

Variation in *Senecio jacobaea* L. (Asteraceae) in the British Isles

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ABSTRACT

The variation in *Senecio jacobaea* L. in the British Isles is described. Two subspecies, subsp. *jacobaea* and subsp. *dunensis* (Dumort.) Kadereit & P. D. Sell, *stat. nov.*, the former with two varieties, var. *jacobaea* and var. *condensatus* Druce, are recognized. The nomenclature and descriptions are formally set out and a list of herbarium specimens and published records are given for subsp. *dunensis* and var. *condensatus*.

VARIATION

The most significant variation within *Senecio jacobaea* L. in Britain and Ireland seems to occur in coastal populations. The normal plant of inland grassy places is tall, with widely-spaced leaves and a large open inflorescence of capitula which usually have ray florets and an outer row of glabrous achenes. In some coastal localities are to be found populations of shorter plants with dense arachnoid hairs on the involucre and peduncles, the ray florets absent or rudimentary and the outer row of achenes hairy. In the British Isles such populations have been recorded from the Scottish and Irish coasts and in continental Europe they occur on the Baltic or North Sea coasts of southern Norway, southern Sweden, E. Germany, Poland, Denmark, the Friesian Islands, Heligoland, the Netherlands and Belgium. Meijden (1976) has suggested that this taxon may be worth the rank of subspecies and we support this.

In other British coastal localities, particularly on dunes and shingle, occur populations of plants which have a greater tendency to produce a swollen area just below the basal leaves (described by Harper & Wood (1957) as a crown); they are shorter with up to three stems and have a dense inflorescence with short-liguled florets. This variant, which we have not seen from outside the British Isles, we consider best placed as a variety of subsp. *jacobaea*.

Further variation which occurs in subsp. *jacobaea* is not at the moment considered worthy of recognition. Occasional plants of inland populations are without ray florets. Plants with narrow ligules have been called var. *stenoglossus* Brenan & Simpson (Brenan & Simpson 1949), but do not seem to fit in an ecological niche, although they may be more frequent in the west of the British Isles than the east. Plants from chalk grassland tend to be more slender with very finely cut leaves, a persistent basal rosette and small capitula. A plant collected by G. Crompton on a sandy path through machair, Daleburgh, S. Uist on 12th August 1964 (CGE) differs from any other specimen we have seen in having a clothing of short glandular hairs.

NOMENCLATURE

Senecio jacobaea L. was first described by Linnaeus on page 870 of *Species Plantarum* in 1753. The diagnosis is taken partly from the *Hortus Cliffortianus* and is partly new. It is reasonable to assume

the specimen in the Linnaean herbarium, *Savage Catalogue* 996/44, was used when making the amendments to *Hortus Cliffortianus* and it is designated as the lectotype.

Var. *nudus* Weston (1777) has been used by some authors for the coastal subspecies but there is no evidence as to whether Weston referred to coastal or inland plants. Var. *flosculosus* Lam. & DC. (1805) was said in the original publication to grow on dunes and other sandy places and is presumably our coastal subspecies, although neither we nor Meijden (1976) have seen specimens of it from France. *S. flosculosus* Jordan (1848), described without reference to the earlier published variety, was based on plants from shady pastures near Lyon and is not referable to the coastal populations. Var. *discoideus* Wimmer & Grab. (1829) was described from an inland site near Leobschütz (Głubczyce), Poland. *S. dunensis* Dumort. (1827) was described from coastal dunes in Belgium and is thought to be the most appropriate name to take up for the maritime subspecies.

The types of both var. *condensatus* Druce (1916) and var. *abrotanoides* J. Murr. ex Druce (1926) are referable to the variant with condensed habit and short ligules, the former having priority.

CHROMOSOME NUMBER

Böcher & Larsen (1955) referred to the ligule size of plants collected from Ireland of which they counted the chromosomes. Plants with long, narrow ligules from dunes near Lady's Island Lake, Co. Wexford, with $2n = 40$ were probably referable to var. *jacobaea* of subsp. *jacobaea*. The plants from a roadside near Skull Harbour, Co. Cork, with $2n = 40$ and possibly those from dunes near Kincasslagh, Co. Donegal, with $2n = 32$ could belong to var. *condensatus*. Both have smaller than usual ray florets. Both $2n = 40$ and $2n = 80$ have been recorded for *S. jacobaea* by other authors.

SENECIO JACOBAEA L., *Sp. Pl.*, 870 (1753). Described as "Habitat in Europae pascuis" (Lectotype: *Savage Cat.* 996/44, LINN).

S. jacobaea var. *nudus* Weston, *Bot. Univ.*, 2nd ed., 3: 641 (1777). Described without habitat or locality.

(a) subsp. *JACOBAEA*

Stems 1–3, up to 150 cm; peduncles with more or less numerous arachnoid hairs; ray florets usually present; outer row of achenes glabrous.

(i) var. *JACOBAEA*

S. jacobaea var. *discoideus* Wimmer & Grab., *Fl. Siles.* 2 (2): 153 (1829). Described from near Leobschütz (Głubczyce), Poland.

S. flosculosus Jordan, *Cat. Jard. Dijon*, 30 (1848). Described from near Lyon, France.

S. jacobaea var. *stenoglossus* Brenan & Simpson in *Proc. R. Ir. Acad.*, B, 52: 69 (1949). TYPE: Hedgebank in a lane north of Banbridge, Co. Down, 5 August 1939, *J. P. M. Brenan* 5730 (Holotype: K).

Stems not markedly swollen below the basal leaves, usually solitary, up to 150 cm; leaves rather widely spaced; inflorescence often large and open; ligules 7–9 × 1.7–3.0 mm, rarely absent.

(ii) var. *CONDENSATUS* Druce in *Rep. botl Soc. Exch. Club Br. Isl.*, 4: 201 (1916). TYPE: Dunes and sea cliffs, Arbroath, Forfar, July 1915, *G. C. Druce* (Holotype: OXF).

S. jacobaea var. *abrotanoides* J. Murr ex Druce in *Rep. botl Soc. Exch. Club Br. Isl.*, 7: 774 (1926). TYPE: Between Poolewe and Dundonnell, W. Ross, August 1925, *G. C. Druce* (Holotype: OXF).

Stems markedly swollen below the basal leaves, 1–3, up to 40(–45) cm; internodes shorter, leaves and inflorescence more dense; ligules 5–7(–9) × 1–2 mm.

Distribution

v.c. 25: Shingle by the sea, Shingle Street, E. Suffolk, 2 August 1976, *P. D. Sell* 76/195a (CGE). Shingle beach between Aldeburgh and Thorpeness, E. Suffolk, 16 September 1975, *P. D. Sell* 75/115 (CGE).

v.c. 27: Old dunes, Winterton Ness, E. Norfolk, 30 July 1962, *P. D. Sell* 62/465 (CGE).

- v.c. 28: Shingle between Cley Beach and Blakeney Point; W. Norfolk, 31 July 1975, *P.D. Sell* 75/104 (CGE).
- v.c. 68: Dunes by the sea, Ross Links, north of Bamburg, Northumberland, 14 July 1982, *P.D. Sell* 82/142 & *C.M. Pannell* (CGE).
- v.c. 90: Dunes and sea cliffs, Arbroath, Forfar, July 1915, *G.C. Druce* (OXF).
- v.c. 97: Shingle between Sallachan Point and Corran Ferry, Ardour, Argyll, 30 June 1976, *P.D. Sell* 76/169 (CGE).
- v.c. 105: Mellon Charles, W. Ross, July 1926, *G.C. Druce* (OXF). Between Poolewe and Dundonnell, W. Ross, Aug. 1925, *G.C. Druce* (OXF).

(b) subsp. **DUNENSIS** (Dumort.) Kadereit & P. D. Sell, *stat. nov.* *S. dunensis* Dumort., *Fl. Belg.*, 66 (1827). Described from dunes on the Belgian coast.

S. jacobaea var. *flosculosus* Lam. & DC. in Lam., *Fl. Fr.*, 3rd ed., 4: 163 (1805). Described from dunes and sandy places in France.

Stems solitary, up to 30 (to 60) cm; peduncles often with dense arachnoid hairs; ray florets absent or rudimentary; outer achenes hairy.

Distribution

- v.c. 108: Dunes by Farr Bay, W. Sutherland, 25 July 1959, *P.D. Sell* 59/164, *N.D. Simpson & C. West* (CGE). Strathy Bay, south of Strathy Point, W. Sutherland, 23 July 1982, *P.J.O. Trist* 107/30/82 (CGE).
- v.c. 111: Shell-sand, grassy pasture at seashore, near North Jetty, Copinsay, Orkney, 5 August 1933, *H.H. Johnstone* 4816 (OXF).
- v.c. H1: Banna sandhills, Kerry, July 1888, *R. W. Scully* (OXF). Fermoyle, Dingle Peninsula, N. Kerry, August 1955, *J.L. Farquharson* (BM). "Abundant on most of the Kerry sandhills, to the almost total exclusion of the rayed form" (Scully 1916).
- v.c. H9: "On Aran and on most of the Connemara dunes the variant without ligulate florets predominates, but every grade of intermediate between it and the typical form is usually found nearby" (Webb & Scannell 1983, p. 115).
- v.c. H12: Rosslare, Wexford, 17 September 1926, *G.C. Druce* (BM). Rosslare Spit, October 1980, observed by D.A. Webb & J.R. Akeroyd (J.R.A. pers. comm.).
- v.c. H16: Dog's Bay, Roundstone, Co. Galway, 9 September 1955, *C.E. Raven* (CGE).
- v.c. H27: Sandhills, Mullet, W. Mayo, July 1905 (BM). Dunes south of Annagh Head, Mullet peninsula, W. Mayo, 2 June 1979 (Curtis *et al.* 1981).

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