

New combinations in *Jacobaea* MILL. (Asteraceae – Senecioneae)

PIETER B. PELSER^{1,2}, J.-F. VELDKAMP², & RUUD VAN DER MEIJDEN²

¹Miami University, Department of Botany, 316 Pearson Hall,
Oxford, Ohio 45056, USA
pelsrpb@muohio.edu

²Nationaal Herbarium Nederland, Universiteit Leiden branch,
P.O. Box 9514, 2300 RA Leiden, The Netherlands
veldkamp@nhn.leidenuniv.nl

*This paper is dedicated to BERTIL NORDENSTAM on the occasion of his 70th birthday,
February 20, 2006*

Abstract

New insights in the evolutionary relationships between the species of tribe Senecioneae show that at least 27 species currently assigned to *Senecio* sect. *Jacobaea* should be segregated from *Senecio* L. and are better placed in the genus *Jacobaea* MILL. In this paper, these species are listed and 19 new combinations in *Jacobaea* are published.

Introduction

The results of recent molecular systematic studies on tribe Senecioneae show that the species of *Senecio* sect. *Jacobaea* (MILL.) DUMORT. form a well-supported clade (PELSER et al. 2002, 2003, 2004, unpubl.) that is only distantly related to other species usually attributed to *Senecio*, including *Senecio vulgaris* L., the type species of this genus (KNOX & PALMER 1995, KADEREIT & JEFFREY 1996, BAIN & GOLDEN 2000, PELSER et al. 2002). These results suggest that sect. *Jacobaea* is more closely related to *Packera* and several other mainly New World genera in Senecioneae. These findings are confirmed in preliminary phylogenetic analyses of nuclear and plastid DNA sequence data that are currently carried out as part of ongoing phylogenetic studies of the tribe focusing on the intergeneric relationships between its estimated 150 genera and the delimitation of *Senecio* (PELSER et al. unpubl.). We therefore propose to transfer the 27 species of sect. *Jacobaea* that have been identified using DNA sequence data from *Senecio* to *Jacobaea* MILL. Several new combinations to accommodate them in *Jacobaea* have recently been made elsewhere (WIEBE 2000, PELSER & VAN DER MEIJDEN 2005). The results of our phylogenetic analyses (PELSER et

al. 2002, unpubl.), however, show that three species that were transferred by WIEBE (2000; *S. kirghisicus* DC., *S. nemorensis* L., and *S. sarracenicus* L.) are only distantly related to those of *Jacobaea*, and at present are better retained in *Senecio*.

In this paper, we list all species and a number of subspecific taxa for which analyses of DNA sequence data indicate that they should be considered members of *Jacobaea* and make new combinations where necessary. On basis of morphological similarities to these species, we believe that it is likely that other taxa currently assigned to *Senecio* are also better placed in *Jacobaea*. New combinations for these taxa will be made elsewhere (NORDENSTAM 2006).

When nearly finished with this report we accidentally discovered a publication by GANDOGGER (1883) where 19 new species of presumably *Jacobaea* were described and at the time of writing were not listed in IPNI. The types probably are in LY, but we have not inspected them and invite a curious reader to sort this problem out. An isotype of *S. batavicus* GAND. (K. ANKERSMIT, 'Bassum' = ? *Bussum*) was expected in L, where KOK ANKERSMIT's herbarium is deposited, but could not be found.

Jacobaea MILL., Gard. Dict. Abr. Ed. 4 (1754) [667]. – Lectotype: *Jacobaea vulgaris* GAERTN., designated here.

1. *Jacobaea abrotanifolia* (L.) MOENCH

Jacobaea abrotanifolia (L.) MOENCH, Methodus (1794) 587. – *Senecio abrotanifolius* L., Sp. Pl. (1753) 869. – *Herbichia abrotanifolia* (L.) ZAW. in GUILL., Arch. Bot. 1 (1832) 451, nom. superfl. – *Senecio herbichia* STEUD., Nomencl. Bot., ed. 2, 1 (1840) 750; 2 (1841) 557, 561 (sub *Herbichia carpatica* ZAW.).

Senecio carpathicus HERBICH, Addit. Fl. Galic. (1831) 43 (n.v.). – *Senecio abrotanifolius* subsp. *carpathicus* (HERBICH) NYMAN, Consp. Fl. Eur. (1879) 356. – *Senecio abrotanifolius* var. *carpathicus* (HERBICH) HAYEK, Repert. Spec. Nov. Regni Veg. Beih. 30, 2 (1931) 679 ('*carpathicus*').

Senecio monocephalus SCHUR, Verh. Siebenb. Ver. Naturw. 1 (1850) 107.

Senecio tirolensis KERNER ex DALLA TORRE in SONKLAR et al., Anleit. Wiss. Beob. Alpenreisen 2 (ante Sep 1882) 247; in HARTINGER, Atlas Alpenfl. (1882) 133 ('i. sched.');

Europ. Alpenpfl. (1890) 325. – *Senecio abrotanifolius* var. *tirolensis* (DALLA TORRE) KERNER ex HEGI, Illust. Fl. Mit.-Eur. 6, 2 (1914) 269. – *Senecio abrotanifolius* subsp. *tirolensis* (DALLA TORRE) GAMS, Jahrb. Vereins Schutze Alpenpfl. Alpentiere 10 (1938) 22.

2. *Jacobaea adonidifolia* (LOISEL.) PELSER & VELDK., comb. nov.

Senecio adonidifolius LOISEL., Fl. Gall. 2 (Apr 1807) 566, nom. nov. pro *Senecio abrotanifolius* auct., non L. – *Senecio artemisiifolius* PERS., Syn. 2 (Sep 1807) 435, id.,

nom. superfl. ('*artemisiaefolius*').

3. *Jacobaea alpina* (L.) MOENCH

Jacobaea alpina (L.) MOENCH, Methodus (1794) 587. – *Solidago alpina* L., Sp. Pl. (1753) 880; HUDS., Fl. Angl. Ed. 2 (1778) 870 (not new). – *Cineraria alpina* (L.) L., Sp. Pl., ed. 2, 2 (1763) 1243, excl. var.; ALL., Fl. Pedem. 1 (1785) 203, t. 38, f. 2 (not new); WILLD., Sp. Pl. Ed. 4, 3, 3 (1803) 2084, isonym. – *Senecio alpinus* (L.) SCOP., Fl. Carn., ed. 2, 2 (1772) 164; L. f. Suppl. (1782) 371, isonym. – *Cineraria cordifolia* GOUAN, Ill. Observ. Bot. (1773) 69; JACQ., Fl. Austr. 2 (1774) 47, t. 176 (not new); L. f., Suppl. (1782) 375, (not new); nom. superfl. – *Senecio cordifolius* (GOUAN) CLAIRV., Man. Herb. (1811) 241, nom. superfl. (n.v.); LINK, Handb. (1829) 748, isonym; non L. f. (1782). – *Senecio cordatus* KOCH, Flora 17 (1834) 614, nom. superfl. – *Jacobaea cordata* OPIZ, Seznam (1852) 54, nom. superfl.

Senecio baldensis POIR., Encycl. Méth. 7 (1806) 109.

Note – This synonymy of *J. alpina* is probably incomplete; the infra-specific names have been omitted. Some names have been included, although not new, because they are often cited as if they were, or were encountered in the Index Kewensis.

4. *Jacobaea ambigua* (BIV.) PELSNER & VELDK., comb. nov.

Cineraria ambigua BIV., Stirp. Rar. Sicilia 3 (1815) 5 – *Senecio ambiguus* (BIV.) DC., Prodr. 6 (1838) 356, excl. syn. *Cineraria bicolor* WILLD. (1803). – *Cineraria bicolor* subsp. *ambigua* (BIV.) NYMAN, Consp. Fl. Eur. (1879) 350. – *Senecio gibbosus* subsp. *ambiguus* (BIV.) ARCANG., Comp. Fl. Ital. (1882) 349.

Cineraria gibbosa GUSS., Cat. Pl. Hort. Reg. Boccadifalco (1821) 71. – *Senecio gibbosus* (GUSS.) DC., Prodr. 6 (1838) 355. – *Senecio ambiguus* subsp. *gibbosus* (GUSS.) CHATER, Bot. J. Linn. Soc. 68 (1974) 274.

Senecio taygeteus BOISS. & HELDR., Diagn. Pl. Orient. I, 6 (1846, '1845') 95. – *Cineraria nebrodensis* subsp. *taygetea* (BOISS. & HELDR.) NYMAN, Consp. Fl. Eur. (1879) 350. – *Senecio ambiguus* subsp. *taygeteus* (BOISS. & HELDR.) GREUTER, Willdenowia 33 (2003) 247.

5. *Jacobaea analoga* (DC.) VELDK., comb. nov.

Senecio analogus DC., Prodr. 6 (1838) 366. Selected over the next by NORDENSTAM [Fl. Iran. 164 (1989) 81].

Senecio spectabilis WALL. ex DC., Prodr. 6 (1838) 366. – *Senecio chrysanthemoides* var. *spectabilis* (WALL. ex DC.) HOOK. f., Fl. Brit. India 3 (1881) 339.

Senecio chrysanthemoides DC., Prodr. 6 (1838) 365, non SCHRANK, Baier. Fl. 2 (1789) 386.

Senecio sisymbriiformis DC., Prodr. 6 (1838) 366. – *Senecio chrysanthemoides* var. *sisymbriiformis* (DC.) HOOK. f., Fl. Brit. India 3 (1881) 339. – *Senecio laetus* EDGEW. var. *sisymbriiformis* (DC.) ASWAL in ASWAL & MEHROTRA, Fl. Lahaul-Spiti (1994) 384, nom. inval., contra priorit.

Cineraria decipiens SPRENG. ex DC., Prodr. 6 (1838) 366, cited as a synonym by the Index kewensis, is an invalid name, published as a synonym of *S. spectabilis*.

Senecio laetus EDGEW., Trans. Linn. Soc. Bot. 20 (1846) 74.

6. *Jacobaea aquatica* (HILL) P. GAERTN., B. MEY. & SCHERB.

Jacobaea aquatica (HILL) P. GAERTN., B. MEY. & SCHERB., Oekon. Fl. Wetterau 3 (1802) 210. – *Senecio aquaticus* HILL, Veg. Syst. 2 (1761) 120; HUDS., Fl. Angl. (1762) 317, isonym. – *Senecio jacobaea* var. *aquaticus* (HILL) FIORI & BÉG., Fl. Ital. 3 (1903) 214, nom. superfl.

Senecio praealtus BERTOL., Opusc. Sci. 3 (1819) 183 (n.v.).

6b. *Jacobaea aquatica* var. *erratica* (BERTOL.) PELSER & MEIJDEN

Jacobaea aquatica var. *erratica* (BERTOL.) PELSER & MEIJDEN, in HEUKELS, Fl. Nederl., ed. 23 (2005) 677.

Senecio erraticus BERTOL., Rar. Ital. Pl. Dec. 3 (1810) 62. – *Senecio aquaticus* var. *erraticus* (BERTOL.) COSS. in GERM. & WEDD., Introd. Fl. Anal. Paris (1842) 77. – *Senecio jacobaea* var. *erraticus* (BERTOL.) NEILR., Fl. Wien (1846) 251; PAOLI & BÉG., Fl. Ital. 3 (1903) 214 (incl. subvar. *erraticus*); Icon. Fl. Ital. (1903) 412, isonym. – *Senecio aquaticus* subsp. *erraticus* (BERTOL.) TOURLET, Cat. Pl. Vasc. Indre-et-Loire (1908) 273; V.A. MATTHEWS, Fl. Turkey 5 (1950) 150, isonym. – *Senecio jacobaea* subsp. *erraticus* (BERTOL.) SUDRE, Fl. Toulous. (1907) 115 (n.v.); ROUY, Consp. Fl. France (1927) 143, isonym.

Senecio 'barbareaefolius' KROCK., Fl. Siles. 2, 2 (1790) 421, nom. inval. – *Senecio aquaticus* [var.] *α barbareaefolius* WIMM. & GRAB., Fl. Siles. 3 (1829) 151, nom. inval. – *Senecio jacobaea* var. *barbareaefolius* [KROCK.] FIORI in FIORI & PAOL., Fl. Ital. 3 (1903) 214; Icon. Fl. Ital. (1903) 412 ('*barbareaefolius*'). – *Senecio erraticus* subsp. *barbareaefolius* [WIMM. & GRAB.] BEGER in HEGI, Ill. Fl. Mitt.-Eur. 6, 2 (1928) 778 ('*barbareaefolius*'). – *Senecio aquaticus* subsp. *barbareaefolius* [WIMM. & GRAB.] A. PEDERSEN, Bot. Tidsskr. 57 (1961) 173 ('*barbareaefolius*'); WALTERS, Bot. J. Linn. Soc. 71 (1976, '1975') 273 ('*barbareaefolius*'), isonym.

Senecio pratensis KLETT & RICHT., Fl. Leipzig (1830) 692 (n.v.), cited sub *Senecio barbareaefolius* KROCK. ex RCHB., Fl. Germ. Excurs. (1832) 244 ('*barbareaefolius*'), nom. superfl.

7. *Jacobaea arnautorum* (VELEN.) PELSNER, comb. nov.

Senecio arnautorum VELEN., Sitzungsber. Königl. Böhm. Ges. Wiss., Math.-Naturwiss. Cl. 1888 (1889) 45 – *Cineraria arnautorum* (VELEN.) NYMAN, Consp. Fl. Eur., Suppl. 2 (1889) 163. – *Senecio alpinus* subsp. *arnautorum* (VELEN.) HAYEK, Repert. Spec. Nov. Regni Veg. Beih. 30, 2 (1931) 680.

Senecio erubescens PANČIĆ, Elem. Fl. Bulg. (1883) 41, non W.T. AITON (1813). – *Senecio panicii* DEGEN, Magyar Bot. Lapok 1 (1902) 92.

8. *Jacobaea auricula* (BOURG.) PELSNER, comb. nov.

Senecio auricula BOURG. in COSS., Notes Pl. Crit. (1852) 169.

9. *Jacobaea boissieri* (DC.) PELSNER, comb. nov.

Senecio boissieri DC., Prodr. 7 (1838) 300.

10. *Jacobaea cannabifolia* (LESS.) E. WIEBE

Jacobaea cannabifolia (LESS.) E. WIEBE, Turczaninowia 3 (2000) 62. – *Senecio cannabifolius* LESS., Linnaea 6 (1831) 242.

11. *Jacobaea carniolica* (WILLD.) SCHRANK

Jacobaea carniolica (WILLD.) SCHRANK, Denkschr. Acad. Münch. 1813 (1814) 316 (n.v.). – *Senecio carniolicus* WILLD. Sp. Pl., ed. 4, 3, 3 (1803) 1993. – ? *Senecio incanus* var. *carniolicus* (WILLD.) HEATHCOTE, Fl. Engadine (1891) 12, t. 121, comb. inval. (sine basion.) – *Senecio incanus* subsp. *carniolicus* (WILLD.) BRAUN-BLANQ., Neue Denkschr. Schweiz. Naturf. Ges. 48 (1913) 300.

11b. *Jacobaea carniolica* subsp. *insubrica* (CHENEVARD) PELSNER, comb. nov.

Senecio carniolicus var. *insubricus* CHENEVARD, Bull. Herb. Boiss. II, 6 (1906) 368. – *Senecio carniolicus* subsp. *insubricus* (CHENEVARD) BRAUN-BLANQ., Neue Denkschr. Schweiz. Naturf. Ges. 48 (1913) 300.

12. *Jacobaea delphiniifolia* (VAHL) PELSNER & VELDK., comb. nov.

Senecio delphiniifolius VAHL, Symb. Bot. 2 (1791) 91, t. 45 ('*delphinifolius*').

Senecio crinitus BERTOL., Opusc. Sci. 1 (1817) 234 (n.v.).

Jacobaea anthorifolia J. PRESL & C. PRESL, Delic. Prag. 1 (1832) 92 ('*anthoraefolia*').

13. *Jacobaea erucifolia* (L.) P. GAERTN., B. MEY. & SCHERB.

Jacobaea erucifolia (L.) P. GAERTN., B. MEY. & SCHERB., Oekon. Fl. Wetterau 3, 1 (1801) 208; M. BIEB. ex C.A. MEY., Verz. Pfl. Casp. Meer. (1831) 81 ('*erucaefolia*'), isonym. – *Senecio erucifolius* L., Sp. Pl. (1753) 869 (descr.), Addenda (2) (epithet). – *Jacobaea rubella* MOENCH, Methodus (1794) 586, nom. superfl.

Senecio tenuifolius JACQ., Fl. Austriac. 3 (1775) 42, t. 278. – *Senecio erucifolius* L. subsp. *tenuifolius* (JACQ.) SCHÜBL. & G. MARTENS, Fl. Württemberg (1834) 541. – *Senecio erucifolius* L. var. *tenuifolius* CARIOT, Étude Fl., ed. 5, 2 (1872) 344.

Jacobaea suaveolens GILIB., Fl. Lituani. 1 (1782) 201, nom. inval. (n.v.)

Jacobaea tenuifolia J. PRESL & C. PRESL, Fl. Cech. (1819) 175 (no ref. to JACQUIN!).

Senecio delphinifolius RCHB., Iconogr. Bot. Pl. Crit. 4 (1826) 29 ('*delphinifolius*'), nom. inval., non VAHL (1791).

Senecio erucifolius L. subvar. *subglabra* CARIOT, Étude Fl., ed. 5, 2 (1872) 344. – *Senecio arnassensis* GAND., Fl. Lyon. (1875) 123.

Senecio chabertii GAND. ex CARIOT, Étude Fl., ed. 5, 2 (1872) 344; GAND., Fl. Lyon. (1875) 123 ('*chaberti*').

Senecio erucifolius L. var. *autumnalis* GAND. ex CARIOT, Étude Fl., ed. 5, 2 (1872) 344. – *Senecio autumnalis* (GAND. ex CARIOT) GAND., Fl. Lyon. (1875) 123.

13b. *Jacobaea erucifolia* subsp. *argunensis* (TURCZ.) VELDK., comb. nov.

Senecio argunensis TURCZ., Bull. Soc. Nat. Mosc. 20, 2 (1847) 18 (n.v.). – *Senecio erucifolius* L. subsp. *argunensis* (TURCZ.) E. WIEBE, Fl. Sibir. 13 (1998, '1997') 166.

Senecio jacobaea L. var. *grandiflorus* TURCZ. in DC., Prodr. 6 (1838) 350.

Senecio praealtus var. *dahuricus* DC., Prodr. 6 (1838) 351.

Senecio blinii H. LÉV., Fedde, Repert. 8 (1910) 138.

14. *Jacobaea gallerandiana* (COSS. & DURIEU) PELSNER, comb. nov.

Senecio gallerandianus COSS. & DURIEU, Bull. Soc. Bot. France 2 (1855) 365.

15. *Jacobaea gigantea* (DESF.) PELSNER, comb. nov.

Senecio giganteus DESF., Fl. Atlant. 2 (1800) 273, t. 234.

16. *Jacobaea gnaphalioides* (SIEBER ex SPRENG.) VELDK., comb. nov.

Conyza gnaphalioides SIEBER, Reise Kreta 2 (1823) 322, t. 10, f. 14, ('*gnaphalodes*'), non KUNTH (1818). – *Senecio gnaphalioides* SIEBER (Reise Kreta 1 (1823) 352, nom. inval., '*gnaphalodes*') ex SPRENG., Syst. Veg. 4 (1826) 554. – *Conyza sieberi* STEUD., Nomencl. Bot., ed. 2, 1 (1840) 414. – *Cineraria gnaphalioides* NYMAN, Consp. Fl. Eur. (1879) 351 ('*gnaphalodes*'). – Lectotype: SIEBER *s.n.* (L), '*Senecio gnaphalodes* SIEBER. Stia', designated here.

Senecio sariacus BEAUVERD, Bull. Soc. Bot. Genève II, 12 (1921) 15.

17. *Jacobaea incana* (L.) VELDK., comb. nov.

Senecio incanus L., Sp. Pl. (1753) 869.

Note – *Jacobaea incana* RAF. (Med. Repos. New York 5 (1808) 354) is a nomen nudum, while *Jacobaea incana* GILIB. (Fl. Lituan. 1 (1782) 202) was published in an oppressed work (ICBN, Append. V). The combination based on the Linnean basionym is therefore still available for valid publication.

18. *Jacobaea leucophylla* (DC.) PELSNER, comb. nov.

Senecio leucophyllus DC., Cat. Hort. Monsp. (1813) 144.

19. *Jacobaea maritima* (L.) PELSNER & MEIJDEN

Jacobaea maritima (L.) PELSNER & MEIJDEN, in HEUKELS, Fl. Nederl., ed. 23 (2005) 677. – *Othonna maritima* L., Sp. Pl. (1753) 925. – *Cineraria maritima* (L.) L., Sp. Pl., ed. 2 (1763) 1244. – *Jacobaea tomentosa* MOENCH, Methodus (1794) 587, nom. superfl. – *Senecio maritima* (L.) RCHB. in MÖSSLER, Handb. ed. 2, 2 (1829) 1479; Fl. Germ. Excurs. (1832) 244, non L.f. (1781). – *Senecio cineraria* DC., Prodr. 6 (1838) 355. – *Senecio bicolor* subsp. *cineraria* (DC.) CHATER, Bot. J. Linn. Soc. 68 (1974) 273.

Othonna cineraria L., Sp. Pl. (1753) 925. – *Cineraria canadensis* L., Sp. Pl., ed. 2 (1763) 1244. – Non *Senecio canadensis* L., Sp. Pl. (1753) 869!, nec *Senecio cineraria* DC. (1838). *Jacobaea cineraria* not in IPNI, see note.

Cineraria bicolor WILLD., Sp. Pl., ed. 4, 3, 3 (1803) 2085. – *Senecio bicolor* (WILLD.) TOD., Ind. Sem. Hort. Reg. Panorm. (1859) 22, 30; Linnaea 30 (1861) 759, non Viv. (1802). – *Senecio cineraria* subsp. *bicolor* (WILLD.) ARCANG., Comp. Fl. Ital., ed. 2 (1894) 672.

Cineraria nebrodensis GUSS., Cat. Pl. Hort. Reg. Boccadifalco (1821) 72. – *Senecio bicolor* subsp. *nebrodensis* (GUSS.) CHATER, Bot. J. Linn. Soc. 68 (1974) 273. – *Senecio cineraria* subsp. *nebrodensis* (GUSS.) MABB., Watsonia 14 (1983) 279. – Non *Senecio nebrodensis* L. (1763), nec *Jacobaea nebrodensis* (L.) RAF. (1813)!

Cineraria candida C. PRESL in J. PRESL & C. PRESL, Delic. Prag. (1822) 95. – *Senecio candidus* (C. PRESL) DC., Prodr. 6 (1838) 355.

Senecio cineraria DC. var. *plattii* MEIKLE, Kew Bull. 1954 (1954) 142. – *Senecio bicolor* var. *plattii* (MEIKLE) MATTHEWS, Notes Roy. Bot. Gard. Edinburgh 33 (1975) 434.

Note – *Othonna maritima* L. and *Othonna cineraria* L. were published simultaneously. We have not discovered who made the first choice between the two, but the first epithet is the one generally encountered, while for the epithet *cineraria* in the present context one is always referred to DE CANDOLLE (1838), a nomen novum for

Othonna cineraria necessitated in *Senecio* because of the older *S. maritima* L. f. (1781).

20. *Jacobaea maroccana* (P.H. DAVIS) PELSER, comb. nov.

Senecio maroccanus P.H. DAVIS, Notes Roy. Bot. Gard. Edinburgh 38 (1980) 445.

21. *Jacobaea minuta* (CAV.) PELSER & VELDK., comb. nov.

Cineraria minuta CAV., Icon. 1 (1791) 21, t. 33, f. 3. – *Senecio minutus* (CAV.) DC., Prod. 6 (1838) 346.

Cineraria heterophylla ORTEGA, Nov. Pl. Descr. Dec. (1798) 71, t. 10, f. 2.

22. *Jacobaea othonnae* (M. BIEB.) SPRENG. ex C.A. MEY.

Jacobaea othonnae (M. BIEB.) SPRENG. ex C.A. MEY., Verz. Pfl. Casp. Meer. (1831) 81. – *Senecio othonnae* M. BIEB., Fl. Taur.-Cauc. 2 (1808) 308. – *Iranecio othonnae* (M. BIEB.) B. NORD., Fl. Iran. 164 (1989) 58.

Cineraria anomala SM., Fl. Graec. Prodr. 2 (1813) 179; Fl. Graec. 9 (1839) 56, t. 872.

Cacalia pinnata WILLD., Enum. Hort Berol. (1809) 850. – *Senecio pinnatus* (WILLD.) SCH.BIP., Flora 28 (1845) 499.

Senecio rariflorus K. KOCH, Linnaea 17 (1843) 47. – *Senecio othonnae* var. *rariflora* (K. KOCH) K. KOCH, Linnaea 25 (1851) 366.

23. *Jacobaea paludosa* (L.) P. GAERTN., B. MEY. & SCHERB.

Jacobaea paludosa (L.) P. GAERTN., B. MEY. & SCHERB., Oekon. Fl. Wetterau 3 (1802) 211. – *Senecio paludosus* L., Sp. Pl. (1753) 870. – *Cineraria serratifolia* GRAY, Nat. Arr. Brit. Pl. 2 (1821) 469, nom. superfl. – *Doria paludosa* (L.) FOURR., Ann. Soc. Linn. Lyon n.s. 16 (1868) 404.

Cineraria aurea L., Sp. Pl., ed. 2 (1763) 1244. – *Senecio auratus* DC., Prodr. 6 (1838) 348, non *S. aureus* L. (1753).

Senecio tataricus LESS., Linnaea 9 (1834) 192. – *Jacobaea tatarica* (LESS.) E. WIEBE, Turczaninowia 3 (2000) 62.

Solidago serratifolia GILIB., Fl. Lituan. 1 (1782) 202, nom. inval. (n.v.).

Senecio riparius WALLR., Sched. Crit. (1822) 482.

Senecio bohemicus TAUSCH, Syll. Pl. Nov. 2 (1828) 253. – *Jacobaea kosteleckii* OPIZ, Seznam (1852) 54, nom. superfl. – *Senecio paludosus* subsp. *bohemicus* (TAUSCH) ČELÁK., Prodr. Fl. Böhmen (1871) 242.

Senecio sadleri SADLER, Fl. Comit. Pest., ed. 2 (1840) 403 (n.v.).

Senecio paludosus subsp. *tomentosus* ČELAK., Prodr. Fl. Böhmen (1871) 242.

24. *Jacobaea persoonii* (DE NOT.) PELSER, comb. nov.

Senecio persoonii DE NOT., Repert. Fl. Ligust. (1844) 229 (n.v.). – *Senecio incanus* subsp. *persoonii* (DE NOT.) NYMAN, Consp. Fl. Eur. (1879) 356.

Senecio incanus var. *italicus* PERS., Syn. Pl. 2 (1807) 435 – *Senecio incanus* subsp. *italicus* (PERS.) PERS. ex ARCANG., Comp. Fl. Ital. (1882) 349.

25. *Jacobaea subalpina* (W. D. J. KOCH) PELSER & VELDK., comb. nov.

Senecio subalpinus W. D. J. KOCH, Flora 17 (1834) 614, nom. nov. pro *Cineraria alpina* auct. non L.f., e.g. WAHLENB., Fl. Carpat. Princ. (1815) 269. – *Cineraria alpina* [var. β] *alata* L., Sp. Pl., ed. 2 (1763) 1243. – *Senecio alpinus* (L.) SCOP. subsp. *subalpinus* (W. D. J. KOCH) HAYEK in Repert. Spec. Nov. Regni Veg. Beih. 30, 2 (1931) 680.

Cineraria cordifolia var. *auriculata* JACQ., Fl. Austriac. 2 (1774) 47, t. 177. – *Senecio alpinus* (L.) SCOP. subsp. *auriculatus* (JACQ.) RCHB., Iconogr. Bot. Pl. Crit. 2 (1824) 23, t. 135. – *Senecio cordatus* subsp. *auriculatus* (JACQ.) JACQ. ex ARCANG., Comp. Fl. Ital. (1882) 348.

26. *Jacobaea uniflora* (ALL.) VELDK., comb. nov.

Solidago uniflora ALL., Mélanges Philos. Math. Soc. Roy. Turin 2 (1773) 18. – *Senecio uniflorus* (ALL.) ALL., Fl. Pedem. 1 (1785) 200, t. 17, f. 3, non RETZ. (1783). – *Senecio halleri* DANDY, Taxon 19 (1970) 625.

Senecio chabertii PETITM., Monde Pl. II, 6 (1904) 46 ('*chaberti*'), non GAND. ex CARIOT, Étude Fl., ed. 5, 2 (1872) 344.

27. *Jacobaea vulgaris* GAERTN.

Jacobaea vulgaris GAERTN., Ffuct. Sem. Pl. 2 (1791) 445, t. 170, f. 1. – *Senecio jacobaea* L., Sp. Pl. (1753) 870.

Senecio jacobaea var. *nudus* WESTON, Bot. Univ. 2-3 (1772) 641 – *Senecio jacobaea* subsp. *nudus* (WESTON) SOJÁK, Čas. Cas. Nár. Muz., Odd. Pří. 148 (1980) 77.

Jacobaea sicca GILIB., Fl. Lithuan. 3 (1782) 149, nom. inval. (n.v.).

Senecio foliosus DC., Prodr. 6 (1838) 351.

Senecio flosculosus JORD., Cat. Graines Jard. Dijon 1848 (1848) 30, non *S. jacobaea* var. *flosculosus* LAM. & DC.

Senecio jacobaeoides WILLK., in WILLK. & LANGE, Prodr. Fl. Hispan. 2 (1865) 119.

27b. *Jacobaea vulgaris* subsp. *dunensis* (DUMORT.) PELSER & MEIJDEN

Jacobaea vulgaris subsp. *dunensis* (DUMORT.) PELSER & MEIJDEN, in HEUKELS, Fl. Nederl., ed. 23 (2005) 677.

Senecio dunensis DUMORT., Fl. Belg. (1827) 66. – *Senecio jacobaea* L. subsp. *dunensis* (DUMORT.) KADEREIT & P.D. SELL, *Watsonia* 16 (1986) 23.

Senecio jacobaea var. *nudus* auct. non WESTON: MEIJDEN, *Gorteria* 8 (1976) 57, t. 1.

Senecio jacobaea var. *flosculosus* LAM. & DC. in LAM., Fl. Franç. ed. 3, 4 (1805) 163. –

Jacobaea flosculosa FOURR., *Ann. Soc. Linn. Lyon*, n.s. 16 (1868) 404, non *Senecio flosculosus* JORD. (1848).

Acknowledgements

We would like to thank BERTIL NORDENSTAM and WERNER GREUTER for valuable suggestions on earlier drafts of this paper.

References

- BAIN, J. F. & J. L. GOLDEN 2000. A phylogeny of *Packera* (Senecioneae; Asteraceae) based on internal transcribed spacer region sequence data and a broad sampling of outgroups. *Molecular Phylogenetics and Evolution* 16: 331–338.
- GANDOGER, M. 1883. De quibusdam Senecionis e grege erucifolii L. (DC.) ac Jacobaeae L. novis speciebus adhuc igitur ignotis. *Deutsche Botanische Monatschrift* 1: 38–40, 56–59.
- KADEREIT, J. W. & C. JEFFREY 1996. A preliminary analysis of cpDNA variation in the tribe Senecioneae (Compositae). In: HIND, D. J. N. & H. J. BEENTJE (eds.), *Compositae: Systematics. Proceedings of the International Compositae Conference, Kew, 1994, vol. I*, 349–360. Royal Botanic Gardens, Kew, UK.
- KNOX, E. B. & J. D. PALMER 1995. The origin of *Dendrosenecio* within the Senecioneae (Asteraceae) based on plastid DNA evidence. *American Journal of Botany* 82: 1567–1573.
- NORDENSTAM, B. 2006. Additions to the genus *Jacobaea* MILL. (Compositae-Senecioneae). *Comp. Newsletter* 44: 12–13.
- PELSER, P. B., GRAVENDEEL, B. & R. VAN DER MEIJDEN 2002. Tackling speciose genera: species composition and phylogenetic position of *Senecio* sect. *Jacobaea* (Asteraceae) based on plastid and nrDNA sequences. *American Journal of Botany* 89: 929–939.
- PELSER, P. B., GRAVENDEEL, B. & R. VAN DER MEIJDEN 2003. Phylogeny reconstruction in the gap between too little and too much divergence: the closest relatives of *Senecio jacobaea* (Asteraceae) according to DNA sequences and AFLPs. *Molecular Phylogenetics and Evolution* 29: 613–628.
- PELSER, P. B., VAN DEN HOF, K., GRAVENDEEL, B. & R. VAN DER MEIJDEN 2004. The systematic value of morphological characters in *Senecio* sect. *Jacobaea* (Asteraceae). *Systematic Botany* 29: 790–805.
- PELSER, P. B. & R. VAN DER MEIJDEN 2005. In: VAN DER MEIJDEN, R., HEUKELS, *Flora van Nederland*, ed. 23: 677.
- WIEBE, E. I. 2000. The annotated check-list of the tribe Senecioneae CASS. (Asteraceae) in Siberia. *Turczaninowia* 3: 58–63.