

# ***Capelio* B. NORD., a new name for a South African genus of the Senecioneae, and the description of a new species**

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## **Abstract**

*Capelio* B. NORD. is introduced as a new generic name for *Alciope* DC., nom. rej. (Compositae-Senecioneae). The genus is endemic to the Cape Province of South Africa and has three species, one of which is here described as new, viz. *C. caledonica* B. NORD. The other two species are *C. tabularis* (THUNB.) B. NORD., comb. nov. and *C. tomentosa* (BURM. f.) B. NORD., comb. nov. The latter has up to now been known as *Alciope lanata* (THUNB.) DC. A key to the species is provided.

## **Introduction**

The genus *Alciope* DC. is a small and well defined genus of the tribe Senecioneae. Among the subtribes sometimes distinguished it fits best in the Tussilagininae although it has some unusual features.

The generic name *Alciope* has been commonly used since its introduction in 1836, usually cited as DC. (1836), although some authors (e.g., BREMER 1994) give the author citation DC. ex LINDL. (1836). De CANDOLLE's Prodrromus vol. 5 was published in 1-10 Oct. 1836 (STAFLEU & COWAN 1976) and the genus *Alciope* DC. described with two species from the Cape Province. De CANDOLLE cited as a synonym "*Celmisia* Cass. dict. v. 7. p. 357 (non vol. 37)". Although De CANDOLLE retained the genus *Celmisia* with a narrower circumscription, his citation makes the name *Alciope* illegitimate as being superfluous and a nomen rejiciendum according to present nomenclatural rules. The slightly earlier *Alciope* DC. ex LINDL. was published in July 1836 (STAFLEU & COWAN 1981), but is a nomen nudum. LINDLEY (1836) merely gives a list of genera with no descriptions.

De CANDOLLE's two species of *Alciope*, based on species published under *Arnica* by THUNBERG, were named *A. tabularis* (THUNB.) DC. and *A. lanata* (THUNB.) DC. These are the accepted names in herbaria and literature (e.g., HARVEY 1865, BOND &



GOLDBLATT 1984, ARNOLD & DE WET 1993, LEISTNER 2000). It has been known for some time that a third species exists; e.g. BOND & GOLDBLATT (1984) and BREMER (1994) account for three species. The third species, which has remained undescribed until now, is described below. Also, an earlier epithet is introduced for the species previously called *Alciope lanata*, which now becomes *Capelio tomentosa* (BURM. f.) B. NORD.

Herbarium abbreviations are in accordance with HOLMGREN et al. (1990).

### Taxonomy and Nomenclature

***Capelio* B. NORD., nom. nov.** (Compositae-Senecioneae)

Syn.: *Alciope* DC., Prodr. 5: 209, 1836, nom. rej.

Type: *C. tabularis* (THUNB.) B. NORD.

3 spp., Cape Province, South Africa.

#### Key to the species of *Capelio*:

1. Leaves petiolate, ovate to rounded or elliptic-oblong, densely white- or greyish-woolly beneath ..... 2
- Leaves sessile, oblong-obovate, laxly greyish-brownish-woolly beneath ..... 3. *C. caledonica*
2. Leaves 2–7 cm long, 1.5–4 cm wide. Involucre sparsely tomentose, glabrescent ..... 1. *C. tabularis*
- Leaves larger, 6–14 cm long, 3–8 cm wide. Involucre densely and persistently woolly ..... 2. *C. tomentosa*

#### 1. *Capelio tabularis* (THUNB.) B. NORD., comb. nov.

Basionym: *Arnica tabularis* THUNB., Fl. Cap. (ed. SCHULTES): 668, 1823.

Syn.: *Alciope tabularis* (THUNB.) DC., Prodr. 5: 209, 1836. Type: Cap, THUNBERG (UPS-THUNB holotype; S isotypes!).

Distribution: SW Cape: Cape Peninsula, Caledon, Worcester, Ladismith Divisions. Interestingly, it is partly sympatric with the new species *C. caledonica*. There are two records from Betty's Bay (M. VOGTS 6 in K, and H. PORTER s.n. in NBG), a locality where *C. caledonica* is also found. *C. tabularis* is also recorded from Palmietberg foothills near Kleinmond, where *C. caledonica* likewise occurs.

*C. tabularis* is recognized by its petiolate leaves with a persistent tomentum on the lower side and the loosely woolly and glabrescent involucre.



## 2. *Capelio tomentosa* (BURM. f.) B. NORD., comb. nov.

Basionym: *Conyza tomentosa* BURM. f., Fl. Cap. Prodr. 26, 1768. Type: BURMAN (G? non vidi).

Syn.: *Arnica lanata* THUNB., Fl. Cap. (ed. SCHULTES): 667, 1823; *Alciope lanata* (THUNB.) DC., Prodr. 5: 209, 1836. Type: In montibus Rode Sand prope Winterhoek in Cap, THUNBERG (UPS-THUNB lectotype).

Distribution: SW Cape: Piketberg, Tulbagh, Ceres Divisions.

Nomenclatural note: THUNBERG's specific epithet *lanata* has been adopted and used since its introduction. However, there is an earlier legitimate epithet, because of *Conyza tomentosa* BURM. f. (1768). This was published between 1 March and 6 April, 1768, according to TL2 (STAFLEU & COWAN 1976), and clearly describes this plant. The homonym *Conyza tomentosa* MILL. (1768) is a Mexican plant, still bearing this name, but the date of MILLER's publication is thought to be 16 April, 1768 (STAFLEU & COWAN 1981). There are two later homonyms as well (by FORSSKAHL and WALLICH, resp.), but of no concern for priority here. My conclusion is that BURMAN's epithet should be adopted for the species known as *Alciope lanata*, and consequently, the Mexican species will have to find another name, which is beyond the scope of this paper.

*C. tomentosa* is a stout subshrub with large petiolate leaves (petioles stout, 2–3 cm long), very densely and permanently tomentose except for the upper leafsides which are glabrescent. The large involucre is permanently tomentose with acuminate sericeous tips to the phyllaries.

## 3. *Capelio caledonica* B. NORD., sp. nov. - Fig. 1.

Type: NORDENSTAM 3116, South Africa, Cape Prov.: Caledon Div.: Betty's Bay, Oubos, 23.IX.1963, (S holotype!, MO isotype!).

*Capelio caledonica* B. NORD., sp. nov., a *C. tabulari* et *C. tomentosa* foliis sessilibus oblongo-obovatis subtus plerumque laxe tomentosis glabrescentibus differt.

Erect subshrub 0.3–1 m tall, little-branched, often coppicing from the base. Stems fairly stout, with age up to 1 cm thick near the base, thinly and loosely to somewhat densely grey- or brownish-tomentose especially above and when young, glabrescent with age, ribbed-sulcate when old, often brownish, apically pedunculoid with reduced bract-like leaves, simple or few-branched and terminated by solitary or few-corymbose capitula. Leaves alternate, fairly closely set, sessile, entire, elliptic-oblong to oblong-obovate, broadest above the middle and tapering to the base, 2–11 cm long, 1.5–3.5 cm wide, subcoriaceous or subsucculent, glabrescent or glabrous above, thinly to somewhat densely tomentose beneath but glabrescent, with a prominent midrib on the lower side; margins distantly callous-denticulate with small brownish mucros and somewhat revolute; apex rounded-obtuse to subacute and often shortly



mucronulate; uppermost leaves smaller,  $\pm$  bract-like, distant. Capitula radiate, yellow-flowered. Involucre cupshaped-hemispherical, 2–4 cm wide, 1.5–2.5 cm high; involucre bracts ca. 3-seriate, 15–35, linear to linear-lanceolate, 1.2–2.5 cm long, 2–3 mm wide, loosely white-greyish-tomentose, midveined or 3-veined, acute to subacuminate, often purplish towards the apex; outermost phyllaries shorter and narrower, ca. 1/2 the size. Receptacle flat, glabrous, alveolate. Ray florets (8–)11–21; tube cylindrical, 5–10 mm long, glabrous; lamina oblong-oblong-lanceolate, 15–30 mm long, 4–9 mm wide, many (7–18)-veined, minutely 3(–4)-fid at the apex. Staminodes usually present, usually 5, narrowly linear-filiform. Style branches 2.5–3 mm long, obtuse. Disc florets numerous (>50). Corolla 10–14 mm long, lower half tubular, upper half narrowly campanulate, 5-lobed; lobes lanceolate, 3–4 mm long, ca. 1 mm wide, with lateral and central resin ducts continuing down the limb, glabrous but minutely papillate at the acute subcucullate tip. Anthers 3–4.5 mm long incl. appendage, shortly caudate; apical appendage ovate-oblong, obtuse; endothelial tissue polarized with 1–2 thickenings on the transverse (horizontal) walls only; filament collar straight and uniform, basal cells not enlarged. Style branches linear-oblong, 2–3.5 mm long, obtuse-rounded at the apex, densely shortly hirsute on the entire outside, with continuous stigmatic area inside. Cypsela narrowly oblong, 5–7 mm long, 1–2.5 mm wide, densely white-hirsute-villous with duplex hairs, with a distinct carpodium of 8–10 cell layers, distinctly closely many(15)-ribbed. Pappus bristles numerous, pluriseriate, 7–12 mm long,  $\pm$  straight, minutely barbellate, white-tawny or light brownish, basally connate, persistent.

Flowering period: Sept.–Jan. (May), especially after fires.

Distribution: Coastal areas of Caledon Div., SW Cape Prov. (Fig. 2).

Collections other than the type:

S. Africa, Cape Prov., Caledon Div.: Grabouw Distr., Kogelberg, N slopes of main peak, 490 m, 21.XI.1990, E.G.H. OLIVER 9793 (NBG, STE); SE of the Kogelberg, IX.1939, STOKOE 7540 (K); Kogelberg Forest Reserve, 34°17'S, 18°55'E, Dwars River, 400 ft., 23.X.1969, C. BOUCHER 779 (NBG 2 sheets, STE); Kogelberg Forest Reserve, Platberg, SE steep ascent, 2000 ft., 20.XII.1968, C. BOUCHER 184 (NBG, STE); Stalberg near Rooiels, lower slopes, S aspect, 16.I.1971, ESTERHUYSEN 32563 (BOL, S); Inland from Pringle Bay, 15.IX.1953, R.N. PARKER 4909 (NBG); Buffels River Valley, Hangklip, 20.XI.1945, W.F. BARKER 3915 (NBG); Harold Porter Botanic Garden, Betty's Bay, slopes of Voorberg, 600–800 ft., 3.XI.1970, W. EBERSOHN s.n. (NBG); Oudebosch turn-off between Betty's Bay and Kleinmond, 50 ft., 20.V.1970, C. BOUCHER 1269 (NBG, STE); Honeyklip Kloof above Kleinmond, 2500 ft., XI.1948, STOKOE SAM 69623 (NBG). Doubtful locality: Tulbagh Div.: Witzenberg, X.1939, STOKOE s.n., SAM 57109 (NBG).



The new species is characterized by the sessile leaves, which are broadest above the middle and more glabrescent than those of the other two species. The capitula are generally larger and with more numerous rays than in *C. tabularis*, but there is overlapping variation in these respects. The cypsela hairs are of the normal 3-celled type called twin or duplex hairs, with two elongate parallel cells and one small lateral basal cell.

*C. caledonica* inhabits fynbos on flats and mountain sides, sometimes swamps, mostly on sandy soil of Table Mountain Sandstone formation, often in burnt areas, from near sea level to about 750 m s.m. It is probably endemic to southwestern Caledon Division, a region renowned for its rich endemism, probably the foremost centre of endemism in the Cape Flora. The record from Witzenberg in Tulbagh Division is probably a mistake, perhaps due to a confusion of labels.

The genus *Capelio* has no apparent close relatives. It is unique among the South African Senecioneae by its tussilaginoid characters such as polarized endothecium, uniform straight filament collars, and unusual style of disc florets. The style branches are apically rounded and lack sweeping-hairs, instead carrying densely set small trichomes dorsally. The stigmatic areas on the inside are continuous. The more or less triseriate involucre is also an unusual feature in the tribe and especially in the subtribe Tussilagininae, although not unique. In a subtribal scheme *Capelio* would fit best in the Tussilagininae, which is otherwise poorly represented in Africa, having its centres of diversity in Central and South America and eastern Asia.

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