

ASTERACEAE

NEW SPECIES IN THE GENUS *DISPARAGO*

INTRODUCTION

The previous revision of the genus (Levyns 1936) dealt with seven species, of which six are retained. Miss E. Esterhuysen has since made a major contribution to the genus by collecting three new species from remote areas in the high mountains of the Worcester Division in the south-western Cape. These three species bring a whole new dimension to the genus in that they possess the plesiomorphic characters of the genus (Koekemoer in prep.). They also reduce the taxonomic distance between *Disparago* and the very closely related monotypic genus *Bryomorpha* Harv., which is only found in high altitude fynbos on Table Mountain Sandstone.

All three new species are confined to high altitudes, have white female ray flowers with fertile cypselas, purple-red male tubular flowers with sterile cypselas and heads with two or three ray flowers and three to five tubular flowers. These characters distinguish the new species very clearly from the other six.

***Disparago gongylodes* Koekemoer, sp. nov., *D. pilosae* Koekemoer et *D. barbatae* Koekemoer similis sed foliis gongylodibus distinguitur. *Folia* ovata, gongylodes, prope basin ad angulum 180° torta. *Flosculi radii* albi foeminei. *Flosculi tubulares* masculi cypselis sterilibus. *Pappus* pilis 2–3 plumosis caducis.**

TYPE.—Cape Province, 3319 (Porterville): Great Winterhoek Reserve, *Esterhuysen 35788*, (BOL, holo.; K, NBG, PRE (2x), S, STE, iso.). (Figure 11).

Small shrublets, (50–)100–350 mm tall, much branched; branches spreading, often trailing in very old plants. *Leaves* ovate, 2,5–3,5(–5,0) × 1–2 mm (including pedicel), spreading horizontally, twisted 180° near the base, margins slightly inrolled, woolly-hairy adaxial surface clearly visible, apex blunt. *Inflorescence* with 5–12 heads loosely grouped. *Heads* with 2 ray flowers and 5 tubular flowers. *Involucre* of about 12 bracts roughly arranged in about 3 whorls, those in outer whorl fleshy, other bracts chaffy, innermost ones linear, others broadly cymbiform, dark brown to black, often tinged red in upper half, margins undulate, tips reflexed. *Ray flowers* female, white, limb 3–4 × 1,5–2,5 mm; cypselas fertile, densely hairy. *Tubular flowers* functionally male, purple-red; stamens often reduced, appearing club-shaped in some flowers; cypselas sterile, short-haired. *Pappus* of 2 or 3 plumose hairs, caducous, cilia in the upper part of the pappus with tips rounded, inflated and lightly fused.

Distribution and habitat

The only known records of this species are from the Great Winterhoek Mountains near Porterville (Figure 12). In this area it is, however, very common on large open flats on coarse Table Mountain Sandstone where small Restionaceae species are dominant. These flat areas are usually at the foot of weathered sandstone hills, described as 'rugged koppies' by Miss Esterhuysen on the type label.

Specimens examined

CAPE.—3319 (Porterville): Great Winterhoek Reserve, (–AA), 1978-01-02, *Esterhuysen 34840* (BOL, PRE); Twentyfour Rivers Mountains, (–AA), 1953-10-10, *Esterhuysen 21894* (BOL, PRE); Great Winterhoek Reserve, (–AA), 1982-08-15, *Esterhuysen 35788* (BOL, K, NBG, STE); Great Winterhoek Mountains, Farm Berghof, (–AA), 1989-10-08, *Koekemoer 315* (PRE); Great Winterhoek Wilderness Area, 2 km from entrance gate at Zuurvlaakte, (–AA), 1990-09-12, *Koekemoer 439* (PRE); Great Winterhoek Mountains, Farm Berghof, (–AA), 1990-09-12, *Koekemoer 440* (PRE).

The specific epithet refers to the knob-like leaves which are unique in the genus.

***Disparago barbata* Koekemoer, sp. nov., *D. gongylodi* Koekemoer et *D. pilosae* Koekemoer similis, sed foliis linearibus patentibus pappoque barbato distinguitur. *Folia* lineares, torsiva, horizontaliter patentibus. *Flosculi radii* albi foeminei cypselibus fertilibus. *Flosculi tubulares* masculi cypselibus sterilibus. *Pappus* pilis 2–3 barbellatis caducis.**

TYPE.—Cape Province, 3319 (Worcester): (Matroosberg), SE slopes, *Esterhuysen 28615* (BOL 48345, holo.; BOL 48346, PRE, S, iso.) (Figure 13).

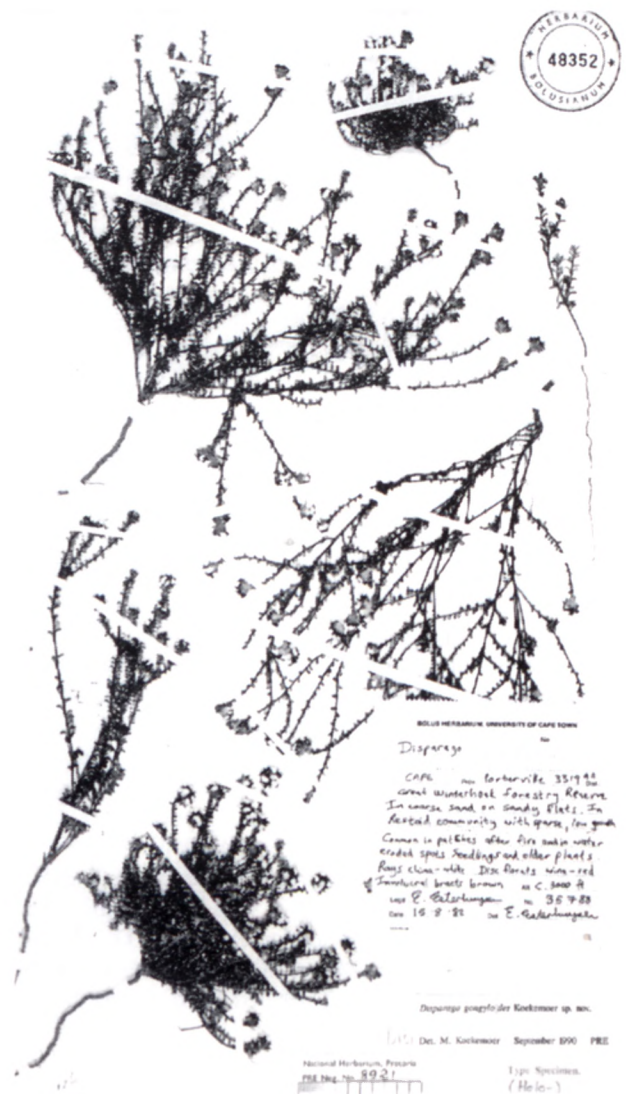


FIGURE 11.—Photograph of the holotype of *Disparago gongylodes*.

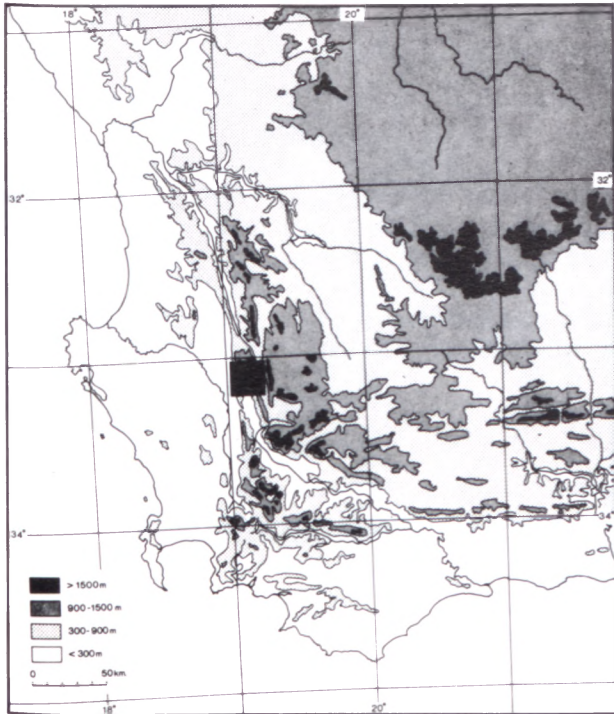


FIGURE 12.—Geographical distribution of *Disparago gongyloides*.

Trailing shrublet, 200–400 mm tall. *Leaves* narrow, linear, ericoid, 4–9 × 0,5–0,8 mm, spreading, spirally twisted (mostly only 180°), tips acuminate. *Inflorescence* with numerous heads in a tight, ovoid, secondary arrangement, 10–15 mm in diameter. *Heads* with 3 ray flowers and 3 tubular flowers. *Involucre* of about 12 bracts in 3 whorls, bracts narrowly cymbiform, 4,5–6,0 × 0,6–1,3 mm, with few long hairs on adaxial surface, margins entire, apex narrow, apiculate, often reflexed, usually yellowish at base, reddish in middle and dark brown near apex. *Ray flowers* female, white, limb 2,0–2,5 × ± 1,5 mm; *cypselas* fertile, dorsiventrally flattened, short-haired. *Tubular flowers* functionally male, purple; *cypselas* sterile, short-haired. *Pappus* of 2 or 3 barbed bristles, caducous.

Distribution and habitat

The only known localities of this species are on the eastern and south-eastern slopes of Matroosberg in the Worcester District of the south-western Cape (Figure 14).

Specimens examined

CAPE.—3319 (Worcester): Matroosberg, SE slopes, (–BC), 1960-11-13, *Esterhuysen* 28615 (BOL, PRE, S); Matroosberg, E slopes above De Doorns, (–BC), 1959-01-16, *Esterhuysen* 28119 (BOL).

The specific epithet refers to the barbed pappus, which is unique in the genus.

***Disparago pilosa* Koekemoer, sp. nov., *D. barbatae* Koekemoer et *D. gongyloides* Koekemoer similis sed foliis linearibus adscendentibus, bracteis involucri pilosis atque pappo plumoso coroniformi distinguitur. *Folia* lanceolata, non torsiva. *Bracteae* involucri pagina adaxiali tomentosa. *Flosculi radii* albi foeminei *cypselis* fertilibus. *Flosculi tubulares* masculi *cypselis* sterilibus. *Pappus* pilis ± 10 plumosis basi connatis.**



FIGURE 13.—Photograph of the holotype of *Disparago barbata*.

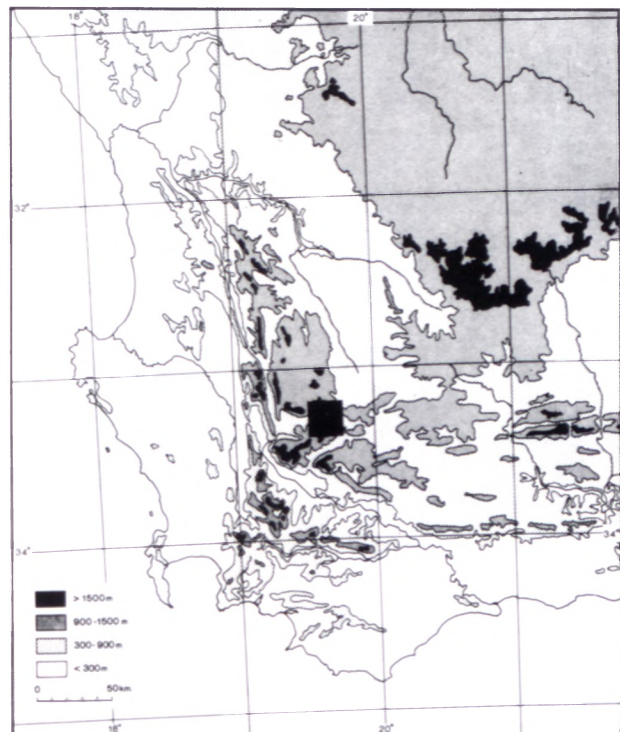


FIGURE 14.—Geographical distribution of *Disparago barbata*.

TYPE.—Cape Province, 3319 (Worcester): Ceres District, Roodeberg, near Matroosberg, N slopes, *Esterhuysen 29721* (BOL 48349, holo.; BOL 48350, NBG, PRE, S, iso.). (Figure 15).

Small shrublets, up to 250 mm tall, much branched; branches hairy or glabrous. *Leaves* not twisted, lanceolate, $2-6 \times 0,5-0,9$ mm, appressed or spreading slightly, giving an angular appearance to the branches. *Inflorescence* with a few heads loosely grouped. *Heads* with 3 ray flowers and 5 tubular flowers. *Involucre* of 11-13 bracts in about two whorls, outer bracts broadly cymbiform, inner bracts filiform, bracts bicoloured, light brown near base, darker towards apex with a reddish tinge in upper part, lower half of adaxial surface densely hairy, margins undulate, occasionally with a membranous edge, apex apiculate, reflexed. *Ray flowers* female, white, limb $2,5-3,5 \times 1,5-2,0$ mm; cypselas fertile, short-haired. *Tubular flowers* functionally male, pink, glands often present on lobes; cypselas sterile. *Pappus* of about 10 plumose hairs, fused in a ring at the base.

Distribution and habitat

Disparago pilosa has a very local distribution (Figure 16) in rocky and sandy places on mountains in the Worcester District and in the Cold Bokkeveld.



FIGURE 15.—Photograph of the holotype of *Disparago pilosa*.

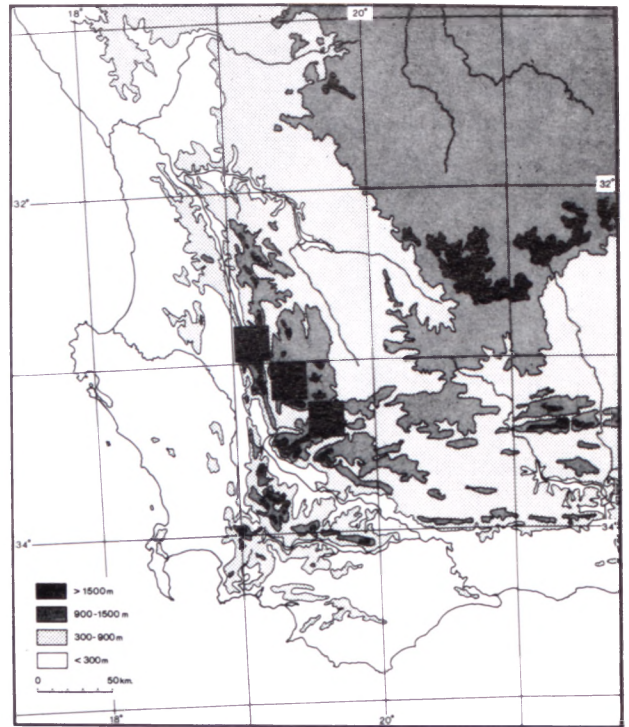


FIGURE 16.—Geographical distribution of *Disparago pilosa*.

Specimens examined

CAPE.—3219 (Clanwilliam): Ceres District, northern base of Roelofsberg, (—CC), 1977-10-08, *Esterhuysen 34675* (BOL, S); Wabooms River, Ceres, Cold Bokkeveld, (—CC), 1966-09-05, *Hanekom 624* (PRE). 3319 (Worcester): Ceres District, Rosendal and Bo-Rosendal, at the foot of Bokkeveld Sneekop, (—AB), 1975/09/13, *Esterhuysen 33928* (BOL,S); Ceres District, Roodeberg near Matroosberg, N slopes, (—BC), 1962-10-10, *Esterhuysen 29721* (BOL,NBG, PRE, S); Worcester District, Matroosberg, northern plateau, (—BC), 1958-04-07, *Esterhuysen 27704* (BOL); Matroosberg, near top along pipeline, (—BC), 1990-02-01, *Koekemoer 361* (PRE).

The specific epithet refers to the hairy involucre, which is uncommon in the genus.

NAME CHANGES

The following three new synonyms also arose from the study and will be discussed in detail in the synopsis of the genus (Koekemoer in prep.):

Disparago kolbei (*H. Bol.*) *Hutch.*: 511 (1932).

D. rosea *Hutch.*: 511 (1932).

Disparago ericoides (*Berg.*) *Gaertn.*: 463 (1791).

D. lasiocarpa *Cass.*: 42 (1825).

Disparago tortilis (*DC.*) *Sch. Bip.*: 181 (1861).

D. ericoides auct. non *Berg.*: *Gaertn.*: 463 (1791); *Cassini*: 349 (1819); *Levyns*: 100 (1836); *DC.*: 257 (1837); *Harv.*: 278 (1865); *Dyer*: t. 1102 (1951).

ACKNOWLEDGEMENTS

This study was done as part of an M.Sc. degree under mentorship of Prof. B-E. van Wyk of the Rand Afrikaans University. I would like to thank him for his encourage-

ment and the many valuable discussions throughout the study. I would also like to thank the National Botanical Institute, my employers, for financial support, my colleagues for their assistance and support, and Dr. O. A. Leistner for the Latin translations.

I would also like to extend a very special word of thanks to Miss E. Esterhuysen for her dedication to plant collecting and the courage shown in climbing many high mountains in remote areas in search of interesting plant species. I dedicate this paper to her in recognition of the valuable contribution she has made to our knowledge of *Disparago* in particular.

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M. KOEKEMOER

MS. received: 1991-06-26.