Thirty-one new combinations are made in Otholobium, a genus related to Psoralea, Bituminaria and Cullen in the tribe Psoraleeae. One new species is described: Otholobium swartbergense C.H. Stirton. It is a small lax, much branched shrublet with 6–15-flowered (purple) hemispherical inflorescences, endemic to the Groot Swartberg Mountains.

Keywords: Fabaceae, Otholobium, Psoralea, taxonomy

**Introduction**

The following new combinations arise from an overall survey of generic classification of the tribe Psoraleeae, Papilionoideae (Stirton 1981a, 1981b). In these studies the African representatives of *Psoralea sensu lato* were re-allocated to four genera: *Psoralea* L., *Hallia* Thunb., *Otholobium* C.H. Stirton and *Cullen* Medik. Monographs of these genera will be published elsewhere, and a full list of types and synonyms will be provided then.

The genus *Otholobium* is restricted mainly to south-eastern and eastern Africa, but also extends into the mediterranean-climate areas of South Africa. Unlike *Psoralea* which tends to occur in seepage areas or on wetter slopes, *Otholobium* is more likely to be found in drier habitats.

*Otholobium* is characterized by a combination of entire recurved-mucronate obovate to oblanceolate leaflets and bracteate triplets of flowers with each triplet subtended by a single variously shaped bract.

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**Acknowledgements**

Unless otherwise stated all the type material cited below was examined by the author. Although some of the types have not yet been found, the new combinations have been made at the Royal Botanic Gardens, Kew, England.
as the protologues usually are informative enough to enable one to understand clearly what species was being described.

There is a real problem in lectotypifying species described in Ernst Meyer's 'Commentario' and Ecklon & Zeyher's 'Enumeratio'. They saw many duplicates of the same collections. Unfortunately a large number of the Meyer names in the legumes are pre-empted by Ecklon & Zeyher by a few months. See Meisner (1843) for a terse analysis of this unfortunate occurrence whereby Ecklon & Zeyher's names take priority. There is little doubt that Ernst Meyer's treatment is superior. He annotated most of the sheets he saw and so it is never difficult to understand his species concept. Ecklon and Zeyher, on the other hand, rarely annotated the sheets that they or their purchasers sent or sold abroad, with or without labels, printed or handwritten. Their collections appear to be distributed among many different herbaria.

Much of their material was distributed with printed labels which are clearly from a number of different printings, the material presumably not necessarily from the same original collections. They also made mixed gatherings and so it is often difficult to interpret what they meant, especially as their descriptions are mostly inadequate. However, Nordenstam (1880) made a clear case that herbarial material in S should be the first choice for the lectotypification of Ecklon & Zeyher names. I concur with this and have lectotypified accordingly except in some instances where other herbaria have sheets with clear labels in the authors' handwritings, apparently representing the top sheets.

In a number of cases I have designated neotypes as it has been impossible so far to decide whether any material which the authors may have had at their disposal, exists. In all such instances there has been no problem in determining the species intended. For information about the guidelines used to select lectotypes in this paper also see Stirtton et al. (1981c).

1. Otholobium acuminatum (Lam.) C.H. Stirton, comb. nov.


2. Otholobium argenteum (Thunb.) C.H. Stirton, comb. nov.

Psoralea argentea Thunb., Prodri. 136 (1800); Fl. Cap. 608 (1823); DC., Prodri. 2: 218 (1825); E. Mey., Comm. 87 (1836); Harv. in Harv. & Sond., Fl. Cap. 2: 153 (1862); Forbes in Bothalia 3: 129 (1930). Holotype: 'in lapidosis (Altit. II) laterum montium prope flumen Gauritzrivier (Swellendam)' Drège s.n. (H., holotype; BM, MO, isotypes). The Kew sheet merely has 'Cap' as locality whereas the BM sheet, which I believe is an isotype, has the following pencil entry: 'on the Buffelfjagt River at Goestervallen'. Unfortunately not enough is known about Bowie's collecting localities or the quantity and distribution of his specimens to enable one to decide which is the top sheet. It seems probable that it is the BM material as their sheets are the better annotated.

3. Otholobium bolusii (Forbes) C.H. Stirton, comb. nov.


4. Otholobium bowieanum (Harv.) C.H. Stirton, comb. nov.

Psoralea bowiana Harv., Fl. Cap. 2: 154 (1862); Forbes in Bothalia 3: 127 (1930). Holotype: 'Cape', Bowie s.n. (K, holotype; BM, MO, isotypes). The Kew sheet merely has 'Cape' as locality whereas the BM sheet, which I believe is an isotype, has the following pencil entry: 'on the Buffelfjagt River at Goestervallen'. Unfortunately not enough is known about Bowie's collecting localities or the quantity and distribution of his specimens to enable one to decide which is the top sheet. It seems probable that it is the BM material as their sheets are the better annotated.

5. Otholobium bracteatum (Eckl. & Zeyh.) C.H. Stirton, comb. nov.


Psoralea bracteata sensu Jacq., Hort. Schoenbr. 2: 54, t.224 (1797) belongs here.


Psoralea candidans Eckl. & Zeyh., Enum. 228 (1836); Walpers, Repert. 1: 657 (1842); Harv. in Harv. & Sond., Fl. Cap. 2: 150 (1862); Forbes in Bothalia 3: 122 (1930). Holotype: 'in lapidosis (Altit. II) in Karoo prope flumen Gauritzrivier (Swellendam)', Zeyer s.n. (S, lectotype; K, L, S, SAM, isotypes). I have discovered only four sheets which bear the collector's distribution label. None of the sheets bear labels in the collector's hand. All the sheets have more than one twig present except for the S sheet which I have designated lectotype.


7. Otholobium carneum (E. Mey.) C.H. Stirton, comb. nov.

Psoralea carnea E. Mey., Comm. 85 (1836); Harv. in Harv. & Sond., Fl. Cap. 2: 149 (1862); Forbes in Bothalia 3: 131 (1930). Holotype: The exact locality is uncertain, said to have come from the area between Piquetberg and False Bay but as the species is restricted to the Kouga Mountains Meyer was correct in doubting its provenance. Collector: Druce s.n. (K, lectotype; K, L, S, SAM, isotypes). Forbes (1930), in his monograph of Psoralea, confused this species with a group of five species centred on P. carneae. I recognize these as Otholobium prodiens C.H. Stirton mss.; O. heterospermum (Fourcade) C.H. Stirton; O. polyphyllum (Eckl. & Zeyh.) C.H. Stirton; O. stachyrum (Eckl. & Zeyh.) C.H. Stirton and O. acuminatum (Lam.) C.H. Stirton. I will deal with their identification and relationships in a later monograph.


Psoralea decumbens Alit., Hort. Kew. 3: 80 (1789); Lodd. Bot. Cab. t.282 (1818); DC., Prodri. 2: 217 (1825); E. Mey., Comm. 86 (1836); E. Mey., Encycl. 7: 228 (1836); Walpers in Linnaea 13: 514 (1839); Walpers in Linea 136: 1920, specimen from the Cape, which I believe is an isotype, has the following pencil entry: 'on the Buffelfjagt River at Goestervallen'. Holotype: 'Fr bands. Esperance', Sonnerat s.n. (P-JA).


Psoralea decumbens Alit., Hort. Kew. 3: 80 (1789); Lodd. Bot. Cab. t.282 (1818); DC., Prodri. 2: 217 (1825); E. Mey., Comm. 86 (1836); E. Mey., Encycl. 7: 228 (1836); Walpers in Linnaea 13: 514 (1839); Walpers in Linea 136: 1920, specimen from the Cape, which I believe is an isotype, has the following pencil entry: 'on the Buffelfjagt River at Goestervallen'. Holotype: 'Fr bands. Esperance', Sonnerat s.n. (P-JA).


Psoralea decumbens Alit., Hort. Kew. 3: 80 (1789); Lodd. Bot. Cab. t.282 (1818); DC., Prodri. 2: 217 (1825); E. Mey., Comm. 86 (1836); E. Mey., Encycl. 7: 228 (1836); Walpers in Linnaea 13: 514 (1839); Walpers in Linea 136: 1920, specimen from the Cape, which I believe is an isotype, has the following pencil entry: 'on the Buffelfjagt River at Goestervallen'. Holotype: 'Fr bands. Esperance', Sonnerat s.n. (P-JA).


10. Otholobium fruticans (L.) C.H. Stirton, comb. nov.
Trifolium africanum fruticans flore purpurascen. Comm., Hortic med. ann. 2: 211, 1:106 (1701) and Atlas 5, 1:33; Hill, Eden 103, t. 9.6 (1757). Wijnands (1983) reports that in 1867 Compelmin received from the Cape some seeds of this species, sent as Laboratory fruticans, but it has been very difficult to establish what is meant by this send specimen. (K). The specimen of Hottentots Holland referred to a general area or was an imprecise locality. I have lectotypified the 'Paariberg' specimen in PRE as it best matches the above localities. I have concluded therefore that his original citation so are not available for lectotypification. There are no sheets in Fourcade's herbarium is 10126 (BOL).

14. Otholobium macradenium (Harv.) C.H. Stirton, comb. nov.

15. Otholobium mundianum (Eckl. & Zeyh.) C.H. Stirton, comb. nov.

16. Otholobium obliquum (E. Mey.) C.H. Stirton, comb. nov.
Psoralea obliqua E. Mey. in Linnaea 7: 164 (1832); Comm. 84 (1836); Walp., Repert. 1: 656 (1842); Harv. in Harv. & Sund., Fl. Cap. 2: 148 (1862); Forbes in Bothalia 3: 131 (1930). Lectotype: 'Montes rupestres humidiorius ad montem Paarlberg', Drège s.n. (PRE, lecto; BM, BHG, L, TCD, iso). Syntype: 'Prope Stellenbosch' Drège s.n. (K, MO), 'Dutoitskloof', Drège s.n. (PRE). In the protologue Meyer cited 'Hottentots Holland' as the locality. I have not come across any specimens that bear such a legend. Neither it is mentioned in Meyer's later more important work, his 'Commentario'. In this work he lists the above localities. I have concluded therefore that his original citation of Hottentots Holland referred to a general area or was an imprecise locality. I have lectotypified the 'Paarlberg' specimen in PRE as it best matches the protologue and is duplicated in a number of herbaria.

17. Otholobium parviflorum (E. Mey.) C.H. Stirton, comb. nov.
Psoralea parviflora E. Mey., Comm. 86 (1836). Lectotype: 'Dutoitskloof, Ill A e', Drège s.n. (K, lectotype; BHG, L, PRÉ, isotype).

Psoralea polyphylla Eckl. & Zeyh., Enum. 227 (1836); Walp. in Linnaea 13: 513 (1839); Walp., Repert. 1: 656 (1842); Harv. in Harv. & Sund., Fl. Cap. 2: 148 (1862); Forbes in Bothalia 3: 122 (1930). Lectotype: 'In dunis prope nemora ane sylvas primaevae in Krakkakamma (Uitenhage)', Ecklon s.n. (K, lectotype; K, L, S, SAM 49205 isotypes).

19. Otholobium polystictum (Benth. ex Harv.) C.H. Stirton, comb. nov.

Lodotes polystictum (Benth. ex Harv.) O.K., Gen. Pl. 3: 2. 65 (1891).

20. Otholobium racemosum (Thunb.) C.H. Stirton, comb. nov.

P. harrisii Eckl. & Zeyh., Enum. 230 (1836); Walp., Repert. 1: 658 (1842). Lectotype: 'Inter gramina montium in Langkloof (George)', Ecklon s.n. (S, lectotype; S, SAM, TCD, isotypes).

*Psora/ea triantha* (1842); Harv. in Harv. BOL, P, Syntype: (1930). Lectotype: Cape, without precise locality, in Karro prope tlumen Gauritzrivier P. is found on older herbarium specimens in European herbaria. I cannot

**22. Otholobium seicrum** (Poir.) C.H. Stirton, comb. nov.

*Psora/ea seicrum* Poir. in Lam. Method: 5; 687 (1804); DC., Prodr. 2: 218 (1825); Meisn. in J. Bot., Lond. 2: 81 (1843); Drège in Linnaea 19: 645 (1846); Presl, Bot. bemerk. 60 (1844). Holotype: Without precise locality, Sonnerrt s.n. (P).

**23. Otholobium spicatum** (L.) C.H. Stirton, comb. nov.

*Psora/ea spicata* L., Mant. alt. 264 (1771); Thunb., Lond. 2: 218 (1825); Harv. in Harv. & Sond. Fl. Cap. 2: 156 (1862).

P. pedunculata Ker-Gawl in Bot. Register t.223 (1817) not Poir. (1816) nec Vaill. (1891); Meisn. in J. Bot., Lond. 2: 81 (1843).


*Psora/ea stachyra* L., Mant. alt. 264 (1771); Thunb., Lond. 2: 81 (1843); Presl, Bot. bemerk. 60 (1844); Harv. in Harv. & Sond. Fl. Cap. 2: 262 (1862).

Lectotype: 'Ad floribus paucibus differt."

**25. Otholobium striatum** (Thunb.) C.H. Stirton, comb. nov.

*Psora/ea striata* Thunb., Fl. Cap. 608 (1823); DC., Prodr. 2: 218 (1825); E. Mey., Comm. 87 (1836); Forbes in Bothalia 3: 132 (1930). Holotype: 'Crecsit prope Dorrnivier in Carro pone Bokkeveld', Thunberg [17584 in UPS belongs to this species. As I am unable to lectotypify this species I am choosing the following neotype. Neotype: 3 km from Heidelberg to Riversdale, 9-12-1981, Stirton 10259 (K).

P. spicata sensu Poiret in Lam., Method. 686 (1804) is *Otholobium striatum* (Thunb.) C.H. Stirton.

**26. Otholobium thomii** (Harv.) C.H. Stirton, comb. nov.


**27. Otholobium trianthum** (E. Mey.) C.H. Stirton, comb. nov.

*Psora/ea triantha* E. Mey., Comm. 88 (1836); Walp., Repert. 1: 657 (1842); Harv. in Harv. & Sond., Fl. Cap. 2: 150 (1862); Forbes in Bothalia 3: 123 (1930); Adamson & Salter, Fl. Cape Penins. 487 (1950). Lectotype: 'Locis humidis ad Bergrivier', *Drège s.n. (K), lectotype; BM, BOL, P, isotypes). Syntype: I have not come across any of the following syntypes: 'In collibus prope Lauswolkloof', *Drège s.n.; 'In arenosis ad Breederiav', *Drège s.n.; 'in fruticetis ad Zwartkopsrivier', *Drège s.n.


**29. Otholobium venustum** (Eckl. & Zeyh.) C.H. Stirton, comb. nov.

*Psora/ea venestuna* Eckl. & Zeyh., Enum. 231 (1836); Walp. 1: 658 (1842); Harv. in Harv. & Sond., 2: 155 (1862); Forbes in Bothalia 3: 134 (1930). Holotype: 'Saldanha Bay', *Ecklon & Zeyher s.n. (S). I have only found a single specimen that bears the printed Eckl. & Zeyh. label.

**30. Otholobium wilmsii** (Harms) C.H. Stirton, comb. nov.


**31. Otholobium zeyheri** (Harv.) C.H. Stirton, comb. nov.


The following species have been treated previously (Stirton 1981b, 1982, 1983):


*Psora/ea caffra* Eckl. & Zeyh., Enum. 230 (1836); Walp., Repert. 1: 657 (1842); Harv. in Harv. & Sond., Fl. Cap. 2: 155 (1862); Forbes in Bothalia 3: 133 (1930); Lectotype: 'In collibus graminosis inter tlumine Potberg', *Thom 17585 in UPS belongs to this species. As I am unable to lectotypify this species I am choosing the following neotype. Neotype: 3 km from Heidelberg to Riversdale, 9-12-1981, Stirton 10259 (K).

P. spicata sensu Poiret in Lam., Method. 686 (1804) is *Otholobium striatum* (Thunb.) C.H. Stirton.


Holotype: Hoeko Road, south base of Klein Swartberg Mountains, *Wurt 1606* (NBG). When I described this species I confused the collector T.M. Wurts with Barker who had named the specimen. The collector is here corrected to Wurts.


Holotype: Bavianskloof Mountains, between Smitskraal and Wilgehof, *Oliver 4588* (STE, holotype; BM, K, PRE, isotypes).


Holotype: Potberg North, *Acocks 22835* (K, holotype; PRE, isotype).

**New species**

Figure 1  *Otholobium swartbergense*  1. Flowering shoot, ×1; 2. terminal leaflet, ×2; 3. lateral leaflet, ×2; 4. calyx opened out, ×3; 5. flowering bracts, showing variation from setaceous terminal bract to the lowest positioned flabellate bract, ×4; 6. side view of the flower just prior to opening, ×3; 7. standard, ×4; 8. keel, ×4; 9. wing petal, ×4; 10. androecium, ×4; 11. pistil, ×4.


**Typus.** — Cape Province: Oudshoorn, Swartberg Pass, northern slopes below summit, Stirling 10310 (PRE, holotypus; BOL, K, MO, NBG, NH, STE, isotypi).

Small spreading shrublet. *Stems* slender, numerous, covered in short appressed upwardly pointing hairs with longer patent hairs interspersed and dominant on angles. *Leaves* trifoliolate. *Stipules* 5 — 7 mm long, 1,8 — 3,0 mm wide, ovate to shortly oblong, apex acute; glabrous inside, sericeous outside. *Petioles* (3)5 — 7(9) mm long, hairy, fused to stipules at the base. *Leaflets* 15 — 22 mm long, (4)6 — (8)11 mm wide (the larger leaves being produced later in the season), flat, entire, elliptical, sericeous but denser below especially along veins; base obtuse, apex strongly recurved-mucronate; laterals smaller than the terminal leaflet. *Inflorescences* 6 — 15-flowered, axillary, hemispherical on long peduncles comprised of 2 — 4(5) sets of flowers in triplets, lowest set subtended by a 2 — 3-toothed flabellate bract; bracts gradually narrowing in remaining sets; filiform bractlets subtending each flower. *Flores* 8 — 11 mm long, mauve becoming purple with age, enclosed within the calyx at anthesis, but standard reflexing partially; pedicel 1,5 — 2,0 mm long. *Peduncle* (50)90 — 120(200) mm long. *Calyx* 11 — 13 mm long; lobes unequal, upper four teeth equal, narrowly triangular, curved, 5,5 — 6,0 mm long, 1,5 — 2,0 mm wide, keel tooth 9 — 10 mm long, 3,0 — 3,5 mm wide; veins prominently reticulate; tube 2,5 — 3,0 mm long. *Standard* 8 — 10 mm long, 5,0 — 6,5 mm wide, obovate, slightly reticulate, narrowed towards the 3 mm long claw. *Wing petals* 9,5 — 10,0 mm long, blade 6 — 7 mm long, 2,2 — 2,5 mm wide, longer than the keel, auriculate, sculpturing upper basal and left central, comprised of 15 — 18
irregular parallel lamellae. *Keel blades* 8 mm long, 2 mm wide; apex rounded, blotched purple on inner face. *Androecium* 8 mm long, vexillar stamen 7.5 mm long, loosely attached to the sheath for half its length. *Pistil* 8 mm long; ovary 1.5 mm long, sparsely glandular, subsessile; style glabrous, height of curvature 2 mm, flexure thickened, stigma papillose. Seed and fruit unknown (Figure 1).

*Otholobium swartbergense* was first collected by Harry Bolus in December 1904. Since then it has been collected about once every decade. It appears to have been missed by many of the collectors who have ritually stopped and lunched at the top of the Swartberg Pass. This is not too surprising as the plant is difficult to find even when it is flowering.

This species has been confused with *O. sericeum* in the herbarium, but when both are seen in the field the differences in habit, size, smell, flower colour, ecological preference and geographical location are decisive and I have no hesitation in describing it as new. They are undoubtedly related and I shall discuss their affinities and distribution in my monograph of the *Psoraleeae* of Africa.

*O. swartbergense* is a distinctive endemic of the Groot Swartberg Mountains. It flowers during November and December. The plants are recorded by collectors as growing amongst short grass on rocky outcrops. However, in 1981 and 1984 the only plants that I could find here were growing along the edge of the roadside beneath the crumbling margin of the left-hand roadbank as one descends from the top of the Swartberg Pass to the Forest Station below.

**Specimens examined**


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**References**


