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A preliminary conspectus of *Scorzoneroides (Compositae, Cichorieae)* with validation of the required new names

Abstract

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The distinctness of the two subgenera recognised by Widder within *Leontodon* on morphological grounds gains strong support from recent molecular systematic studies. The new results make it mandatory to recognise these two taxa as separate genera, because *Leontodon* as traditionally defined, comprising them both but excluding *Picris, Hypochaeris* and related smaller genera, would be diphyletic. By consequence, a fair number of former *Leontodon* taxa must now be placed in the genus *Scorzoneroides*. In order to draw the attention of practising botanists to this need and to enable them to use the names believed to be correct, a preliminary nomenclatural synopsis is given here, limited to the species and subspecies known to occur in the Euro-Mediterranean area. Required combinations that do not yet exist are validated.

Key words: *Asteraceae, Leontodon,* taxonomy, nomenclature, Europe, Mediterranean.

The genus *Leontodon* L. had undergone a bewildering history until Bentham (1873) gave it a fairly wide definition by including in it *Kalbfussia* Sch. Bip., *Oporinia* D. Don, *Thrincia* Roth and other groups formerly separated generically. Widder (1931) accepted that circumscription for his *Leontodon* studies but demonstrated that the species fall into two morphologically sharply differentiated groups, defined i.a. by trichome morphology. While members of his *"L.* subg. *Euleontodon"* possess exclusively simple hairs on leaves and involucral bracts, those of *"L.* subg. *Apargia"* are characterised by apically furcate or 3- to many-fid hairs like those that occur in the related genera *Picris* L. and *Helminthotheca* Vaill. Widder noted that the latter subgenus might be transitional ("vermittelt ... in mancher Hinsicht den Übergang") to *Picris,* and that the two subgenera could also be treated as separate genera ("könnten ohne weiteres als eigene Gattungen

betrachtet werden"). He thought, however, that they are most akin to each other and continued to treat them within one genus up to his last survey (Widder 1975), while adapting infrageneric nomenclature to the provisions of the Seattle Code (Stafleu & al. 1972): *"L.* subg. *Euleontodon"* was named *L.* subg. *Oporinia* (D. Don) Claph., and *"L.* subg. *Apargia"* now became *L.* subg. *Leontodon* (of which *L. hispidus* L. had been accepted as the conserved type).

Recent molecular investigations by a research group in Vienna (Samuel & al. 2006) have confirmed the monophyly of each of Widder's subgenera. However, their phylogenetic analysis bear out the evident need to separate generically *L.* subg. *Oporinia* and subg. *Leontodon.* The latter, in all phylogenetic trees based on DNA sequences of both nuclear and plastid markers (ITS, *mat*K, *trn*L/F), groups with *Picris* and *Helminthotheca;* whereas *L.* subg. *Oporinia* forms a highly supported clade that is sister to a clade consisting of the former group plus *Hypochaeris* L. In other words, *Leontodon* as traditionally defined, comprising both of Widder's subgenera but excluding *Picris, Hypochaeris* and related smaller genera, would be diphyletic.

The correct generic name for *Leontodon* subg. *Oporinia* is *Scorzoneroides* Vaill., with *S. autumnalis* (L.) Moench as type (Greuter & al. 2005). Therefore, all taxa belonging here need names under *Scorzoneroides.* For nearly all species of Widder's *L.* sect. *Oporinia* (D. Don) W. D. J. Koch, Holub (1977a, b) has already validated the necessary combinations, but he refrained to do so for *L.* sect. *Kalbfussia* (Sch. Bip.) Benth. & Hook. f., which he (Holub 1977a) considered a candidate for a further generic split. However, *"Kalbfussia"* species turn out to be closely related to *S. autumnalis* and should definitely be treated under *Scorzoneroides.* For those species the required combinations do not yet exist.

If, as we expect, practising botanists will wish to adapt their classifications to the firm, new molecular evidence, they need to know which names they are supposed to use. To fulfil this need, we here provide a synopsis of the names we believe to be correct, limited to the species and subspecies known to occur in the Euro-Mediterranean area. As our taxonomic knowledge of some critical groups, especially the *Scorzoneroides autumnalis* complex, is still inadequate, we consider this list as preliminary. Even if not all of the new combinations here proposed will stand the test of time, we still feel that they are presently needed, be it only to serve as a key to potentially valuable information that is attached to their basionyms.

For brevity, the list that follows is limited to accepted names and their basionyms. Full synonymies and distribution data are available for online consultation under Euro+Med PlantBase (http://ww2.bgbm.org/EuroPlusMed/query.asp).

Scorzoneroides atlantica (Ball) Holub in Folia Geobot. Phytotax. 12: 429. 1977 ≡ *Leontodon autumnalis* var. *atlanticus* Ball in J. Linn. Soc., Bot. 16: 543. 1878.

Scorzoneroides autumnalis (L.) Moench, Methodus: 549. 1794 ≡ *Leontodon autumnalis* L., Sp. Pl.: 798. 1753.

Scorzoneroides autumnalis subsp. ***borealis*** (Ball) Greuter, **comb. nov.** ≡ *Leontodon autumnalis* subsp. *borealis* Ball in Ann. Mag. Nat. Hist., ser. 2, 6: 6. 1850.

Scorzoneroides cantabrica (Widder) Holub in Folia Geobot. Phytotax. 12: 306. 1977 ≡ *Leontodon cantabricus* Widder in Phyton (Horn) 12: 204. 1967.

Scorzoneroides carpetana (Lange) Greuter, **comb. nov.** ≡ *Leontodon carpetanus* Lange in Vidensk. Meddel. Dansk Naturhist. Foren. Kjøbenhavn, ser. 2, 3: 96. 1861.

Scorzoneroides cichoriacea (Ten.) Greuter, **comb. nov.** ≡ *Apargia cichoriacea* Ten., Prodr. Fl. Napol. 1: xlvi. 1811.

Scorzoneroides crocea (Haenke) Holub in Folia Geobot. Phytotax. 12: 306. 1977 ≡ *Leontodon croceus* Haenke in Collect. Bot. Spectantia (Wien) 2: 16. 1789.

Scorzoneroides duboisii (Sennen) Greuter, **comb. nov.** ≡ *Leontodon duboisii* Sennen, Diagn. Nouv.: 19. 1936.

Scorzoneroides garnironii (Emb. & Maire) Greuter & Talavera, **comb. nov.** ≡ *Leontodon garnironii* Emb. & Maire in Bull. Soc. Hist. Nat. Afrique N. 27: 66. 1936.

Scorzoneroides helvetica (Mérat) Holub in Folia Geobot. Phytotax. 12: 306. 1977 ≡ *Leontodon helveticus* Mérat in Ann. Sci. Nat. (Paris) 22: 108. 1831.

Scorzoneroides hispidula (Delile) Greuter & Talavera, **comb. nov.** ≡ *Crepis hispidula* Delile in anon., Descr. Egypte, Hist. Nat. 2: 261. 1813.

Scorzoneroides keretina (F. Nyl.) Greuter, **comb. nov.** ≡ *Leontodon keretinus* F. Nyl., Spic. Pl. Fenn., Cent. 1: 24. 1843.

Scorzoneroides kralikii (Pomel) Greuter & Talavera, **comb. nov.** ≡ *Kalbfussia kralikii* Pomel in Bull. Soc. Sci. Phys. Algérie 11: 11. 1874.

Scorzoneroides laciniata (Bertol.) Greuter, **comb. nov.** ≡ *Oporinia laciniata* Bertol. in Novi Comment. Acad. Sci. Inst. Bononiensis 6: 235. 1843.

Scorzoneroides microcephala (DC.) Holub in Folia Geobot. Phytotax. 12: 429. 1977 ≡ *Oporinia microcephala* DC., Prodr. 7: 109. 1838.

Scorzoneroides montana (Lam.) Holub in Folia Geobot. Phytotax. 12: 307. 1977 ≡ *Leontodon montanus* Lam., Fl. Franç. 3: 640. 1779.

Scorzoneroides montana subsp. ***breviscapa*** (DC.) Greuter, **comb. nov.** ≡ *Leontodon croceus* var. *breviscapus* DC., Prodr. 7: 102. 1838.

Scorzoneroides montaniformis (Widder) Gutermann in Phyton (Horn) 46: 65. 2006 ≡ *Leontodon montaniformis* Widder in Phyton (Horn) 2: 226. 1950.

Scorzoneroides muelleri (Sch. Bip.) Greuter & Talavera, **comb. nov.** ≡ *Kalbfussia muelleri* Sch. Bip. in Flora 16: 725. 1833.

Scorzoneroides muelleri subsp. ***austromaroccana*** (Maire) Greuter, **comb. nov.** ≡ *Leontodon hispidulus* var. *austromaroccanus* Maire in Bull. Soc. Hist. Nat. Afrique N. 30: 353. 1939.

Scorzoneroides muelleri subsp. ***reboudiana*** (Pomel) Greuter, **comb. nov.** ≡ *Fidelia reboudiana* Pomel, Nouv. Mat. Fl. Atl.: 269. 1875.

Scorzoneroides nevadensis (Lange) Greuter, **comb. nov.** ≡ *Leontodon nevadensis* Lange in Vidensk. Meddel. Dansk Naturhist. Foren. Kjøbenhavn, ser. 3, 9-10: 230. 1878.

Scorzoneroides oraria (Maire) Greuter & Talavera, **comb. nov.** ≡ *Leontodon orarius* Maire in Bull. Soc. Hist. Nat. Afrique N. 23: 197. 1932.

Scorzoneroides palisiae (Izuzq.) Greuter & Talavera, **comb. nov.** ≡ *Leontodon palisiae* Izuzq. in Nordic J. Bot. 11: 35. 1991.

Scorzoneroides pseudotaraxaci (Schur) Holub in Folia Geobot. Phytotax. 12: 307. 1977 ≡ *Leontodon pseudotaraxaci* Schur, Enum. Pl. Transsilv.: 357. 1866.

Scorzoneroides pyrenaica (Gouan) Holub in Folia Geobot. Phytotax. 12: 307. 1977 ≡ *Leontodon pyrenaicus* Gouan, Ill. Observ. Bot.: 55. 1773.

Scorzoneroides rilaensis (Hayek) Holub in Folia Geobot. Phytotax. 12: 307. 1977 ≡ *Leontodon rilaensis* Hayek in Kaiserl. Akad. Wiss. Wien, Math.-Naturwiss. Kl., Denkschr. 94: 198. 1918.

Scorzoneroides salzmannii (Sch. Bip.) Greuter & Talavera, **comb. nov.** ≡ *Kalbfussia salzmannii* Sch. Bip. in Flora 16: 724. 1833.

Scorzoneroides simplex (Viv.) Greuter & Talavera, **comb. nov.** ≡ *Hieracium simplex* Viv., Fl. Libyc. Spec.: 50. 1824.

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