphus hookeri* J. J. Engel, J. Hattori Bot. Lab. 36: 150. Figs. 1 (1-6); 2 (1-10), 1972, *syn. nov.* *Typus*: Chile, Magellanes, I. Hermite, Hooker 12, p. p. (NY *holotypus*, mixed with *Jungermannia pallidovirens* Hook. f. & Taylor; BM, G *isotypi*).
- = *Chiloscyphus hookeri* var. *constantifolius* J. J. Engel, J. Hattori Bot. Lab. 36: 155, 1972. *Typus*: Chile, Tierra del Fuego, Bahía Tekenika, C. Skottsberg ser. III, n° 33 as *Leioscyphus horizontalis* (Hook.) Steph. (S-PA *holotypus*).

### Description

This species has been well-described and illustrated by Engel (1972: 150) under *Chiloscyphus hookeri* J. J. Engel.

### Discussion

In the diagnosis of the subgenus *Phaeochiloscyphus* J. J. Engel & R. M. Schust. (Engel & Schuster, 1984) it is indicated that the small lateral intercalary branches, bearing perianths, are devoid of leaves. This is incorrect, as in *C. durus* (Steph.) Hässel, (including *C. hookeri* J. J. Engel, the type species of this subgenus), these branches can be longer and are nearly all provided with leaves.

*Lophocolea dura* Steph. was placed by Grolle (1962: 62) in the synonymy of "*Leptoscyphus expansus* (Lehm.) Grolle". This placement was accepted by Engel (1978: 179) and Engel and Schuster (1984: 428). The type of *Lophocolea dura* Steph. consists of dark brown (in the dry condition) female plants. The leaves are entire or occasionally have one basal distal tooth, are recurved ventrally and although quite imbricate leave dorsally a conspicuous middle line along the stem free of leaves; the leaf cells have small trigones. The amphigastria, with 2 divergent principal segments, have lateral teeth on the lamina sides. Several young perianths are present on short leafy branches, (with 2-3 cycles of leaves under the bracts). The young perianths, 2-3 mm high, have a trigonous structure with pronounced dorsal and ventral-lateral keels, the ventral smaller portion is infolded, the mouth is 3-lobate and dentate, these teeth are triangular-acuminate, at their base 2-4 cells wide. These specimens are reminiscent of *C. magellanicus* Steph., but the perianth form and teeth are quite different, as in the latter one the perianth mouth has conspicuous lacinia, rather than teeth.

Specimens from Peninsula Brunswick, Cabo San Isidro collected by Roivainen 2395 (at H), determined first by S. Arnell as *Lophocolea pallidovirens*, then later by Engel (1978: 152) as *Chiloscyphus hookeri* var. *constantifolius* J. J. Engel, belong to *Leptoscyphus*, while Roivainen 2401 (H) identified by Engel (l.c.) as *Chiloscyphus hookeri* var. *constantifolius*, contains three species: *Leptoscyphus* sp. (c. per.), *Leptoscyphus chilosophoides* (c. per.) and *Chiloscyphus durus* (masc., c. per.).

The holotype of *C. hookeri* var. *constantifolius* J. J. Engel (at S-PA) consists of female plants which have long stems, with entire leaves, which sometimes alternate with leaves with one basal tooth, one of the characters that defines the species; this situation is most common and therefore it is not necessary to maintain the name of the variety as it cannot be distinguished from the type variety.

**Specimens examined**

CHILE: Chiloé, Cordillera de Piuchué. Alerzal 500 m.s.m., Villagrán 15, id 22 (VILLAGRAN<sup>1</sup>). Baie de L' Isthme, Savatier 207 (VER as *Lophocolea pallidovirens*). Canal Gajardo, Caleta Inga, Skottsberg 1908 (c. per.) (G 17780 *holotypus* of *Lophocolea dura* Steph. S, UPS, *isotypi*). Ancón Sin Salida, Seno Unión, G.H.M.<sup>2</sup> TBPA-B<sup>3</sup> 655; id 656; id 820. Piazzi I., Caleta Ocasión, G.H.M. TBPA-B 914a; id 1118. Vidal Gormaz I., G.H.M. TBPA-B 1590. Pto. Bellavista, Lago Azul, Schiavone TBPA-B 2086; id 2092; id 2096 (c. per.); Pto. Bellavista, Cerro Morro, Schiavone TBPA-B 2182; id 2207; id 2294a; id 2299 (masc. c. per.); Pto. Toro, Río Serrano, Schiavone TBPA-B 2495 (masc. c. per.); Pto. Toro, al pié del Cerro Balmaceda, Schiavone TBPA-B 2558b. Savatier 1782 (VER as *Chiloscyphus pallidovirens?*). York Bay, Lechler 1362 (NY with *Chiloscyphus pallidovirens*). Chatham I., Engel 5358A p.p. (MSC). Newton I., Dusen 95 (M, S). Brunswick Península, B. San Nicolás, Engel 6360 p. p. (MSC). Riesco I., C.A. y G.H.M. 433. Desolación, Pto. Angosto, Dusen 385 (BA 30583). Tierra del Fuego, Halle (NY as *Chiloscyphus amphibolius*); id, Furia I., Hyvönen 2975a-b (NY). Sarmiento Bay, Spegazzini 273(4) (VER as *Chiloscyphus grandifolius*); id 240 (VER as *Chiloscyphus surrepens*). Hoste I., Hyades (VER as *Chiloscyphus pallidovirens?*); id, Hariot 170 (VER as *Chiloscyphus pallidovirens?*); id Hahn 130 (VER as *Chiloscyphus pallidovirens?*). Basket I., Darwin Sound, Spegazzini 177 (VER as *Chiloscyphus grandifolius*); id 218 p. p. (VER as *Chiloscyphus grandifolius*). Wollaston I., Hariot 90 (VER as *Leioscyphus chiloscypoides* var. *major?*). Hermite I., Hooker 12 p. p. [NY *holotypus* of *Chiloscyphus hookeri* J. J. Engel, with *Jungermannia pallidovirens* Hook.f. & Taylor BM (c. per), G *isotypi*]. Cape Horn, Dr. Hooker (NY original material of *Leptoscyphus decipiens* Mitt.); id, (NY with *C. magellanicus* Steph.). Rennell I., matorral costero, Eskuche 70-26 (CTEFN); id, Bahía Tekenika, C. Skottsberg ser.III, n° 33 [S-PA as *Leioscyphus horizontalis* (Hook.) Steph.]. ARGENTINA. Tierra del Fuego, Paso Garibaldi, G.H.M. e I. Gamundi 1477. Destacamento Lago Cami, C.A. y G.H.M. 907. Lago Escondido, Solari 11 (BA 22212c); id G.H.M. 3550. Valle Carbajal, G.H.M. 2438; id 3269. Lapataia, G.H.M. 2482. Bahía San Valentín, G.H.M. 3809 (c. per. c. caps.). Bahía

Slogget, Spegazzini (c. per.) (VER). Península Mitre, Cerro Arriola, Hyvönen 3095 (BA). Isla de los Estados (Staten I.) Bahía Crossley, G.H.M. 3866; id 3885 (masc.); id 3880 (c. per. c. caps.); id 4611 (c. per.). Pto. Cook, G.H.M. 3018 (masc.); id Spegazzini 14(a) (VER as *Lophocolea pallidovirens*); id 38 (1) (VER as *Chiloscyphus grandifolius*); id 40 (VER as *Leioscyphus chiloscypoides*). Pto. Roca, Castellanos (BA 1414); id G.H.M. 4003 (c. per.). Mte. Conegliano, Spegazzini 43 (VER as *Chiloscyphus grandifolius*). Monte Italia, Spegazzini 110 (VER as *Chiloscyphus grandifolius*). Pto. San Juan, G.H.M. 4132, id 4204; id Castellanos (BA 1398), id (BA 1413). Pto. Vancouver G.H.M. 3107; id 4315 (c. per.). Observatorio I., G.H.M. 3923; id 3931. Goffré I., G.H.M. 3955. Barbagallo, (masc. c. per.) (BA 15266). Malvinas I. Charcot Expedition (M); Pto. Stanley, Skottsberg (S as *Lophocolea pallidovirens*).

**Ecology and distribution**

Engel (1978: 152) described the ecology of *C. hookeri*, in the Brunswick Peninsula and in the Malvinas I. (Engel, 1990: 115).

*Chiloscyphus durus* turns out to be very widely distributed in the evergreen forest zone reaching from Chiloé I. in the north, as far as to the eastern tip of southern South America, the Isla de los Estados; where it has been found with perianths and sporophytes. A detailed observation even of sterile specimens, allows identification of the taxon, nevertheless it was in the past overlooked and confused with other taxa (see list of specimens examined). It grows loosely in the hepatic carpet that covers the ground, also on stream banks under *Gunnera* sp., on rotten logs and in the coastal shrub fringe, with *Gackstroemia magellanica* (Lam.) Trev., *Blepharidophyllum densifolium* (Hook.) Angstr., *Telaranea plumulosa* (Lehm. & Lindenb.) Fulf., *Chiloscyphus obvolutus* (Hook.f. & Taylor) Hassel, *C. pallidovirens* (Hook.f. & Taylor) Taylor, *C. magellanicus* Steph. and other common hepatics.

***Chiloscyphus magellanicus* Steph., Spec. Hep. 3: 256, 1908.**  
Figs. 1-2

≡ *Heteroscyphus magellanicus* (Steph.) J. J. Engel & R. M. Schust., Nova Hedwigia 39: 400, 1984; syn. nov. *Typus*: Patagonia occidentalis, Dusen 373 [FH *lectotypus* (Engel, Fieldiana 41: 154, 1978)]; Fretum Magellanicum, Smyth Channel (G *syntypus*).  
= *Chiloscyphus lobatus* Steph., Spec. Hep. 3: 256, 1908; syn. nov.

<sup>1</sup> Field record collection

<sup>2</sup> G.H.M. = G. Hassel de Menéndez in Hb. BA

<sup>3</sup> TBPA-B = Transecta Botánica de la Patagonia Austral-Briofitas

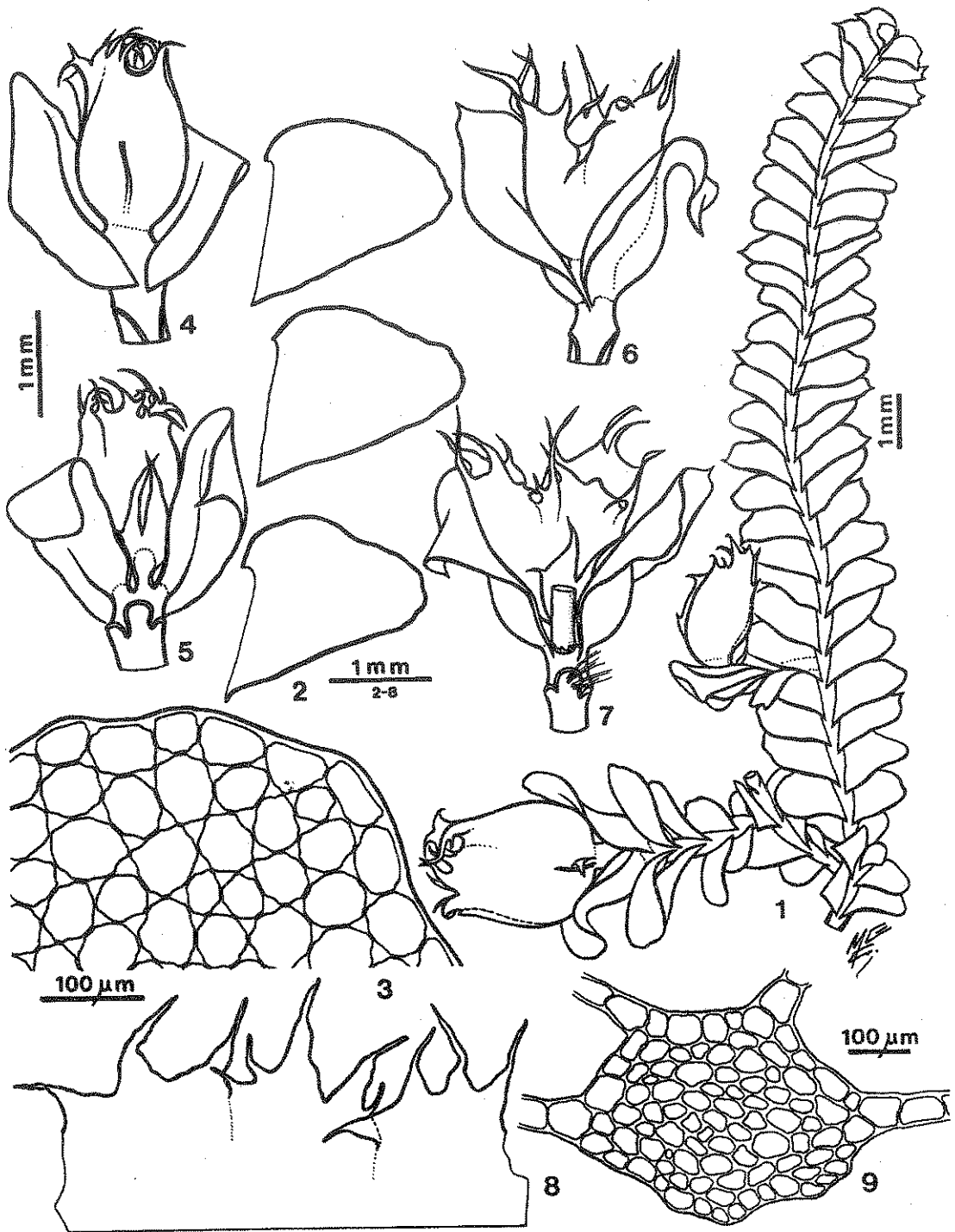


Fig. 1. *Chiloscypus magellanicus* Steph. 1. Dorsal view of female plant with perianths. 2. Leaves. 3. Foliar cells. 4-7. Gynoecia: 4, 6. dorsal view of perianth with bracts, 5. ventral view with bracteole, 7. ventral view with bracteole and innovation. 8. Distal portion of perianth. 9. Transverse section of stem. 1-5, 8-9. Chile, Virtudes I., G.H.M. TBPA-B 1905. 6-7. Chile, Ancón Sin Salida, Seno Unión, G.H.M. TBPA-B 679.

≡ *Heteroscyphus lobatus* (Steph.) Kühnemann, Lilloa 19: 333, 1949; syn. nov. *Typus*: Fretum Magellanicum, Desolación I., Pto. Angosto, inter muscos et lichenes, Dusen 376 [G 000312 *holotypus* of *Chiloscyphus lobatus* Steph. (Grolle 1962:65) UPS, FH *isotypi*].

### Description

Plants dioicous, creeping horizontally amongst other bryophytes, brown colored, in the dry condition shiny, profusely branched, leafy shoots 1,5-4 mm wide; branches lateral intercalary, diverging mostly at right angles from the main stem. Stem cylindrical to prismatic, in t.s. 0,2-0,3 mm wide and high, (6)-12-14 cells wide, (7)-9-16 cells high, cortical cells 23-35  $\mu$ m in diam., cell walls brown, thin; medullary cells 16-35  $\mu$ m in diam., cell walls thickened, colourless. Dorsal stem middle line (free of leaves) at narrowest portions 2 (3) cells wide. Leaves closely imbricate, subopposite, dorsally approximate, asymmetric ovate, 1,1-1,8 mm long, 0,8-1,2 mm wide; insertion oblique with short ventral arch, initially elevating from stem by the presence of large cells (c. 59  $\mu$ m in diam.), the limb mainly flat, dorsal border slightly recurved, ventral border plane except near the stem, where much recurved, teeth uncommon, when present, isolated, acute (1-2 cells long), 1 at distal basal portion or 2 at distal portion of leaf with straight sinus; middle leaf cells 54-56  $\mu$ m in diam., marginal cells 35-40  $\mu$ m in diam., 23-40  $\mu$ m thick, trigones present, cuticle slightly thickened, smooth. Oil bodies unknown. Amphigastria with pronounced inverted U-shaped insertion, united to leaves on both sides by a 1-2 cells wide decurrent lamina, underleaf lamina cuneiform, 120-390  $\mu$ m wide, 345-590  $\mu$ m high, with 2 main segments triangular, acute, elongated, slightly curved, separated by an obtuse rounded sinus, the biseriate base 4 cells long, uniseriate tip 4 cells long, 1 accessory long lateral curved tooth on each side, biseriate portion 2 cells long, uniseriate tip 4 cells long, additional teeth or papillae on each side also present. Rhizoids brown, abundant, borne close to amphigastria. Male plants as wide as female plants or 2-3 mm wide; androecia cylindrical, 1,5-2 mm wide, with (2-3)-4-5-(7) pairs of perigonal bracts, borne on main stem, successive with intervals of normal leaves, or at base of lateral intercalary branches with growth continuing as a vegetative shoot, sometimes giving rise to new lateral intercalary branches from ventral bract angles; bracts with dorsal lobule; lobule liguliform, small, 1-2 dentate, involute, at base conspicuously saccate, distal lobe rounded, expanded spreading perpendicularly from shoot, ventral margin recurved.

Antheridial stalk biseriate. Perigonal bracteoles similar to amphigastria, sometimes smaller. Gynoecea on main shoot, some successive, or on short lateral intercalary branches, with subfloral innovation of lateral intercalary origin; bracts up to 3 pairs, enlarging towards apex of shoot, covering the perianth, 2,4-3,5 mm long, 1,2-2 mm wide, at base pouched, distal portion recurved, margin repand, sinuate or with small teeth; bracteoles enlarged, the lamina rounded-rectangular up to 2 mm high, the margins nearly entire, at apex bifid, the segments acute, short. Perianth cylindrical to cupulate, 3-4,5 mm high, emergent, dorsal incomplete keel present or absent, lateral keels in general absent, young perianths sometimes laterally open; mouth with 3 main bisbifid portions separated by a rounded sinus, with 4 triangular laciniae, or acute curved sometimes recurved teeth, corresponding to the sides; ventral portion (when well-developed), with 2-4 laciniae, each 0,6-0,9 mm long, with base c. 8 cells wide and uniseriate filament 4-10 cells long; perianth cells elongated, 47-70  $\mu$ m long, 35-43  $\mu$ m wide, with trigones as in vegetative leaves. Sporophyte unknown. No asexual reproduction present.

### Discussion

This taxon was placed in the genus *Heteroscyphus* Schiffn. by Engel & Schuster (1984: 400), probably because young androecia were observed close to the stem. Here it is shown, (see fig. 2.1), that the androecia are intercalary on main shoots, a detail present in the syntype of *Chiloscyphus magellanicus* Steph. from Smyth Channel (at G), and that when androecia originate on branches close to the stem, normal growth with vegetative leaves continues.

This species can be distinguished from *C. durus* because of its shiny brown appearance, the large cells, the narrow dorsal furrow between the subopposite leaves and the amphigastria connate on both sides to the leaves.

*C. lobatus* Steph., here considered a synonym of the present taxon, was placed by Grolle (1962: 61) as synonym of "*Leptoscyphus expansus*". Both *C. lobatus* Steph. and *C. magellanicus* Steph. are illustrated with perianths in Stephani's *Icones Hepaticarum* (Stephani, 1985) based on Dusen collections.

### Specimens examined

CHILE: Chiloé, Aguas Buenas, road Ancud Quemli, Engel 1290 (NY as *Leptoscyphus expansus*). Cord. Piuchué, Villagrán 51 (VILLAGRAN) (c. per.). Pta. Tiques, Villagrán

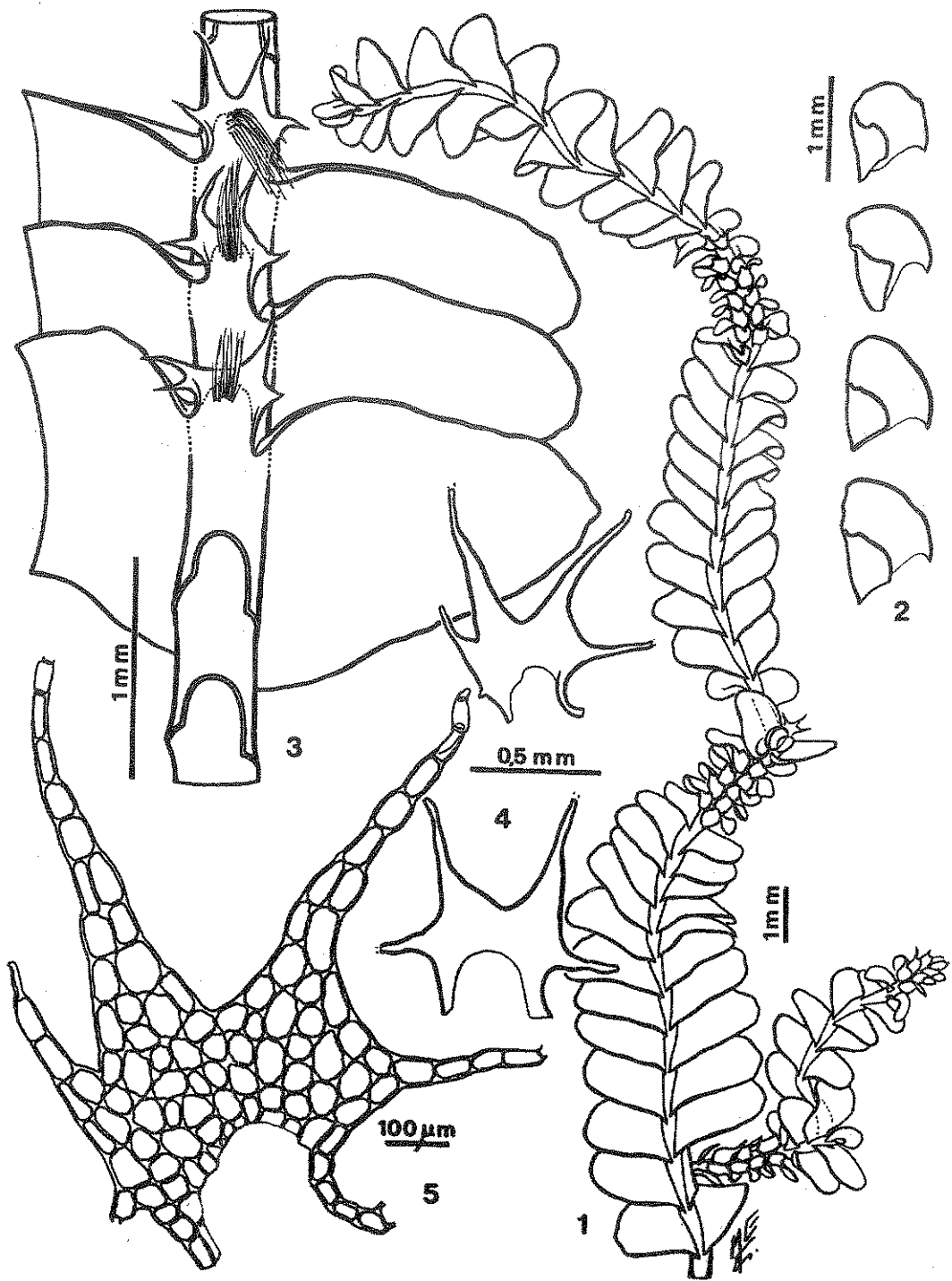


Fig. 2. *Chiloscypus magellanicus* Steph. 1. Dorsal view of male plant with intercalary androecia, and androecium at branch base. 2. Perigonal bracts. 3. Ventral view of shoot. 4. Amphigastria. 5. Detail of amphigastrium. 1-5. Chile, Virtudes I., G.H.M. TBPA-B 1905

268 p.p. (VILLAGRAN). Wellington I., Pto. Eden, Savatier 1863 (VER as *Chiloscyphus pallidovirens*). Baie de L' Isthme, Savatier 208 p.p. (VER as *C. pallidovirens*). Chatham I., on cliff, Engel 5358 A (NY). Ultima Esperanza, Ancón Sin Salida, Seno Unión, G.H.M. TBPA-B 679, 792 (c. per.). Piazzini I., Caleta Ocasión, G.H.M. TBPA-B 914 b. Virtudes I., G.H.M. TBPA-B 1905 (c. per.), 1907 (c. per.), id Rennel I., Eskuche 62-39 (masc. c. per.) (CTEFN). Smyth Channel (masc.) (G *syntypus* of *C. magellanicus* Steph.). Península Brunswick, Bahía San Nicolás, Engel 6351B (NY), id, E side of B. San Nicolás, Engel 6397 (MSC as *C. hookeri* subsp. *constantifolius* J. J. Engel). Desolación I., Dusen 376 (G 000312 *holotypus* of *Chiloscyphus lobatus* Steph., UPS, *isotypi*). Hoste I., Hahn 451 (VER as *Chiloscyphus supinus* ?). Basket I. in sylvis, Darwin Sound, Spegazzini 178(x) (VER as *Chiloscyphus surrepens* ?). Basket I., Desolation Sound, Chilota Bay, Spegazzini 218(1) (VER as *Chiloscyphus grandifolius* p.p.). Cap Horn, Davis (NY hb. Hooker, *syntypus* of *Jungermannia surrepens* Hook.f. & Taylor); id hb. Hooker p. p. (NY with *C. hookeri* J. J. Engel). ARGENTINA: Tierra del Fuego, Slogget Bay, in sylvis uliginosis, Spegazzini 290(1) (VER as *Chiloscyphus similis*, *Ch. surrepens*). Bahía Buen Suceso, G.H.M. 3722. Isla de los Estados (Staten I.), Spegazzini 99(3) (VER as *Leioscyphus surrepens*); id Spegazzini 215 p. p. (VER as *Chiloscyphus pallidovirens*); id Mte. Conegliano, Spegazzini 324(1) (VER); id Mte. Richardson, Spegazzini 104(2) (VER as *Chiloscyphus grandifolius*?); id Bahía Franklin, Cabo San Bartolomé, G.H.M. 4557b; id Spegazzini 21(5) (VER); id Bahía Hoppner, G.H.M. 4721 (masc. c. per.); id Pto. Cook, cascada arroyo Fernández, G.H.M. 3018 p. p., 3104 b, 3143; id Pto. San Juan, Castellanos 3-I-1934 p. p. (BA 1399, 1400); id, Pto. Vancouver, G.H.M. 4280. Bahía Franklin, Cabo San Bartolomé, G.H.M. 4557b.

### Distribution and ecology

*Chiloscyphus magellanicus* Steph. is known to be present in Chile, from Chiloé, the channel islands, the Brunswick Peninsula, as far as the

most southern islands of the Magellanic archipelago. In Argentina it inhabits the east southern area of Tierra del Fuego and the Isla de los Estados. It occurs in the thick bryophyte carpet that covers the ground in the *Nothofagus betuloides* forests, rocks, stream banks and sometimes it is submerged in bog pools of that area.

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