

THE IDENTITY OF GNAPHALIUM INDICUM LINN.

A. J. C. GRIERSON

ABSTRACT. The type of the tropical weed commonly known as *Gnaphalium indicum* Linn. is a specimen of the South African plant *Helichrysum expansum* Less. which therefore becomes *Helichrysum indicum* (L.) Grierson. The plant usually called *G. indicum* is shown to be *G. polycaulon* Pers. and two other species confused with it, *G. spicatum* Lamk. and *G. pensylvanicum* Willd., are discussed and a key for their separation is given.

Linnaeus published the description of *Gnaphalium indicum* in his *Species Plantarum* p. 852 (1753) as follows:—

"*indicum* 10. GNAPHALIUM foliis lanceolatis alternis, caule herbaceo ramosissimo diffuso, corymbis inaequalibus. Fl. Zeyl. 307*
Gnaphalium, latiore folio, minus ramosum, capitulis pallescentibus. Pluk. Alm. 172 t. 187 f. 5.
Habitat in India".

His use of the asterisk against the *Flora Zeylanica* reference indicates, according to Stearn (1957 p. 89), that a good description is to be found at the place cited. This description (*Fl. Zeylanica* p. 144: 1747) is as follows:

"307 GNAPHALIUM caule ramosissimo diffuso herbaceo, foliis lanceolatis alternis, corymbis inaequalibus.
GNAPHALIUM, latiore folio, minus ramosum, capitulis pallescentibus, e maderaspatan. Pluk. Alm. 172, t. 187 f. 5.
Descr. Caulis ramosissimus, semipedalis, undique diffusus, tomentosus. Folia alterna; in petiolos desinentia, superne latiora, acuta, tomentosa, alba. Corymbi compositi ramos terminantes. Flores parvi: calyce imbricato squamis ovatis, fuscis, cingente discum squamis dilatatis, rotundatis, albis; hinc flores fusci corona alba".

The last sentence is all-important for, although the terms used are not in accord with modern usage in describing members of the Compositae and Linnaeus treated the whole capitulum as a single flower, the import is that the outer involucre bracts are ovate and brown, the inner ones are larger, rounded and white.

The *Flora Zeylanica* is an account of the plants collected by Paul Hermann between 1670 and 1677 whilst serving as medical officer to the Dutch East India Company in Ceylon. The history and the contents of this collection, which is now in the British Museum (Natural History), were investigated and recorded by Trimen (1888). He found that Linnaeus, in working through the material, had been careful to annotate the specimens with the species numbers used in his *Flora Zeylanica*. Hermann's herbarium consists of five bound folio volumes (four containing plants and the fifth illustrations), of which the first three contain only Ceylonese plants but in the fourth there

is an admixture of plants from the Cape of Good Hope. Linnaeus was aware of this and with the exception of two specimens, which he must have supposed came from Ceylon, omitted all mention of them in his work. The specimen numbered 307 appears on p. 15 of the fourth volume along with the word "*Gnaphalium*". It is, however, not *Gnaphalium* but a plant of the South African *Helichrysum expansum* (Thunb.) Less. (another fragmentary specimen of the same species is to be found on p. 18 of the same volume)*. Because of its rounded, white, inner involucre bracts it is clear that Linnaeus was referring to this specimen and not to Plukenet's synonym which is what has commonly been regarded as *G. indicum*.

This error was noticed by Trimen (1888 p. 148), who, however, wrongly determined the Hermann specimen as *Amphidoxa gnaphalodes* DC. He also commented (l.c. p. 148) "this common Eastern tropical weed cannot retain the name by which it has been so long known as there is no reason to suppose it to be the *G. indicum* intended by Linnaeus". This remark, however, has not been followed up until now.

There is additionally a specimen in the Linnaean Herbarium labelled as *G. indicum* which is clearly not the *Helichrysum* of the Hermann Herbarium nor is it the plant generally accepted as *G. indicum* but possibly *G. luteo-album* (the I.D.C. microfiche photograph is not sufficiently distinct for certainty). This sheet is nevertheless significant because it has been annotated by J. E. Smith "an verum Fl. Zey.". He, therefore, was conscious that this discrepancy existed but evidently did nothing to rectify it.

In herbaria three species may be found at present under the name *G. indicum* and the following key should separate them.

1. Pappus hairs separate at the base. Herbs generally 10–25 cm tall, usually with several or many stems arising from the base. Leaves oblanceolate, \pm acute, 1–4 cm long 0.2–0.8 cm broad. Capitula c. 2.5 mm long. Phyllaries \pm acute, stramineous . . . *G. polycaulon*
1. Pappus hairs coherent at the base into a ring. Herbs generally 30–40 mm tall. Stems simple or several arising from the base. Leaves oblanceolate-spathulate, \pm obtuse, commonly 5–10 cm long 0.7–2 cm broad. Capitula 3–4 mm long, phyllaries \pm obtuse, stramineous, brown or purplish 2
2. Leaves noticeably discoloured, thinly pubescent or subglabrous above, densely white tomentose beneath, margins somewhat crisped. Capitula in dense \pm unbranched terminal spike-like panicles, clusters subtended by short leaves. Phyllaries often purplish or brown, glabrous except at the base . . . *G. spicatum*
2. Leaves less distinctly discoloured, pubescent on both surfaces but more densely so beneath, margins flat. Terminal panicles usually branched at least at the base, clusters subtended by longer leaves. Phyllaries stramineous, outer ones sparsely lanate *G. pensylvanicum*

* The other South African plant erroneously named by Linnaeus as coming from India is *Bobartia indica* Linn.

Gnaphalium polycaulon Pers., Syn. 2: 421 (1807), based on *G. multicaule* Willd.

Syn.: *Gnaphalium multicaule* Willd., Sp. Pl. 3, 3: 1888 (1803), non Lamk. (1789).

Gnaphalium pluricaule Poir. in Lamk., Encyc. Suppl. 2: 807 (1812), based on *G. multicaule* Willd.

Gnaphalium strictum Roxb., Fl. Ind. 2: 424 (1832). Type: Roxburgh illustration (K).

Gnaphalium indicum auct. non Linn.: Boiss., Fl. Or. 3: 225 (1875); Hook. f., Fl. Brit. Ind. 3: 289 (1881); Gamble, Fl. Madras 2: 698 (1921); Maheshwari, Fl. Delhi 194 (1963); Hara, Fl. E. Himal. 340 (1966).

Gnaphalium latiore folio, minus ramosum, capitulis pallescentibus, e maderaspatan Pluk. Alm. 172 t. 187 f. 5 (1692).

Type: *Roxburgh s.n.* in Willdenow Herb. (B).

This species is a weed of cultivated land and has become an adventive in the floras of a number of countries. At Edinburgh there are specimens from the following: Egypt (Davis 8222; Scott Elliot 3301); Tropical Africa (Kotschy 348; Baum 67; Drummond & Cookson 6591); Thailand (Jeffrey 1768); China (How & Chun 70227); Australia (*Staer s.n.*); and the West Indies (Curtiss 349). Cabrera (1961) reports it from Brazil but points out that other South American records probably refer to *G. pensylvanicum*.

Gnaphalium pensylvanicum Willd., Enum. Hort. Berol. 867 (1809).

Syn.: *Gamochaeta pensylvanicum* (Willd.) Cabrera in Bol. Soc. Argent. Bot. 9: 375 (1961); Fl. Prov. Buenos Aires 4: 175, fig. 48 (1963).

Gnaphalium spathulatum Lamk., Encyc. 2: 758 (1786), non Burm. f. (1768).

Gnaphalium peregrinum Fernald in Rhodora 45: 479 t. 795 (1943). Type: Louisiana, D. S. & H. B. Correll 9937 (GH).

Gnaphalium polycaulon auct. non Pers.: Alston in Trim., Hdb. Fl. Ceyl. Suppl. 6: 164 (1931).

Gnaphalium purpureum auct. non Linn.: Hook. f., Fl. Brit. Ind. 3: 289 (1881).

Type: without locality or collector, (P), according to Cabrera.

This species is native throughout the warmer parts of America and in South America its distribution extends down the eastern side of the sub-continent as far south as the centre of Argentina. Fernald (in *Rhodora*, l.c.) describes the distributional range of *G. peregrinum* as "roadsides, fallow fields and waste places, Florida to Texas and S California, north, locally, to Pennsylvania". It occurs quite commonly as an alien in the floras of several warmer countries and at Edinburgh there are specimens from the following: Iraq (*Wheeler Haines s.n.*); India (*T. Thomson s.n.*; Drummond 15096, 25789), Ceylon (*Simpson* 8700, 9013; *Grierson* 1051); China (*Chun* 6399; *Sampson* 128; *Tanaka et al.* 13481); Australia (*R. Brown* 2248; *Michael* 698); New Caledonia (*Schlechter* 15023); Hawaii (*Heller* 2002); Mauritius

(*H. Johnston s.n.*); South Africa (*Ward 521*; *Garrett 22*; *Pooley 656*). Cabrera (1961) also records it from Jamaica.

***Gnaphalium spicatum* Lamk., Encyc. 2: 757 (1786).**

Syn.: *Gamochaeta spicata* (Lamk.) Cabrera in Bol. Soc. Argent. Bot. 9: 380 (1961); Fl. Prov. Buenos Aires 4: 174 (1963).

Gnaphalium coarctatum Willd., Sp. Pl. 3, 3: 1886 (1803).

Type: Des environs de Buenos Ayres, *Commerson* (P).

Hooker (1881) misidentified the Indian material of *G. pensylvanicum* as the North American *G. purpureum*, but *G. spicatum* is in fact more closely related to *G. purpureum* and the two are separated principally by the more obtuse involucre bracts of *G. spicatum*.

This is a common species of the South American steppe which according to Cabrera (1963) is also found as a weed in fields and gardens around Buenos Aires. *G. spicatum* also occurs as an alien weed in some other countries but is apparently less widespread at present than either *G. polycaulon* or *G. pensylvanicum*. There are two examples among the specimens at Edinburgh: South Africa, Natal, Pietermaritzburg, 1968, *Garrett 62* and Ceylon, Nuwara Eliya Dist. near Pattipola, 1900 m, 10 iii 1969, *Grierson 1084*.

Finally, to return to the Linnaean type specimen in the Hermann herbarium, "indicum", inapt though it may be, is the earliest epithet for *Helichrysum expansum* and the following combination is necessary.

***Helichrysum indicum* (L.) Grierson, comb. nov.**

Syn.: *Gnaphalium indicum* Linn., Sp. Pl. 852 (1753) non alius.

Gnaphalium expansum Thunb., Prodr. Cap. 149 (1800).

Gnaphalium notatum Thunb., l.c. 150 (1800).

Gnaphalium paniculatum Berg., Cap. 256 (1767) non Thunb.

Helichrysum expansum (Thunb.) Less., Syn. Comp. 276 (1832); DC., Prodr. 6: 170 (1837); Harv. & Sond., Fl. Cap. 3: 216 (1865); Moeser in Bot. Jahrb. 44: 304 (1910).

Type: Hermann Herb. (BM).

REFERENCES

- CABRERA, A. L. (1961). Observations sobre las Inuleae—Gnaphalineae de America del Sur. Bol. Soc. Argent. Bot. 9: 359–386.
 — (1963). (*Gnaphalium* and *Gamochaeta*). Flora de la Provincia de Buenos Aires 4: 161–178.
 HOOKER, J. D. (1881). (*Gnaphalium*). Flora of British India 3: 288–289.
 STEARN, W. T. (1957). Introduction to Linnaeus's *Species Plantarum*. Facsimile of the First Edition. Ray Society, London.
 TRIMEN, H. (1888). Hermann's Ceylon Herbarium and Linnaeus's 'Flora Zeylanica'. Journ. Linn. Soc. 24: 129–155.