

Notes on the genus *Otholobium* (Psoraleeae, Fabaceae). 5. Four new species from Namaqualand, South Africa

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Accepted 4 January 1991

Four new species of *Otholobium* from Namaqualand in South Africa are described: *O. arborescens* C.H. Stirton, *O. flexuosum* C.H. Stirton, *O. incanum* C.H. Stirton, and *O. pustulatum* C.H. Stirton.

Vier nuwe *Otholobium* spesies van Namakwaland, Suid-Afrika, word beskryf: *O. arborescens* C.H. Stirton, *O. flexuosum* C.H. Stirton, *O. incanum* C.H. Stirton, and *O. pustulatum* C.H. Stirton.

Keywords: Psoraleeae, Fabaceae, *Otholobium*, taxonomy, conservation

Introduction

The genus *Otholobium* C.H. Stirton (Psoraleeae, Fabaceae) comprises 53 species and is endemic to Africa. The following new species arise from a treatment of the genus for the Flora of Namaqualand and are described here so as to be included in that account. This paper is the fifth in a series of preliminary papers published on the genus (Stirton 1981a, 1981b, 1982, 1983, 1985). A more detailed account of these species will be published in a forthcoming monograph of the genus.

1. *Otholobium arborescens* C.H. Stirton, sp. nov.

Otholobium striati affinis sed habitu valde altiore virgato, ramis laxe foliosis, seminibus in fructu non reticulato ex calyce non accrescenti protuberante inclusis, et inflorescentibus laxis differt.

TYPUS:— Spektakel Pass (-DA), 5.12.1981, Stirton 10153 (NBG, holotypus; K, MO, PRE, isotypi).

Frutex altus virgatus vel arbor parvus usque 5 m altus. *Caules* 1 – 5, prope basin ramosi, ramis pallide brunneis; ramunculi laxe foliosi, hinnulei, pustulati, canescentes valde glabratim costati, ramulis novis appresse puberulis, viridi-albidis, virgatis. *Folia* trifoliolata, petiolata. *Foliola* 10 – 14 (16) × 4 – 6 mm, complicata ascendente, arcuata, mucrone < 1 mm longa, apice emarginata recurvato-mucronata; venae graciles in pagina inferiore indistinctae; glandulae utrinque frequentes sed superne densiores, impressae; appresse pubescentia, glabrescentia; glandulis post casum persistentibus maculata; petioli 1 – 2 mm longi; petioluli 2 mm longi. *Stipulae* 2.5 – 4.0 mm longae, rectae, setosae, dense glandulosae, amplexantes vel aliquantum patentes. *Inflorescentiae* spicatae, in ramulis virgatis 20 – 30 cm longis annuis terminales, pedunculo 10 – 35 mm longo; quam folia a quibus subtentae triplo vel quadruplo maiores, laxae, floribus brevipedicellatis in gregibus 9 – 13 trifloris aggregatis, grege omni a bractea cucullata late lanceolata puberula glandulosa, 2.5 × 2 mm, caduca subtenta. *Flores* 7 – 8 mm longi, ebracteati, eburnei. *Dentes calycis* quam tubus breviores, ovati vel ovato-lanceolati, subaequales, lobis 6 – 7 mm longis, tubo 4 mm longo; lobo carinale quam alii breviores sed parum latiore, lobis vexillaribus usque 2 mm ultra tubum connatis; canescento-pubescentes, in dentibus solum vel ubique

glandulosi; calyx in fructu accrescens. *Vexillum* 7.0 × 5.0 – 5.5 mm, obovatum, apice emarginatum, auriculatum, quam alii brevius. *Alae* 7 – 8 × 2.0 – 2.5 mm, ungue 3 – 4 mm longo, quam vexillum et carina longiores. *Petala carinae* 7 × 2 mm. *Androecium* 6.5 – 7.0 mm longum, stamen decimum tertio inferiori in lato sinistro vagini adaxialiter fissi leviter adhaerens. *Pistillum* 6.0 – 6.5 mm longum; ovarium 2 mm longum, pilosum glandulosumque, parte curvata 1.5 mm alta, stylo pro parte maxima prope et ante partem flexuosam incrassato, in parte superiora ultra entasem aliquantum prorsus inclinata, stigmatibus penicillato. *Fructus* membranaceus, 5.5 – 6.0 × 3.0 – 3.5 mm, ellipticus, pubescens, glandulosus, dentes calycis excedens, reticulatione non conspicua. *Semina* 3.5 – 4.0 × 3 mm, castaneo-brunnea, hilo inter partem centram et apicem disposito.

Tall, virgate shrub, or small tree, up to 5 m tall. *Stems* up to 5 – 6, branched from near the base, branches pale brown; twigs laxly leafy, tan, pustulate, canescent with distinct glabrous ribbing, new shoots appressed puberulent, greenish white, virgate. *Leaves* pinnately trifoliolate, sub-sessile. *Leaflets* 10 – 14 (16) × 4 – 6 mm, conduplicate, ascending, arcuate, mucro < 1 mm long, apex emarginate, recurved-mucronate, base acute; slender veins not obvious on lower surface; glands common on both surfaces, but denser on upper surface, impressed; appressedly pubescent, becoming glabrous; petiole 1 – 2 mm long, gland dotted, persistent once leaflets have dropped; petiolules 2 mm long. *Stipules* 2.5 – 4.0 mm long, straight, linear, densely glandular, clasping, caducous. *Inflorescences* spicate; terminal on laxly leaved, 20 – 30 cm long, seasonal, virgate shoots; peduncle 10 – 35 mm long; 3 – 4 times greater than the subtending leaves, lax, comprised of 9 – 13 triplets of flowers with 3 mm long pedicels; each triplet subtended by a cucullate, broadly lanceolate, puberulent, glandular, 2.5 × 2.0 mm wide, caducous bract. *Flowers* 7 – 8 mm long, ebracteate, cream-coloured. *Calyx teeth* shorter than the tube, ovate to ovate-lanceolate, subequal; lobes 6 – 7 mm long, tube 4 mm long; carinal lobe shortest but slightly wider, vexillar lobes fused for 2 mm above the tube; cano-pubescent; glandular either on the teeth or over the entire outer surface of the

lobes; calyces not accrescent in fruit. *Standard* $7 \times 5.0 - 5.5$ mm, claw 2 – 3 mm long, obovate, apex retuse, auriculate, shorter than the wing petals. *Wing petals* $7 - 8 \times 2.0 - 2.5$ mm, claw 3 – 4 mm long, longer than standard and keel petals, distinctly auriculate; sculpturing upper central, comprised of 13 – 16 irregular rows of transcostal lamellae. *Keel petals* 7×2 mm, claw 4 mm long. *Androecium* 6.5 – 7.0 mm long, vexillar stamen lightly adherent to lower third of the left side of the adaxially slit sheath. *Pistil* 6.0 – 6.5 mm long; ovary 2 mm long, pilose and glandular, height of curvature 1.5 mm, entasis thickest just before the point of flexure, upper part beyond the entasis somewhat forward sloping, stigma penicillate. *Fruit* membranous, $5.5 - 6.0 \times 3.0 - 3.5$ mm, elliptic, pubescent, glandular, exerted beyond calyx teeth, reticulation not evident. *Seeds* $3.5 - 4.0 \times 3.0$ mm, chestnut brown, hilum between centre and apex.

Distribution and phenology

Otholobium arborescens appears to be endemic to Mountain Renosterveld (Acocks's veld type No. 43). This vegetation type includes the falsely karroid parts of the mountainous areas where renosterbos (*Elytropappus rhinocerotis*) is the natural dominant (Acocks, 1975). Flowering takes place from October to December. However, there are two records of flowering taking place in the Hester Malan Nature Reserve during July and August. It occurs between 250 – 500 m in altitude.

Diagnosis and relationships

Otholobium arborescens is most closely related to *O. striatum*. *O. arborescens* has been confused with *O. striatum* in the herbarium but inspection in the field shows these two species to be quite distinct. These two species are separated from all other otholobiums by their distinctive calyx with its recurving teeth and wing petals exceeding the standard. The flowers of *O. striatum* and *O. arborescens* are very similar differing only in the auriculation of the standard and glandulosity of the ovary. They are, however, easily distinguished in the field in habit, leaf hairiness and glandulosity, calyx shape in fruit, seed colour and fruit shape. *O. arborescens* is separated from *O. striatum* by its considerably taller and virgate habit, laxly leafy branches, scarcely visible secondary venation of the light green leaves, quite obvious presence of glands on both surfaces, less dense inflorescences, non-reticulate fruits protruding from a non-acrescent calyx when mature and chestnut-brown seeds. *O. striatum* is a shorter denser shrub with densely leafy branches, with distinctly visible secondary venation on the dark green densely appressed puberulent leaves with glands absent or scarcely obvious below, dense inflorescences, reticulate fruits completely enclosed in an accrescent calyx at maturity and with seeds black. The two species are also found to occupy quite different types of habitat. *Otholobium striatum* is more common at lower altitudes and in gulleys of dry or seasonal waterways whereas *O. arborescens* is more frequent at higher altitudes and drier sites.

Conservation status

The IUCN Conservation status (Threatened Plants Committee Secretariat, 1980) of this species is *Out of Danger* (O).

The Rabinowitz code (Stirton, ined.) is *SWN* (Sparse, widespread, narrow): constantly sparse in a specific habitat but over a large range.

Specimens examined

- 2917** (Springbok): Spektakel Pass (–DA), 5.12.1981, *Stirton 10153* (K, PRE); 3.11.1982, *Rourke 1781* (K, NBG, PRE); Hester Malan Nature Reserve (–DB), 22.11.1973, *Rösch & Le Roux 182* (STE); 24.11.1973, *Rösch & Le Roux 210* (STE); 15.11.1976, *Van Der Westhuizen 9177* (STE); 14.7.1975, *Le Roux 1200* (PRE); 23.8.1976, *Grobbelaar 1976* (PRE); 5.12.1973, *Dumoulin 7* (PRE); Sandhoogte (–DB), 5.12.1981, *Stirton 10156* (K, PRE); Farm Eureka, 8 km from Springbok to Kleinsee (–DB), 5.12.1981, *Stirton 10157* (K, PRE).
- 3018** (Kamiesberg): Leliefontein (–AC), 16.12.1936, *Adamson 1451* (BOL); between Brakdam and Rietkloof (–DC), 8.12.1910, *Pillans 5667, 5668* (K).
- 3119** (Calvinia): Groot Toring (–BC), 8.11.1955, *Acocks 18596* (K, PRE); Kareeboomfontein (–DA), 9.12.1980, *Hanekom 2590* (PRE); Rebnie (–DB), 27.12.1977, *Hanekom 2501* (K, PRE).
- 3319** (Worcester): De Doorns, Hex River Valley (–BC), 1.1908, *Bolus 13096* (K, BOL); between Hottentots Kloof and Karoo Poort (–BC), 29.11.1908, *Pearson 4805* (PRE).
- 3321** (Ladismith): Gamkaskloof (–BC), 15.12.1977, *Geldenhuys 461* (PRE, SAAS).
- 3322** (Oudtshoorn): 7 km S.W. of De Rust (–CB), 22.10.1959, *Acocks 20785* (PRE).
- Without precise locality: Namaqualand Minor, *Scully 1137* (BOL, G, STE).

2. *Otholobium incanum* C.H. Stirton, sp. nov.

Otholobium argentei affinis sed pubescentia incana, sculptura petalium, habitu humile et inflorescentiis pseudocapitatis differt.

TYPUS:— (Van Rhynsdorp): 14.8 km NE of Lamberts Bay (–CB), 7.8.1968, *Acocks 19782* (PRE, holotypus; K, isotypus).

Suffrutex effusus vel virgatus usque 1 m altus; basin versus multiramulosus; rami griseo-brunnei, subtiliter fissurati sparsum albo-lenticellati; ramuli juvenales florentesque pustulati incani. *Folia* digitatim trifoliolata petiolata. *Foliola* inaequalia, terminale (10) $13 - 16$ (22) $\times 6 - 9$ mm, obovato cuneato; vix mucronata, mucrone patenti, apice rotundata vel emarginata, base cuneata, lateralibus quam terminale minoribus, symmetrica; petiolus 3 mm longus; petiolulus < 1 mm longus. *Stipulae* 1.5 – 3.0 mm longae anguste triangulares, dense glandulosae, rectae, apice acutae, intus glabrae, extus sericeae. *Inflorescentiae* in axilibus terminalibus ramulorum brevium axillares pseudo-capitatae, 15 – 25 mm longae, florum pedicellis brevibus 1 mm longis; flores in gregibus 6 – 7 trifloris aggregati, grege omni a bractea persistenti breve 1 – 2 mm longa obovata apicaliter acuta subtenta; pedunculus 5 – 15 mm longus, folium a quo subtentus excedens. *Flores* 8 – 10 mm longi, albi, ebracteati. *Calicis dentes* tubus 3 mm longus aequantes, aequales, triangularis, lobis $6.0 \times 1.0 - 1.5$ mm, vexillaribus usque ad duas tertias longitudinis connatis; canescentes, vix vel sparse glanduloso maculati. *Vexillum* 8 – 9 \times 6 – 7 mm, late obovata. *Alae* 7.0 – 8.0 \times 2.0 – 2.5 mm. *Petala catinae* 6.0 – 7.0 \times 2.5 mm; unguis 3 mm longus. *Androecium* 7 – 8 mm longum; stamen vexillare liberum. *Pistillum* 7 – 8 mm, ovarium 2.5 – 3.0 mm longum, pubescens, glandulosum,

subsessile, parte curvata 2 mm alta, stylus pro maxima parte ante partem flexuosam incrassatus; stigma penicillatum. *Fructus* seminaque ignoti.

Sprawling to virgate shrublet up to 1 m tall; much branched towards the base; branches greyish brown, finely fissured and sparsely clothed in white lenticels; young twigs and flowering shoots pustulate and hoary. *Leaves* digitately trifoliolate, petiolate. *Leaflets* unequal, terminal leaflet (10) 13 – 16 (22) mm × 6 – 9 mm, obovate, hoary; scarcely mucronate, mucro patent, apex rounded to emarginate, base cuneate, laterals smaller than the terminal leaflet, symmetrical; petiole 3 mm long, petiolule < 1 mm long. *Stipules* 1.5 – 3.0 mm long, narrowly triangular, densely glandular, straight, apex acute; glabrous inside, sericeous outside, persistent. *Inflorescences* axillary in terminal axils of short shoots, pseudocapitate, 15 – 25 mm long, comprised of 6 – 7 triplets of flowers borne on short 1 mm long pedicels; each set subtended by a single persistent short 1 – 2 mm long obovate bract with acute apex; peduncle 5 – 15 mm long, exceeding the subtending leaf. *Flowers* 8 – 10 mm long, white, ebracteate. *Calyx teeth* as long as the 3 mm long tube, equal, triangular, lobes 6.0 × 1.0 – 1.5 mm, vexillar lobes fused up to two-thirds their lengths; hoary, scarcely to sparsely gland-dotted. *Standard* 8 – 9 × 6 – 7, claw 2 mm long; broadly elliptic, distinctly auriculate, apex emarginate. *Wing petals* 7 – 8 × 2.0 – 2.5 mm wide, claw 3 mm long, distinctly auriculate, sculpturing upper basal and upper central, more pronounced in the upper right central region, transcostal, lamellate, up to 35 curving lamellae in a single row. *Keel petals* 6 – 7 × 2.5 mm wide; claw 3 mm long. *Androecium* 7 – 8 mm long, vexillar stamen free. *Pistil* 7 – 8 mm long; ovary 2.5 – 3.0 mm long, pubescent, glandular, sessile; height of curvature 2 mm, style thickened maximally just before flexure, stigma penicillate. *Fruits* and seeds unknown.

Distribution and phenology

Otholobium incanum is known from only three collections and was first collected in 1958 by Acocks. The species is restricted to the West Coast Sandveld (Acocks' Veld Type No. 34) and occurs on calcareous soils usually at an altitude between 80 – 120 m. Flowering takes place between August and October.

Diagnosis and relationships

Otholobium incanum is characterized by its hoary vestiture, well-developed petal sculpturing and pseudocapitate inflorescences.

Conservation status

The IUCN Conservation status (Threatened Plants Committee Secretariat, 1980) of this species is *Vulnerable* (V). The Rabinowitz code (Stirton, ined.) is *SRN* (Sparse, restricted, narrow): constantly sparse and geographically restricted in a specific habitat.

Specimens examined

—**3118** (Van Rhynsdorp): 10.5 km WNW of Vredendal (–CB), 7.8.1968, *Acocks 24082* (PRE, STE); 17.8 km from Vredendal to Lutzville (–CB), 4.12.1981, *Stirton 10131* (K, PRE, STE, NBG);

14.8 km NE of Lamberts Bay (–CB), 7.8.1968, *Acocks 19782* (PRE, K).

3. *Otholobium pustulatum* C.H. Stirton, sp. nov.

Otholobium flexuosi affinis sed habitu humile implexo, folia plana sericea trifoliolata, stipulis multo longioribus setaceis calyce multo maiore et in forma dissimili differt.

TYPUS:— (Springbok): 27 km SWW of Springbok, 24.9.1957, *Acocks 19581* (PRE, holotypus; K, isotypus).

Frutex implexus usque 1 mm altus. Rami atrobrunnei pustulati, sparse lenticellati, juventute appresse puberuli. *Folia* trifoliolata, petiolata. *Foliola* inaequales; terminale (12) 15 – 16 × 5.0 – 6.5 mm, quam lateralia maius, omnia symmetrica; recurvato-mucronata, apice emarginata, base cuneata, plana, rare complicata, utrinque sparsim sericea; petiolus 2 – 4 mm longus, post casum foliolorum persistens; petioluli < 1 mm longi, sericei. *Stipulae* 2.0 – 3.5 mm longae, setaceae, rectae, caducae. *Inflorescentiae* in ramulis annuis longis usque 30 cm, rectis arcuatisive sparse foliosis terminales, partim congestae, 30 – 45 mm longae, floribus brevipedicellatis ascendentibus in 5 – 8 gregibus trifloris aggregatis, grege omni a bractea mox caduca pubescenti subtenta. *Flores* 8 – 9 mm longi, ebracteati, albi; pedicellus < 2 mm longus. *Dentes calycis* tubus 3 mm longus multo excedentes, aequales vel subaequales (dente carinali interdum maiore), lanceolati, dente carinalis latiore, 2 mm lato; appresse puberuli atri, ubique copiose regulariter glandulosi. *Vexillum* 9 – 10 × 6 – 7 mm, obovatum. *Alae* 9 – 10 × 2.5 – 3.0 mm, quam carina multo longiores. *Petala carinae* 7 × 2.0 – 2.3 mm. *Androecium* 8 mm longum, vagina adaxialiter fissa; stamen decimum in tertio inferiore leviter connatum. *Pistillum* 7 mm longum; ovarium 2 mm longum in dimidio superiore sericeum, parte curvata, 2 mm alta; entase ad partem curvatam incrassato; stigma penicillatum. *Fructus* seminaque ignoti.

Tangled shrub up to 1 m high. *Branches* brownish-black, pustulate, sparsely lenticelled, appressedly puberulous when younger. *Leaves* pinnately trifoliolate, petiolate. *Leaflets* unequal; terminal (12) 15 – 16 × 5.0 – 6.5 mm, obovate, larger than the laterals, all symmetrical; recurved-mucronate, 0.5 mm long; apex emarginate, base cuneate, flat to partly complicate, sparsely sericeous on both surfaces; petiole 2 – 4 mm long, persistent once leaflets have dropped; petiolules < 1 mm long, sericeous. *Stipules* 2.0 – 3.5 mm long, glabrous, setaceous, straight, caducous. *Inflorescences* terminal on long straight or arching, sparsely leafy, seasonal shoots up to 30 cm long; partly congested, 30 – 45 mm long, flowers ascending; comprised of 5 – 8 triplets of shortly pedicellate flowers, each triplet subtended by a rapidly caducous pubescent bract. *Flowers* 8 – 9 mm long, ebracteate, white; pedicels < 2 mm long. *Calyx teeth* much longer than the 3 mm long tube; equal to subequal (carinal tooth sometimes longer); lanceolate, carinal tooth slightly broader, 2 mm wide; vexillar teeth fused for more than half their length, appressedly puberulous, blackish, profusely and evenly glandular over the entire surface. *Standard* 9 – 10 × 6 – 7 mm, broadly obovate; apex emarginate, claw 2 mm long, scarcely auriculate. *Wing petals* 9 – 10 × 2.5 – 3.0 mm, claw 4 mm long, auricle prominent, much longer than the keel petals; sculpturing upper central comprising up to 15 rows of transcostal

lamellae. *Keel petals* 7 × 2.0 – 2.3 mm, claw 3 – 4 mm long, apex obtuse. *Androecium* 8 mm long, sheath split adaxially, vexillar stamen lightly fused in lower third. *Pistil* 7 mm long; ovary 2 mm long; sericeous on upper half; stipitate, height of curvature 2 mm; entasis broadest at point of curvature; stigma penicillate. *Fruits* and seeds unknown.

Distribution and phenology

Otholobium pustulatum occurs in mountain Renosterveld (Acocks's Veld Type No. 43) at an altitude of 700 – 800 m. Flowering takes place in September and October.

Diagnosis and relationships

Otholobium pustulatum is most closely related to *O. flexuosum* but differs from that species in its low tangled habit; flat, sericeous, pinnately trifoliate leaves, much longer setaceous stipules, more compact inflorescences and much larger and differently shaped calyx. *O. flexuosum* is a more robust shrub with digitately trifoliolate complicate leaves sparsely sericeous on the lower surface only, nitid above, small stipules, lax flexuose inflorescences, and short-toothed calyces. *O. venustum*, another species with which it has been confused, differs in its auriculate standard, narrowly obovate to narrowly oblong arching leaflets, pink to mauve flowers, and glabrous ovary.

Conservation status

The IUCN Conservation status (Threatened Plants Committee Secretariat, 1980) of this species is *Rare* (R). The Rabinowitz Rarity code (Stirton, ined.) is SRN (Sparse, restricted, narrow): constantly sparse and geographically restricted in a specific habitat.

Specimens examined

—2917 (Springbok): 24 km south-west of Springbok (–AD), 24.9.1957, *Acocks 19581* (K, PRE); Kammagas (–CB), 1.10.1929, *Herre s.n.* (STE); Spektakel Pass (–DA), 4.9.1951, *Maguire 1009* (NBG).

— Without precise locality: Namaqualand, *Whitehead 26* (MEL 1541978).

4. *Otholobium flexuosum* C.H. Stirton, sp. nov.

Otholobium argentei affines sed foliis atroviridibus foliolis glabris superne nitidis interne sparsim sericeis, axis inflorescentiae flexuosa et floribus robuste pedicellatis differt.

TYPUS:— 28 km from Garies to Khamieskroon (–BD), 5.11.1980, *Stirton & Zantovska 11442* (NBG, holotypus; BOL, C, G, K, L, M, MO, PRE, isotypi).

Frutex densus multiramis usque 2.5 m altus. *Rami* atro-brunnei, sparse lenticellate, laeves, supperficie hebeti, juventute pubescente. *Folia* digitatim trifoliolata peliolata. *Foliola* 11 – 14 × 7 – 10, late obovata, recurvato-mucronata, < 0.5 mm longa, apice emarginata, basi cuneata, conduplicata, margine laevia, inferne sparsim sericea, superne glabra nitida; petiolus 2.0 – 2.5 mm longus, post casum foliolosum persistens; petioluli 1.5 mm longi sericei. *Stipulae* 1 mm longae, setaceae, caducae, rectae. *Inflorescentiae* in ramulis brevibus usque 30 cm longis terminales, laxae, 5 – 20 mm longae, floribus pedicellatis in gregibus 5 – 6 trifloris aggregatis; grege omni a bractea mox caduca brevi, 1 mm

longa oblonga glandulosa subtenta. *Flores* 8 – 10 mm longi, ebracteati, virido albidii; pedicellus 2 – 3 mm longus, fructa usque 4 mm elongatus. *Dentes calyces* tubus aequantes, inaequales, ventricosi; lobus carinalis quam alii latior et parum longior, 5 × 1.5 mm; lobi vexillares quam alii multo magis connati; sparse sericei, pilis fuscis; dentes quam tubum magis glandulosi, glandulis magnitudine diversis. *Vexillum* 8.0 – 8.3 × 5.5 mm, album, obovatum, latis reflexis. *Alae* 6.5 – 7.0 × 2.5 mm, quam carina multo longiores. *Petala carinae* 5.5 × 2.5 mm. *Androecium* 7 mm longum, vagina adaxialiter fissa, stamen decimum in dimidio basali lateris sinistri connatus. *Pistillum* 6.5 mm longum; ovarium 2 mm longum dense sericeum; pars curvata 1.5 mm alta; stylus gracilis pro parte maxima ante partem flexuosam incrassata; stigma penicillatum. *Fructus* 6 × 3 mm, sericeus. *Semina* 4.0 × 2.5 mm, pallide brunnea.

Dense, much branched, rounded shrub up to 2.5 m tall. *Branches* brownish-black, sparsely lenticelled, smooth, surface dull; pubescent when younger. *Leaves* digitately trifoliolate, petiolate. *Leaflets* 11 – 14 × 7 – 10 mm, broadly obovate; recurved-mucronate, < 0.5 mm long; apex emarginate, base cuneate, partly conduplicate, margin smooth, sparsely sericeous below, glabrous and nitid above; glands more dense on upper surface, petiole 2.0 – 2.5 mm long, persistent after leaflets have dropped; petiolules 1.5 mm long, sericeous. *Stipules* 1 mm long, setaceous, caducous, straight. *Inflorescences* terminal on short shoots up to 30 cm long, lax, 5 – 20 mm long, comprised of 5 – 6 triplets of pedicellate flowers; each triplet subtended by a rapidly caducous, short, 1 mm long, oblong, glandular bract. *Flowers* 8 – 10 mm long, bract minute, linear, greenish-white; pedicels 2 – 3 mm long, increasing to 4 mm in fruit. *Calyx teeth* equal in length to the tube; unequal; carinal lobe broader and slightly longer than other lobes, 5 × 1.5 mm wide; vexillar lobes fused much higher up than the rest; sparsely sericeous, hairs dark; teeth more glandular than on the tube, glands variously sized. *Standard* 8.0 – 8.3 × 5.5 mm, claw 1.5 mm long, white; obovate, sides reflexed, apex emarginate, scarcely auriculate. *Wing petals* 6.5 – 7.0 × 2.5 mm, claw 3 mm long; much longer than keel petals, auricle prominent; sculpturing upper central comprising from 15 – 19 rows of indistinct transcostal lamellae. *Keel petals* 5.5 × 2.5 mm, claw 5 mm long. *Androecium* 7 mm long, sheath split adaxially, vexillar stamen fused for lower half on left side of split; fenestrae present, anthers equal. *Pistil* 6.5 mm long; ovary 2 mm long, densely sericeous; height of curvature 1.5 mm long, style thin, mostly thickened before curvature; stigma penicillate. *Fruits* 6 × 3 mm, sericeous, papery, glandular; style persistent; reticulate. *Seeds* 4 × 2.5 mm, pale brown, hilum central.

Distribution and phenology

This little-known species grows along the margins of arid fynbos, karroid brokenveld and in renosterveld at altitudes between 650 – 850 m. Flowering takes place in September and October.

Diagnosis and relationships

Otholobium flexuosum is easily identified in the reproductive phase. It has lax, flexuose-like inflorescences bearing

triplets of pedicellate flowers. From *O. arborescens* C.H. Stirton it is distinguished by dense branching, its lax flexuose inflorescences, pedicellate greenish white flowers and setaceous caducous stipules. *O. arborescens* has a virgate habit, straight compact many-flowered inflorescences, white or cream flowers, and persistent orange glandular stipules. *O. striatum* can be distinguished from it by its larger leaves, densely silky stems and yellow flowers. *O. incanum* and *O. argenteum*, two other species from the region, are both low spreading shrublets with silvery densely pubescent leaves.

Conservation status

The IUCN Conservation status (Threatened Plants Committee Secretariat, 1980) of this species is *Rare* (R). The Rabinowitz Rarity code (Stirton, ined.) is *SRN* (Sparse, restricted, narrow): constantly sparse and geographically restricted in a specific habitat.

Specimens examined

—**3017** (Hondekliipbaai): 28 km from Garies to Khamieskroon (–BD), 4.12.1981, *Stirton 10140* (K, PRE); 5.11.1986, *Stirton & Zantovska 11442* (K, NBG).

—**3018** (Kamiesberg): Khakamas, between Garies and Bitterfontein (–CA), 5.12.1981, *Stirton 10164* (K, MO, PRE).

—**3119** (Calvinia): Lokenburg, 21 miles south of Niewoudtville (–CA), 10.1.1953, *Acocks 17340* (K, PRE); (–CA), 10.10.1953, *Story 4295* (PRE).

—**3219** (Wuppertal): Mertenhof, Biedouw Valley (–AA), 12.11.1974, *Van Breda 4325* (K, PRE); Uitkyk Pass, Biedouw Valley (–AA), 7.11.1986, *Stirton & Zantovska 11502* (NBG, K).

Acknowledgements

This research was funded in part by the Botanical Research Institute, Pretoria (now the National Botanical Institute, South Africa) and jointly by the B.A. Krukoff Trust for Legume Research, Royal Botanic Gardens in Kew (U.K.)

and the UN/FRD Research Unit for Plant Growth and Development (University of Natal, Pietermaritzburg). I thank the Directors and staff of these institutes for their valuable help and facilities without which I would not have been able to complete this work. This work is based in part on a PhD study at the University of Cape Town. The address for subsidy purposes is: Department of Botany, University of Cape Town, Private Bag, Rondebosch, 7700 South Africa.

I am very grateful to the curators and staff of the following 33 herbaria for the loan of their material: AA, MB, BOL, BRUX, CN, E, G, GRA, GRAZ, HER, ISC, K, L, LINN, M, MO, NBG, NH, NU, NY, OXF, O, PRE, PRU, PRC, S, SAAS, SAM, STE, TUB, U, W and WAG.

A number of people have been very helpful: I thank my wife Jana Zantovska for technical help, Melanie Thomas for help with Latin translations, and Anthony Hall, Brian Schrire and Gwilym Lewis for critical advice.

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