

ASTERACEAE

LACHNOSPERMUM NEGLECTUM (ASTEROIDEAE: GNAPHALIEAE), A NEW AND OVERLOOKED SPECIES FROM THE WORCESTER VALLEY, WESTERN CAPE

Lachnospermum Willd., a small genus in the *Metasia* group of tribe Gnaphalieae, is distinguished by its solitary or few, relatively large, campanulate capitula; multicellular hairs on the outside (abaxial) surface of the corolla lobes; long, unicellular hairs on the cypselas; and a rim or shallow cup at the top of the cypsela surrounding the pappus (Hilliard & Burt 1981; Ward *et al.* 2009). It currently comprises three named species (Koekemoer 2002), although a fourth unnamed species was included by Goldblatt & Manning (2000) in their enumeration of the genus as *L. sp. 1*. Vegetatively similar to *L. fasciculatum* (Thunb.) Baill., this taxon had been identified by the German botanist Rudolf Schlechter as a distinct species under the manuscript name *L. neglectum*, based on a collection of his from Brandvlei near Worcester made in the late nineteenth century. Schlechter was familiar with both species, having collected true *L. fasciculatum* a short distance further up the Breede River Valley just four years earlier, but the superficial similarity between the taxa led most botanists to identify both as *L. fasciculatum*, with the signal exception of British botanist N.E. Brown. The earliest collection of the Brandvlei taxon appears to have been made by W. Tyson in the Hex River Valley in 1881, and an indication that N.E. Brown concurred with Schlechter in considering it to represent a novelty, is borne out by an annotation on the duplicate at the Bolus Herbarium to this effect by Cape Town botanist Harry Bolus, dated 10 January 1903.

The Brandvlei taxon has now been collected from multiple different populations in the Worcester and Hex River Valleys. Although vegetatively similar to *Lachnospermum fasciculatum*, these populations differ consist-

ently from that species in several features, notably the size and shape of the capitula, the colour and disposition of the involucre bracts, and the size of the florets. We follow Schlechter in treating them as a distinct species under his epithet *neglectum*, which is now even more apposite than it was at the time that he suggested it.

Specimens from BOL, NBG, PRE and SAM, the main herbaria with good representation of Cape species, were consulted for records of the two new species (herbarium acronyms after Holmgren *et al.* 1990). The Aluka website (www.aluka.org) was searched for duplicates of the Schlechter collection of *Lachnospermum neglectum*.

***Lachnospermum neglectum* Schltr. ex J.C.Manning & Goldblatt, sp. nov.**

Lachnospermum fasciculatum (Thunb.) Baill. habitu suffruticoso intricato ramoso similis sed capitulis late cylindricis, 7–9 × 6–8 mm, paleis ± 10 subulato-pilosis, phyllariis ± 100 in seriebus ± 12 imbricatis externis 1–2 mm longis internis 6.0–7.0 × 1.5 mm oblongis marginibus membranaceis distaliter dense coactis in laminam attenuatam subulatam deflexam stramineam 0.5–2.0 mm longam contractis, flosculis flavis ± 5.5 mm longis, et cupula apicali ovarii cypselarumque symmetrica differt.

TYPE.—Western Cape, 3118 (Worcester): ‘in collibus aridis prope Brand Vlei’ [Brandvlei], (–CB), 9 Jan. 1896, *Schlechter 9934* [K, holo.; BOL, HBG, PRE (2 sheets), S, Z, iso.].

Intricately branched shrublet, 400–800 mm high; branches often spreading horizontally, densely whitish

or yellowish tomentose with matted hairs, $\pm$ sparsely leafy. *Leaves* ericoid, spreading or declinate, with rosette-like axillary fascicles $\pm$ half as long, to as long as subtending leaf, involute, narrowly lanceolate-ericoid, $2.0\text{--}2.5 \times 1$ mm, acute or apiculate, mostly $\pm$ half twisted, adaxial surface felted, abaxial surface arachnoid. *Capitula* discoid, $7\text{--}9 \times 6\text{--}8$ mm, terminal on primary and secondary branches, solitary or up to three in umbellate clusters, $\pm$ 20-flowered. *Involucre* broadly campanulate, $7\text{--}9 \times 6\text{--}8$ mm; bracts $\pm$ 100 in $\pm$ 12 imbricating series, progressively longer acropetally, outermost 1–2 mm long, innermost $6.0\text{--}7.0 \times 1.5$ mm, oblong with cartilaginous stereome and membranous margins, glabrous in basal half but densely felted in distal half with cohering, white hairs, tapering into an attenuate, sharply deflexed, brown-papery, awl-like lamina 0.5–2.0 mm long. *Receptacle* paleate; paleae $\pm$ 10, setaceous, $\pm$ 6 mm long, sparsely villous distally. *Florets* yellow, $\pm$ 5.5 mm long; lower part of tube cylindrical, 3 mm long, limb narrowly campanulate, 5-lobed, lobes lanceolate, $\pm$ erect and not spreading, $\pm$ 1 mm long with thickened margins, ciliate along inner margin and penicillate apically with sparse gland-tipped hairs on abaxial surface. *Anthers* 2.5 mm long including ovate apical appendage, base tailed. *Ovary* cylindrical with shallow, fimbriate crown, 6-winged, wing ribs densely pubescent; style terete with swollen base on distinct stylopodium, branching just below mouth of tube, branches $\pm$ 1 mm long, lateral margins stigmatic, apices truncate, penicillate. *Cypselas* cylindric with six longitudinal ribs or wings and shallow 8–10-lobed crown, $3.0\text{--}3.5 \times 1.5$ mm, ribs asymmetrically disposed, with one median rib on inner face and five ribs congested on outer face, ribs densely villous along ridges with long, eglandular hairs in several rows plus scattered gland-tipped hairs, crown fimbriate and adpressed scabridulous, pale straw-coloured. *Pappus* bristles $\pm$ 80, connate basally and also shortly fused into fascicles, $\pm$ 4.5 mm long, barbellate with apical barbs longer. *Flowering time*: Jan.–Feb. Figures 11A–I; 12.

Distribution and ecology: *Lachnospermum neglectum* is confined to the upper Breede River Valley and its tributaries, where it has been collected from around De Doorns in the Hex River Valley and between Worcester and Robertson in the Breede River Valley itself, extending onto the lower northern slopes of Jonaskop at the western end of the Riviersonderend Mtns (Figure 13). Plants are recorded as locally common in transitional renosterveld-fynbos on sandstone alluvium and on sandy flats, from 200–600 m, or on lower sandstone slopes.

Several other ericoid shrubs are narrow endemics of the Worcester Valley, notably *Euchaetis pungens* (Rutaceae), *Polhillia obsoleta* (Fabaceae) and *Leucadendron flexuosum* (Proteaceae).

Diagnosis and relationships: *Lachnospermum neglectum*, like *L. fasciculatum*, is a well-branched, moderately densely leafy shrublet, with small, ericoid leaves developing rosette-like axillary brachyblasts, and bearing 1–3 capitula per branch. The brown, scale-like limbs to the involucre bracts set them apart from the remaining two species, *L. imbricatum* (P.J.Bergius) Hilliard and *L. umbellatum* (L.f.) Pillans, both of which have conspicuously petaloid, white or pink bracts.

Lachnospermum neglectum is distinguished from *L. fasciculatum* by its mostly markedly horizontal branches and generally smaller involucres, $7\text{--}9 \times 6\text{--}8$ mm, obtuse at the base, and by the sharply deflexed, pale straw-coloured, attenuate and awl-like, papery limbs to the bracts. In *L. fasciculatum* the branches are mostly $\pm$ ascending and the capitula are larger, $10\text{--}15 \times 8\text{--}11$ mm, and obconic at the base (Figure 11J), and the involucre bracts have smaller, erect or suberect, scale-like, acute or acuminate limbs that are chestnut-brown or plum-red. The florets in *L. neglectum* are also substantially smaller than in *L. fasciculatum*, $\pm$ 5.5 mm long vs $7\text{--}9$ mm long (Figure 11K), and the apical cup on the ovary and cypselas is symmetrically developed on all sides vs asymmetrical and reduced to a rim on one side in *L. fasciculatum* (Figure 11L; see also Koekemoer 2002: plate 31.1, fig. 14).

The two species are geographic vicariants, with *Lachnospermum fasciculatum* more widely spread through the southwestern Cape. Considered until recently to be endemic to the Cape Floristic Region, with its northernmost station in the Pakhuis Mtns (Goldblatt & Manning 2000; Koekemoer 2002), *L. fasciculatum* has now been collected north of the Olifants River at Brand se Baai on the southern Namaqualand coast. From here it ranges through the Cedarberg and Cold Bokkeveld to Villiersdorp and Greyton at the southern foot of the Riviersonderend Mtns (Figure 13), extending onto the West Coast and the Cape Flats, from Mamre to Kuils River. It is largely absent inland of the coastal ranges, except at the head of the Breede River Valley, where it has been collected from the foot of the Waaihoek Mtns. This station is just 30 km northwest of the most northerly of the known populations of *L. neglectum*.

Additional specimens examined

Lachnospermum neglectum

WESTERN CAPE.—3319 (Worcester): in clivis montis Hex River Valley, 1500' [450 m], (–BC), Jan. 1881, *Tyson 786* (SAM); in convalle Hex River, prope De Doorns, (–BC), Jan. 1908, *H. Bolus 13125* (BOL); Sandberg Hills on Skerpenheuvel Road, 300–600 m, (–DA), 28 Oct. 1982, *Forrester & Bayer 237* (NBG); Jonaskop, roadside to FM tower, (–DC), 14 Jan. 1979, *Boucher 4247* (PRE); Jonaskop, second gate from bottom, 600 m, (–DC), 9 Feb. 1981, *Boucher 5006* (NBG); base of Sencor road, N side of Jonaskop, 30 Jan. 2004, *Bergh 1105* (NBG); 7 km SW of Robertson, S side of Sandberg, (–DD), 31 Jan. 2007, *Helme 4562* (NBG).

Lachnospermum fasciculatum

WESTERN CAPE.—3117 (Lepelfontein): Brand se Baai, Hartbeeste Kom, 74 m, (–BD), 26 Mar. 2003 [fr.], *Desmet & Helme 3434* (NBG). 3118 (Vanrhynsdorp): 11.2 km S of Redelinghuys, (–DA), 7 June 1970, *Acocks 24271* (PRE); between turn-off to Pakhuilfontein and Brakvlei, (–DD), 20 Mar. 1996, *Koekemoer 1217* (PRE). 3218 (Clanwilliam): rocky slopes west of Clanwilliam on road to Graafwater, (–BB), 6 Oct. 2004 [fr.], *Goldblatt & Porter 12633* (NBG). 3219 (Wuppertal): northern Cedarberg, Ribboksvlei Farm, N of Kliphuis Peak, $\pm$ 920 m, (–AA), 14 Feb. 1984, *Taylor 10913* (NBG, PRE); Pakhuisvlakte at top of pass, $\pm$ 900 m, (–AA), 14 Jan. 1986, *Taylor 11468* (NBG, PRE); 17 km from Clanwilliam on road to Pakhuis, (–AA), 25 Aug. 1995, *Rodriguez-Oubina & Cruces 2076* (PRE); foot of Pakhuis Pass on E side, (–AA), 21 Mar. 1996, *Koekemoer 1220* (PRE); near Algeria Forest Station, Mar. 1940, *Stokoe 56987* (SAM); 1 km N of Algeria Forest Station on Nieuwoudt's Pass, $\pm$ 517 m, (–AC), 27 Apr. 1981, *Le Maitre 196* (NBG, PRE); Algeria, (–AC), 14 Feb. 1936, *Compton 6186* (NBG); Op-de-Berg, Tuiskloof Farm, 756 m, (–CA), 8 Jan. 2003, *Botha (3)012* (NBG); along R303 between Op-de-Berg and Citrusdal, (–CA), 11 Feb. 2007, *Koekemoer 3483* (PRE); Citrusdal, Allendal Farm, Grysboeknek,

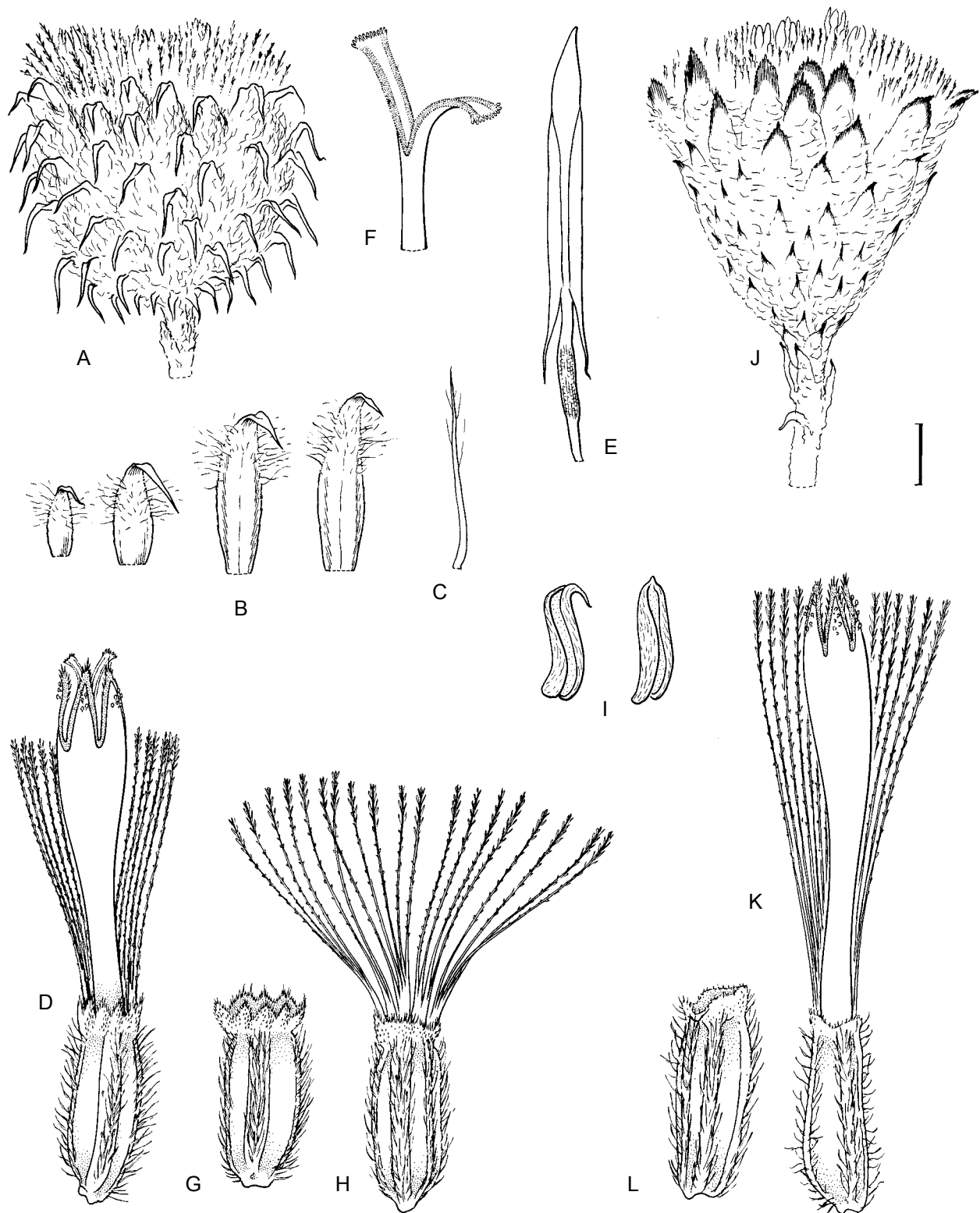


FIGURE 11.—*Lachnospermum neglectum*: A–H, Boucher 5006. A, capitulum; B, involucre bracts (outermost on left and innermost on right); C, palea; D, floret, side view; E, anther; F, stigma; G, cypsela (inner face, pappus removed); H, cypsela (outer face). I, primary leaves (left Tyson 5877, right Helme 4562). *L. fasciculatum*, J–L, Hanekom 3381: J, capitulum; K, floret, side view; L, cypsela (side view, pappus removed). Scale bar: A–C, J, 2 mm; D, G, H, I, K, L, 1 mm; E, F, 0.5 mm. Artist: J.C. Manning.

800 m, (–CA), 23 Mar. 2002, Hanekom 3381 (NBG, PRE); 23 miles [37 km] N of Grootriver turn-off on road from Ceres to Citrusdal, (–CA), 8 Mar. 1966, Taylor 6755 (NBG); Kromrivier, on path to Disa Pools, (–CB), 12 Mar. 2003, Koekemoer 2686 (PRE); La Fontein, (–CC), 10 Feb. 1978, Boucher 3655 (NBG, PRE). 3318 (Cape Town): sand flats NE of Blaauwberg, (–CD), Jan. 1927, Pillans 6822 (BOL); Malmesbury

Road, (–DA), 9 Mar. 1973, Montgomery 381 (NBG); Malmesbury Dist., Burgers Post Farm near Pella, 200 m, (–DA), 15 Mar. 1979, Boucher & Shepherd 4269 (NBG, PRE), 17 Jan. 1980, Boucher & Shepherd 4929 (NBG, PRE); Kuils River, (–DC), 11 Mar. 1933, Levyns 4251 (BOL); Klappmuts, (–DD), 9 Mar. 1959, Barker 8863 (NBG); ± 3 km E of Pniel, Farm Normandy, 300 m, (–DD), 5 Apr. 2004, Helme 2986 (NBG); Bot-

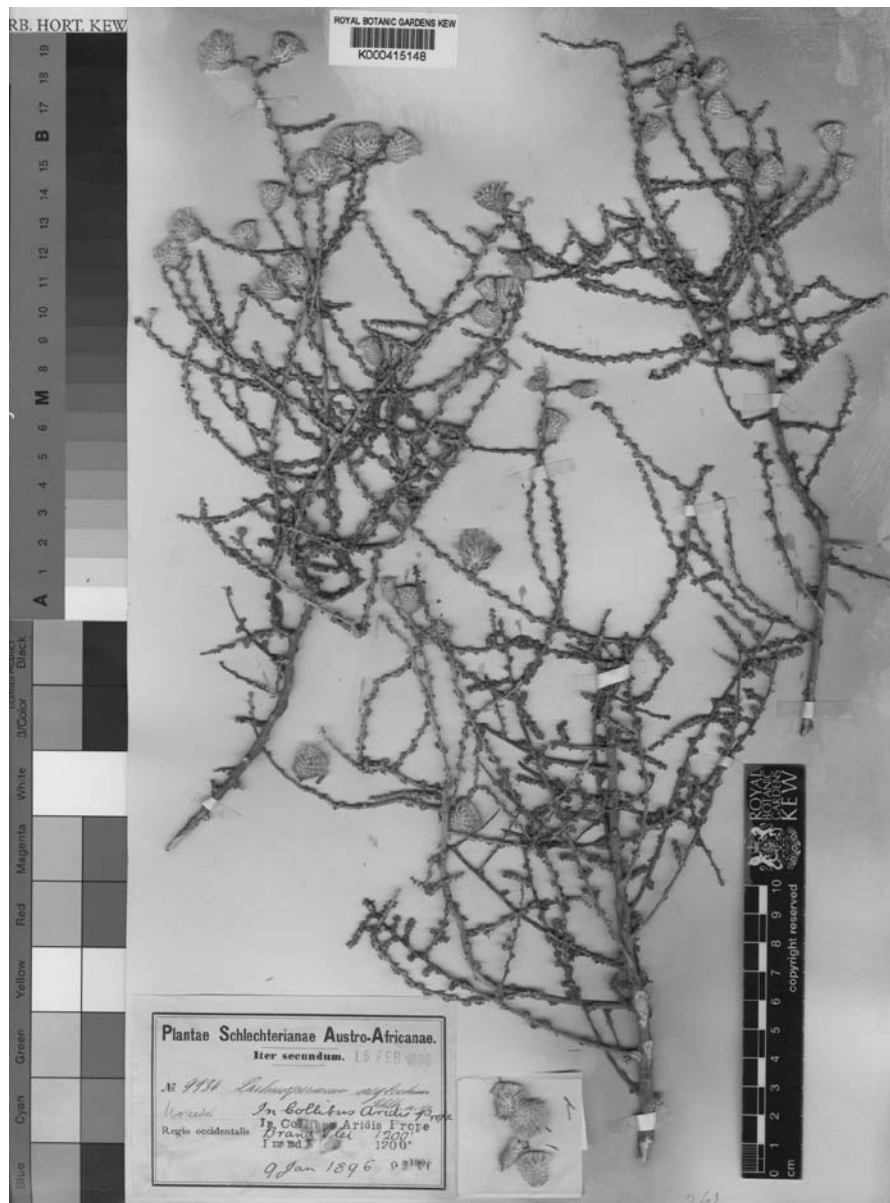


FIGURE 12.—*Lachnospermum neglectum*, Schlechter 9934 (holotype). Digital image courtesy of Aluka website (www.aluka.org).

telary, (–DD), 18 Jan. 1941, *Compton 10380* (NBG). 3319 (Worcester): Ceres, slopes of Elandsbloof, (–AC), 5 Apr. 1952, *Levyns 9834* (BOL); 25 km N of Wellington, Elandsberg Nature Reserve, (–AC), 12 Nov. 1986, *De Villiers 40* (NBG, PRE); ‘in planitie ad pedem montis Mostertsberg’, (–AC), 30 Jan. 1892, *Schlechter 857* (BOL); Romans River Nature

Reserve, (–AC), 4 Feb. 1981, *Nilsson 133* (PRE); Zachariaskloof Catchment, ± 1100' [366 m], (–CC), 20 Feb. 1970, *Haynes 293* (NBG, PRE); Franschoek Pass on Villiersdorp side, (–CC), 26 Feb. 1948, *Compton 20472* (NBG). 3419 (Caledon): near bridge over River Zonder Einde [Riviersonderend], between Viljoen's Pass and Villiersdorp, (–AB), Mar. 1933, *L. Bolus 21492* (BOL); near Genadendal, (–BA), 3 Mar. 1935, *Levyns 4864* (BOL); E of Greyton west of Gobos River, 220 m, (–BA), 23 Feb. 2006, *Helme 3899* (NBG).

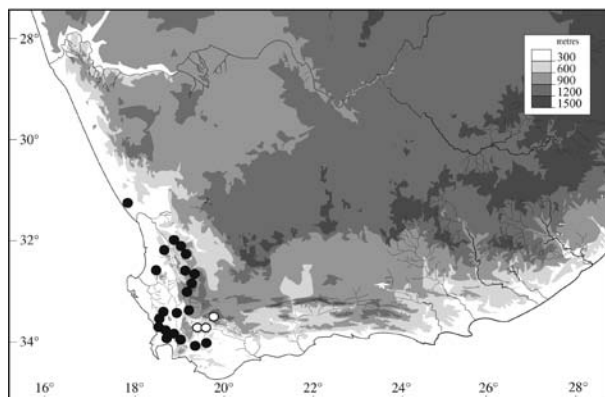


FIGURE 13.—Known distribution of *Lachnospermum neglectum*, ○; and *L. fasciculatum*, ●.

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