

***Holothrix filicornis* Immelman & Schelpe**, sp. nov., *H. scopularia* (Lindl.) Reichb. f. affinis, calcar longissimo, foliis scapisque glabris, spica non secundissima differt.

Folia glabra. *Scapus* ebracteatus, glaber, 65–260 mm longus. *Sepala* glabra, ovata, acuta, 1,5–2,0 mm longa, 0,5–1,0 mm lata, viridi-rubra. *Petala* triloba, 3,0–8,0 mm longa, 0,5–1,0 mm lata, viridi-alba, lobis filiformibus, paulum carnosus. *Labellum* quinquelobum, 4,5–9,0 mm longum, 1,5–2,5 mm latum, viridi-album, lobis filiformibus, paulum carnosus. *Calcar* conicum, dependens vel leviter incurvatum, 7–11 mm longum.

TYPE.—Cape, 2917 (Springbok): 23 km west of Springbok (–DB), *Acocks 19269* (BOL, holo.; PRE; K).

Leaves glabrous. *Scape* glabrous, without bracts, 65–260 mm long. *Ovary* twisted, green tinged with red. *Sepals* glabrous, ovate, acute, 1,5–2,0 × 0,5–1,0 mm, green tinged with red. *Petals* with three filiform, slightly carnosose lobes comprising $\frac{1}{2}$ – $\frac{2}{3}$ of the total petal length, 3,0–8,0 × 0,5–1,0 mm, white tinged with green. *Lip* slightly carnosose, divided into five filiform lobes, lobes comprising $\frac{3}{4}$ – $\frac{1}{4}$ of the total lip length, lip 4,5–9,0 × 1,5–2,5 mm, greenish white. *Spur* conical, curved, pendulous, 1,25–2,0 times the length of the lip, 7–11 mm long.

This species appears to be confined to northern Namaqualand. It grows in rock crevices and on stony slopes; flowering from June to September.

CAPE.—2816 (Oranjemund): south-western Richtersveld (–BB) *Williamson 2562* (BOL); *Williamson 2565* (BOL). 2817 (Vioolsdrif): north-east end of Paradysberg (–AC), *Tölken 3293* (BOL); Richtersveld, Stinkfontein, south-west of Zylsrus, upper eastern slopes on summit of ridge (–CA), *Oliver, Tölken & Venter 652*; Richtersveld, Cornelsberg in Stinkfontein mountains, in main large kloof, on east side below beacon (–CA), *Oliver, Tölken & Venter 702*. 2917 (Springbok): Richtersveld, Karoegapoort, 9 km south of Lekkersing, main hill north of poort, on north side (–AA), *Oliver, Tölken & Venter 823*; 23 km west of Springbok (–DB), *Acocks 19269* (BOL; PRE; K).

H. filicornis appears to be most closely related to *H. scopularia* among the *Holothrix* species in South Africa, both having 3-lobed petals and a bractless scape. The petals in all other species with divided petals have a variable number of lobes. However, *H.*

scopularia is a high-montane species from the Drakensberg, and the two are also easily distinguished on the basis of the long spur, the glabrous leaves and scape, and the less strongly secund spike of *H. filicornis*.

The most striking character of this species is the relatively very long spur. Unfortunately the specific epithet *longicornu* has already been used in the genus, and so *filicornis* was chosen instead.

***Holothrix brevipetala* Immelman & Schelpe**, sp. nov., *H. cernua* (Burm. f.) Schelpe affinis, petalis brevibus, lobis labii brevioribus et latioribus differt.

H. hispidula sensu Bolus, Ic. Orch. Austro-Afr. 3: t. 17 (1913) partly, excl. syn. L. f., Thunb.; Orch. Cape Penins. ed. 2: 20, t. 13 (1918) partly, excl. syn. L. f., Thunb.; Schltr. in Ost. bot. Z. (1898) 443, partly, excl. syn. L. f., Thunb.; non (L. f.) Dur. & Schinz.

H. parvifolia sensu Rolfe in Fl. Cap. 5, 3: 103 (1913) partly, excl. syn. Thunb.; Bolus, Orch. Cape Penins. ed. 1: 115, t. 24 (1888); non Lindl.

Folia squamellis vel pilis crassis dense vestita. *Scapus* ebracteatus, crassus, 60–300 mm longus, pilis hispidis reflexis. *Sepala* dense pilosa, ovata, acuta, 1,0–2,5 mm longa, 0,5–1,5 mm lata, luteo-viridia, ad apicem carnososa. *Labellum* trilobum vel quinquelobum, 2,5–3,5 mm longum et latum, luteo-viride, interdum verrucosum (necnon petalum), lobis brevibus latis carnosus. *Calcar* conicum, leviter incurvatum, 1–2 mm longum.

TYPE.—Cape, 3324 (Steytlerville): Humansdorp, koppie above Oudebos (–CC), *Jeppe in PRE 33391*; holo., K).

Leaves densely covered with small squamules or stout hairs, sometimes withered at flowering. *Scape* with short, hispid, reflexed hairs, without bracts, stout, 60–310 mm. *Sepals* densely pilose, 1,0–2,5 mm. *Petals* undivided, carnosose at the apices, 2,5–3,5 × 0,5–1,5 mm, yellow-green. *Lip* carnosose, lip and petals sometimes warty, lip oval in shape with 3–5 short, broad lobes, 2,5–3,5 × 2,0–3,5 mm, yellow-green. *Spur* conical, slightly curved, 1,0–2,0 mm.

H. brevipetala occurs in the south-western Cape and in the southern Cape areas towards Port Eliza-

beth. It grows in sand and in shallow soil in rock-crevices and, though it can be found in flower from August to April, it usually flowers between October and January.

CAPE.—3318 (Cape Town): Waai Vlei, *Wolley-Dod* 2339 (BOL); Table Mountain summit, near Klaassenbosch (—CD), *Bolus & Scully s.n.* (BOL; SAM); Top of Nursery Buttress (—CD), *Bruyns* 141/75 (NBG); Table Mountain, Echo Valley (—CD), *Compton* 8284 (NBG); Table Mountain, between Skeleton and Window Gorge (—CD), *Leighton* 750 (BOL); Table Mountain, summit (—CD), *Schlechter* 464 (BOL). 3319 (Worcester): near Elgin, between Grabouw and Paardeberg, (—AC), *Stokoe s.n.* (SAM); Paarl, Slanghoek mountains, Witteberg, northern-western side (—CA), *Wasserfall* 605 (NBG). 3324 (Steytlerville): (—CC), *Jeppe in PRE* 33391. 3326 (Grahamstown): Coldstream (—BC), *Glass s.n.* (PRE). 3418 (Simonstown): Constantiaberg (—AB), *Compton* 15466 (NBG); Cape Point, Smith's Farm (—AD), *Compton* 6067 (NBG); mountain above Smits-winkelbaai (—AD), *Schlechter* 667 (BOL). 3419 (Caledon): Palmiet River Mountains, *Stokoe s.n.* (SAM). 3420 (Bredasdorp): Heidelberg, Naauwpoort Peak (—BB), *Thorn s.n.* (SAM). 3423 (Knysna): Knysna (—AA), *Duthie s.n.* (BOL.). 3424 (Humansdorp): Tsitsikama, Ratel's Bosch, flats below road, *Fourcade* 583 (GRA).

This species has been misidentified as *H. hispidula* (L. f.) Dur. & Schinz which is based on *Sparrmann* 34 (LINN!); and as *H. parvifolia* Lindl., a superfluous name for *H. hispidula*. Both these names must be included as synonyms of the species *H. cernua* (Burm. f.) Schelpe, and a new name chosen for the species referred to by Bolus, Rolfe, Schlechter and other authors. *H. brevipetala* has been chosen because the species has short, broad petals (and lip-lobes) which characterize it and distinguish it from its close ally *H. cernua*.

***H. villosa* Lindl. var. *condensata* (Sond.) Immelman, stat. et comb. nov.**

H. condensata Sond. in *Linnaea* 19:76 (1848). Type: Cape, 3420 (Bredasdorp): Swellendam, in sand dunes (—AB), *Mund s.n.* (S; K).

H. lithophila Schltr. in *Öst. bot. Z.* (1898) 446; Engl. in *Bot. Jb.* 26: 331 (1898). Type: Cape, 3419 (Caledon): on mountain above Vogelgat lagoon (—AD), *Schlechter* 9556 (B†; one flower at K).

A number of characters appeared at first to separate *H. condensata* from *H. villosa*, i.e. denser spike, larger flowers and leaves, stouter scape, broader lip-lobes and longer, broader petals. However, on closer examination, these characters were all found to intergrade or at least to overlap. In their 'typical' forms the two taxa are separable, but numerous intermediate specimens make it difficult to uphold *H. condensata* as a separate species.

The distribution ranges of the two varieties overlap, with *H. condensata* tending to occupy damper habitats, and occurring almost exclusively (but not quite: see type) in rock crevices and on cliffs. *H. villosa* is also found in rock crevices but does occur frequently in other habitats, in fynbos, grassland, semi-arid areas, sandy areas under young wattles, and on roadsides. There is no difference in flowering time. *H. condensata* is therefore reduced to a variety of *H. villosa*.

***Holothrix parviflora* (Lindl.) Reichb. f. in Otia Bot. Hamb. 2: 119 (1881).** Type: Cape, 3323 (Willowmore): Swanepoelpoort Mountains (—BB), *Drège* 8276a (K).

Tryphia parviflora Lindl. in Hook. Comp. bot. Mag. 2: 209 (1836).

T. secunda Lindl. in Hook. Comp. bot. Mag. 2: 209 (1836), non *Orchis secunda* Thunb. (1823). Type: Cape, 73322 (Oudtshoorn); Koratra (Karatarat?) (—DD), *Drège s.m.*; (K).

Holothrix lindleyana Reichb. f. in Otia Bot. Hamb. 2: 119 (1881). Type: as for *T. secunda* Lindl.

H. G. Reichenbach considered *Tryphia parviflora* Lindl. to be a separate species from *T. secunda* when he transferred both to *Holothrix*. However, the epithet *secunda* could not be used because of the existence of *H. secunda* (Thunb.) Reichb. f. (1823), and so he gave the species a new name, *H. lindleyana* Reichb. f.

T. parviflora was described by Lindley from a specimen said to differ from *T. secunda* Lindl. in being half the height and having flowers one quarter the size of *T. secunda*. The greater range of material available today shows that the two are linked by intermediate specimens and they are considered to be conspecific. The name *H. lindleyana* is therefore superfluous.

***H. incurva* Lindl. in Hook. Comp. bot. Mag. 2: 207 (1836).**

H. rupicola Schltr. in *Bot. Jb.* 24: 419 (1897) syn. nov. Syntypes: summit of Mont-aux-Sources, *Thode* 6 (not seen), slopes of Mont-aux-Sources, *Flanagan* 11981 (BOL!).

***H. scopularia* (Lindl.) Reichb. f. in Otia Bot. Hamb. 2: 119 (1881).**

H. multisecta H. Bol. in *J. Linn. Soc. Bot.* 25: 170, 190, fig. 7 (1890), syn. nov. Type: Stockenstrom, Elandsberg summit, *Scully* 391 (K; BOL!).

***H. aspera* (Lindl.) Reichb. f. in Otia Bot. Hamb. 2: 119 (1881).**

H. confusa Rolfe in *F. C.* 5,3: 105 (1913), syn. nov. Syntypes: mountain sides about Clanwilliam, *Leipoldt* sub *MacOwan & Bolus s.n.* (Herb. Norm. Aust. 1757); Blaauwberg, *Schlechter* 8465 (K; BOL!); near Oliphant's River Mountains, *Schlechter* 5036 (K); near Piekenierskloof and near Modderfontein, *Schlechter* 5077 (not seen); Hex River Valley, *Wolley-Dod* 4054 (K; BOL!).

***H. exilis* Lindl., Gen. et Sp. Orch. 283 (1835).**

H. exilis var. *brachylabris* (Sond.) H. Bol., *lc. Orch. Austro-Afr.* 1: t.14, fig. A (1896), syn. nov. Type: Uitenhage, *Zeyher s.n.* (K).

***H. cernua* (Burm. f.) Schelpe in Orchid Rev. 74: 394 (1966).**

H. squamulosa Lindl. var. *scabra* Bol. in *Trans. S. Afr. phil. Soc.* 5,1: 114, t.23a (1888), syn. nov. Type: Cape Flats, sometimes on old thatched roofs near Rondebosch, *Bolus* 7022a (BOL!).

H. squamulosa Lindl. var. *hirsuta* H. Bol. *ibid.*, syn. nov. Type: locality as above, *Bolus* 7022b (K; BOL!).

H. squamulosa Lindl. var. *glabra* H. Bol. *ibid.*, syn. nov. Type: locality as above, *Bolus* 7022c (K; BOL!).

***H. culveri* H. Bol. in Trans. S. Afr. phil. Soc. 16: 147 (1905).**

H. culveri var. *integra* H. Bol. *ibid.*, syn. nov. Type: Barberton, *Culver* 84a (K; BOL!).

This note is based on a thesis presented for an M.Sc. at the University of Cape Town.

I am grateful for guidance and assistance in this project by Prof. E. A. Schelpe, who also had the opportunity of examining types at Kew. His sketches of these types have been seen by me.

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