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Author(s): Zoila Díaz Lifante and Benito Valdés

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Lectotypification of *Asphodelus ramosus* (*Asphodelaceae*), a misunderstood Linnaean name

Zoila Díaz Lifante & Benito Valdés¹

Summary

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The application of the name *Asphodelus ramosus* L. is established by typification on material in the Linnaean herbarium (LINN).

Historical survey

Linnaeus (1753: 310) recognized three species of *Asphodelus*: *A. luteus*, *A. fistulosus*, and *A. ramosus*. The first, together with *A. liburnicus* Scop., was later separated by Reichenbach (1830) as *Asphodeline*. The species, *Asphodelus fistulosus*, with thin roots and fistulose leaves, has since been considered a distinct species which, together with *A. tenuifolius* Cav. and *A. ayardii* Jahand. & Maire (= *A. cirerae* Sennen), constitutes *A. sect. Verinea* (Díaz Lifante, 1991).

The third species, *Asphodelus ramosus*, comprised two different taxa clearly distinguished by pre-Linnaean authors: '*Asphodelus* I [primus] (*Asphodelus maior*)' Clusius (or '*A. albus ramosus mas*' Bauhin) and '*Asphodelus* II [alter] (*Asphodelus albus*)' Clusius (or '*A. albus non ramosus*' Bauhin), the former with branched inflorescences and the latter with unbranched inflorescences (Clusius, 1576, 1601; Bauhin, 1623). These two species were again separated by Miller (1768), who retained the name *A. ramosus* L. for the plants with branched inflorescences and gave a new name, *A. albus* Mill., to the plants with unbranched inflorescences. From then, about 50 taxa with branched or unbranched inflorescences related to those two species have been described. Nine of them, which altogether constitute the rather complex *A. sect. Asphodelus*, have been recognized as distinct species in a taxonomic study of *Asphodelus* from the W. Mediterranean, now in press. The others have been either applied to taxa subordinate to these nine species or considered as plain synonyms.

Asphodelus ramosus has often been considered as an ambiguous name because it was applied either to plants with branched inflorescences (e.g. Bertoloni, 1839) or indifferently to plants with branched or unbranched inflorescences (e.g. Villars, 1787; Brotero, 1804; Lapeyrouse, 1813; Mutel, 1830). These are currently considered to belong to several distinct species, including *A. ramosus* L., *A. albus* Mill., and *A. cerasiferus* Gay.

Viviani (1824) described a new species from Corsica, *Asphodelus microcarpus*, with branched inflorescences and small fruits. Boissier (1844: 416) used the name *A.*

¹ Departamento de Biología Vegetal y Ecología, Avda. Reina Mercedes s/n, E-41070 Sevilla, Spain.

microcarpus Viv. for Spanish plants, because *A. ramosus* was for him “une source de confusion et a souvent été appliqué à l’*A. albus*, dont la panicule ordinairement simple a cependant quelquefois des rameaux dans le bas”. Parlatore (1852) considered *A. ramosus* as a plant from the Iberian Peninsula (Portugal) and retained *A. microcarpus* for the Italian plants. Grenier & Godron (1855) and Gay (1857a, b) used *A. albus* for plants with unbranched inflorescences and *A. microcarpus* for those with branched inflorescences, while Jordan (1860) considered *A. ramosus* as an aggregate of five species groups, one of which includes *A. microcarpus* “des auteurs français, *ramosus* des auteurs italiens” and another “*A. ramosus* des auteurs français”.

Subsequently, the name *Asphodelus microcarpus* has been used by most authors in preference to *A. ramosus*, for Mediterranean rhizomatose plants with branched inflorescences and small fruits of less than 10 mm (Baker, 1876; Ball, 1878; Arcangeli, 1882; Battandier & Trabut, 1902; Halácsy, 1904; Coste, 1904-1906; Maire, 1958; Muschler, 1912; Hayek, 1932; Täckholm & Drar, 1973; Zangheri, 1976; Guinochet & Vilmorin, 1978; El-Gadi, 1979; Pignatti, 1982; Wendelbo, 1982).

Brotero (1804) described *Asphodelus aestivus* Brot. from Portugal, characterized by branched inflorescences, small fruits and summer flowering. Gay (1857a) and Ball (1878) treated this name as a synonym of *A. microcarpus*. They did not take up *A. aestivus* Brot. as the correct name for *A. microcarpus* because they thought the epithet, referring to the wrong flowering period, was inappropriate. However, some recent authors, such as Post (1933), Matthews (1984), and Feinbrun-Dothan (1986), used *A. aestivus* for the Mediterranean plants, with *A. microcarpus* as a synonym. Richardson & Smythies (1980), Matthews (1984), and Smythies (1986) correctly used the name *A. ramosus* for plants of *A. sect. Asphodelus*, from the Iberian Peninsula, with branched inflorescences.

Asphodelus ramosus can no longer be rejected as a doubtful name. It is to be applied to a Mediterranean species with consistently branched inflorescences that is morphologically distinct from the other species of *A. sect. Asphodelus* with similarly branched inflorescences: *A. lusitanicus* Cout., *A. aestivus*, *A. serotinus* Wolley-Dod, *A. bento-rainhae* P. Silva, and *A. gracilis* Braun-Blanq. & Maire.

Typification

Linnaeus (1753) took the phrase-name of *Asphodelus ramosus* directly from his *Materia medica* (Linnaeus, 1749: 172) without any modification, which means he did not alter his concept of this species from 1749 to 1753. Consequently, to typify *A. ramosus* preference is to be given to any specimen used by Linnaeus during the preparation of the *Materia medica*.

In Linnaeus’s Herbarium (LINN) there are three sheets identified as *Asphodelus ramosus*: No. 431.3, 431.4 and 431.5.

Sheet No. 431.3 bears one inflorescence and two leaves of *Asphodelus fistulosus* L. and the symbol “ε” that Linnaeus used for plants from western Asia (Stearn, 1957). This excludes this sheet as a potential type, as its origin does not agree with the geographical distribution given by Linnaeus.

Sheet No. 431.4 has the number “3” written by Linnaeus in its lower part. This agrees with the species number of *Asphodelus ramosus* in the *Species plantarum*, and indicates that the specimen was used by Linnaeus during the preparation of that

work, although it does not prove it was used for the diagnosis in the *Materia medica*. The epithet “*albus*” also appears on this sheet, presumably written by Linnaeus, and *fistulosus* was added by somebody else. Both epithets were crossed out with pencil, probably by Smith, and replaced by “*ramosus*”, also in pencil. This sheet bears a flat leaf and a single branch of a branched inflorescence; the pedicels are articulated at the middle or below, 10-12 mm long at flowering and c. 14 mm in fruit; the bracts, measuring 8-12 × 4-5 mm, are shorter than the pedicels, and whitish with a central brown band and a dark brown middle nerve; the perianth segments measure 15-16 × 3-4 mm; the best developed capsule is almost ripe, ovoid-ellipsoid, 6 × 4.8 mm. This material agrees with the Linnaean diagnosis in both the *Species plantarum* and the *Materia medica*. The inflorescence is here designated as the lectotype of *A. ramosus*, as already indicated by Richardson & Smythies (unpublished).

Sheet No. 431.5 has “2, 3” written by Linnaeus in its lower part, and “*ramosus*” added by Smith. This sheet bears three inflorescence branches of *Asphodelus ramosus*, without fruits; the bracts are lanceolate, as long as or longer than the pedicels, with a dark central band and paler margins; the perianth segments measure 14-16 × 4-5 mm. The central branch has the indication ‘Algir’, which indicates that the material was received by Linnaeus from Brander around 1756 (Savage, 1945: 62) and was not in Linnaeus’s herbarium by 1753.

The second element of Linnaeus’s protologue is the *Hortus cliffortianus* phrase-name (Linnaeus, 1737: 127). A search of the *Hortus Siccus Cliffortianus* in the Natural History Museum (BM) showed that there is no specimen of *Asphodelus ramosus* in it, nor any other specimen named ‘*Asphodelus caule nudo, foliis laxis*’.

The third and fourth elements of Linnaeus’s protologue: “*Asphodelus ramosus* mas *Bauh. pin. 28*” and “*Asphodelus albus non ramosus Bauh. pin. 28*”, might have been associated with plant material in Burser’s herbarium at the Botanical Museum in Uppsala. There is not, however, any material of *Asphodelus* in this herbarium (Juel, 1923). The fifth element of the protologue, “*Asphodelus 1. 2. Clus.*” refers to Clusius (1601) and it is not based on herbarium material, but on illustrations and descriptions.

There is no Linnaean material of *Asphodelus ramosus* in the *Hortus Bergianus* at Stockholm (Fries, 1935) nor in the Linnaean collection at the Botanical Museum in Uppsala (Juel, 1931).

We are not aware of any other Linnaean specimen that could be taken into consideration for typifying this name.

In spite of the fact that the capsule is not completely mature, the lectotype can be unambiguously identified with the most common Mediterranean species of *Asphodelus* sect. *Asphodelus* with branched inflorescences, also known as *A. microcarpus*. *A. ramosus*, which provides the type of generic name *Asphodelus* (Farr & al., 1979: 143; Jarvis & al., 1993: 22), cannot be considered an ambiguous name and is not to be rejected under Art. 69 of the *Code*. Linnaeus himself defined the limits of this species by using the epithet *ramosus*, which he would never have applied to plants with unbranched inflorescences. Indeed, all extant specimens assigned by Linnaeus to *A. ramosus*, including the one (Herb. Linnaeus No. 431.3, LINN) that belongs to *A. fistulosus*, have branched inflorescences. The use of this name by some early authors (Parlatore, 1852) for a species not including the type does not justify the replacement of *A. ramosus* by *A. microcarpus*.

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