ALLIUM "DESCENDENS" IN THE MEDITERRANEAN

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ABSTRACT. Specimens cited by Boissier in Flora Orientalis as *Allium descendens* were found upon examination to belong to 4 different species: *A. curtum* Boiss. & Gaill. from Syria; *A. atroviolaceum* Boiss. from the Caucasus; *A. davisianum* Feinbr. from Palestine, and *A. segetum* Jan from Greece and Turkey. The two latter species are discussed in more detail. *A. segetum* differs from *A. davisianum* mainly in its leaf cross-section, in the shape of tepals and capsule, as well as in geographical distribution. Following some observations on wild populations of *A. davisianum* in Palestine, the description of this species is emended to include forms with purple and greenish flowers.

At least two species are confused under the name *Allium descendens* L. in literature and in many herbaria.

In another paper (Kollmann, 1970) it is shown that the epithet *A. descendens* cannot be typified. The name has been used in different senses and should therefore be rejected.

In an attempt to establish the identity of *Allium descendens*, we examined all specimens cited by Boissier (Fl. Or. 5: 236–237) under "*A. descendens* (Fl. Graec. IV, p. 15, t. 316; L., Sp. Pl. 427 ex parte)". As a result, it was found that Boissier's specimens actually belong to four different species. These are:

1. Gaillardot's specimens from littoral Syria is *A. curtum* Boiss. & Gaill. It was collected by Gaillardot in the same area and habitat as the type collection of *A. curtum*.

2. Hohenacker's plant from the Caucasus has been found to be *A. atroviolaceum* Boiss., a species common in Iran as well as in the Caucasus.

3. Heldreich's and Orphanides' specimens from Greece and those collected by Tchihatcheff and Bourgeau in Western Turkey were identified as *A. segetum* Jan.

4. The specimen collected by Boissier (1846) in Palestine is *A. davisianum* Feinbr.

The erroneous quotation by Boissier of *A. curtum* and *A. atroviolaceum* under *A. descendens* was presumably accidental. Contrarily, the inclusion of *A. segetum* and *A. davisianum* under the same epithet, was probably caused by insufficient knowledge of these two taxa which differ from one another quite distinctly. The two species are treated in more detail as follows.

A. segetum [Jan** ex] J. A. et J. H. Schultes in Roemer & Schultes, Syst. Veget. 7: 1020 (1830). Fig. 1, a; 2, a–e; 3.

Syn.: *A. descendens* auct.: Sibth. & Smith, Fl. Graec. 4: 15, tab. 316 (1823); Halácsy, Consp. Fl. Graec. 3: 243 (1904), non L.
A. margaritaceum var. *purpureum* Regel, All. Mon. 51 (1875).
A. rollii Terraciano in Malpighia 3: 289, t. 11 (1889).

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** Jan in *Supplementum* to *Elenchus plantarum* p. 25 (1827) lists among others *A. segetale* as a new species spontaneous in Sicily. Apparently, Schultes changed the name to *A. segetum*. The name *A. segetale* remains as *nomen nudum*.

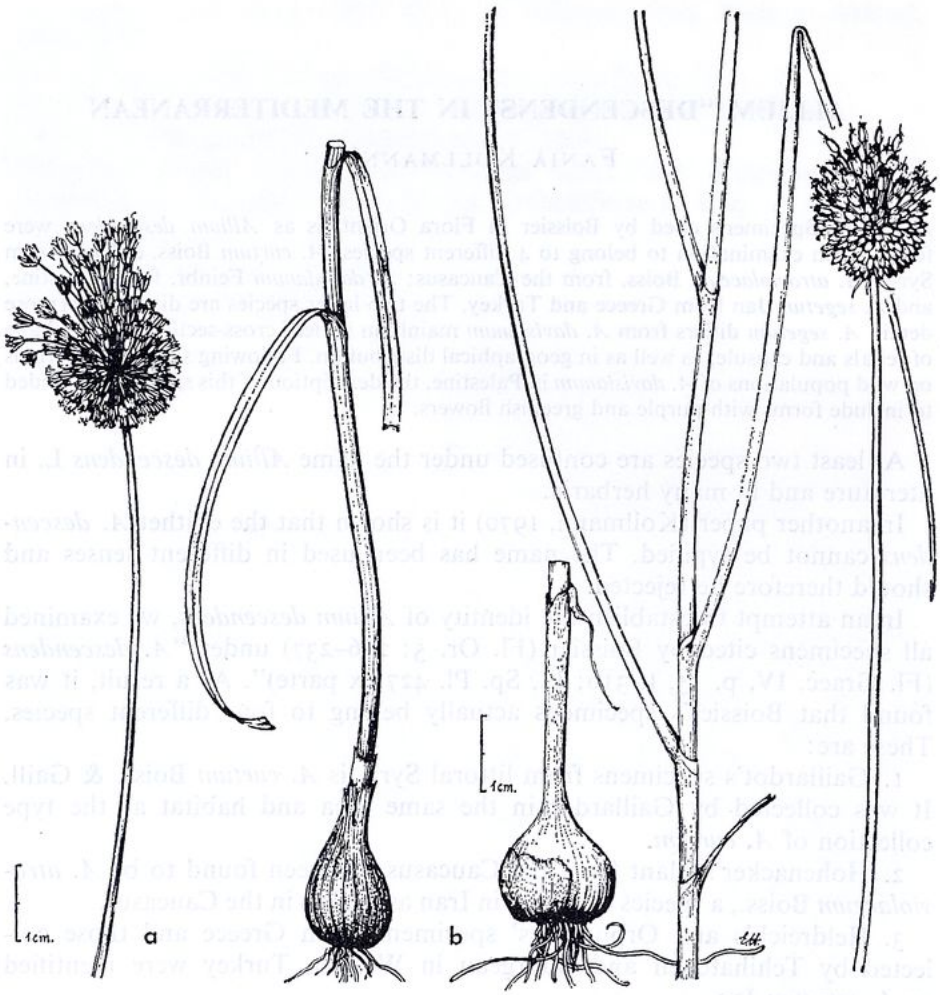

FIG. 1. a, *Allium segetum* J. A. & J. H. Schultes. b, *Allium davisianum* Feinbr.

Selected specimens. ITALY: Roma, Via Aurelia antica, tra la Maglaniella e l'Acqua fredda, 1 vi 1894, *Chiovenda*, under *A. rollii*, (FI). YUGOSLAVIA: Cattaro gegen den Vermac, 3 vi 1888, *Müller* (W). ALBANIA: Sarandë, 31 v 1933, near sea-level, rocky coast hills, *Alston & Sandwith* 1266 (K). GREECE: prope Mesolongion, inter vineta, 18 v 1878, *Heldreich* (G); in monte Malavo prope Hajos Joannis, rare, 900 m, vi 1857, *Orphanides* (G); in cultis Corcyrae, vii 1893 (W); Rhodos, in monte Prophet Elias prope Salakos, in pinetis saxosis, c. 700 m, 2 vii 1935, *K. H. Rechinger* 8518 (K). TURKEY: Bursa, Cihatli zwischen Orhaganzi und Gemlik, Getreidefeld, 50–100 m, 12 vi 1968, *Urdl*; Lycia, Elmalu, in collibus dumosis, 21 vi 1860, *Bourgeau* 261 (G); in declivibus merid. mts. Lydiae, *Tchihatcheff* (G).

A. segetum Schultes was described from Sicily. Unfortunately the type specimen could not be located. The name was quoted from Italy and the Balkan Peninsula by several authors (Gussone, Fl. Sicul. Syn. 1842; Parlatore, Flora Italiana, 1852; Halácsy, Conspect. Fl. Graeca, 1904; and Hayek, Prodr. Fl. Balc. 1933) as the earliest synonym of "*A. descendens*". Numerous

specimens from Mediterranean countries named in various European herbaria as "*A. descendens*" are identified by us as *A. segetum*. On the other hand, specimens named *A. segetum* in many European herbaria are actually specimens of *A. margaritaceum* Sibth. & Smith.

The most important diagnostic characters of *A. segetum* are:

Scape 0·7–1(–2) m high; leaves triquetrous in cross-section, keeled below (fig. 2, e); spathe deciduous; inflorescence mostly globose, appearing "double" and superimposed at a later stage, when the central pedicels become elongated and erect, while the outer ones remain shorter and are reflexed (fig. 1, a); sterile flowers present at the base of inflorescence; flower colour purple or purple-greenish; tepals obtuse, the outer ones shorter than the inner (fig. 2, a, b, c); filaments longer than perianth; mature capsule nearly triquetrous-globose (fig. 2, d), protruding from the perianth.

As seen in fig. 3, *A. segetum* is a Mediterranean species growing in Italy, on the Mediterranean coast of Yugoslavia and Albania, in Greece (including the Aegean Islands and Crete), Cyprus and Western Turkey. It is probably found also in S France (Bouches du Rhône, Var, Aude).

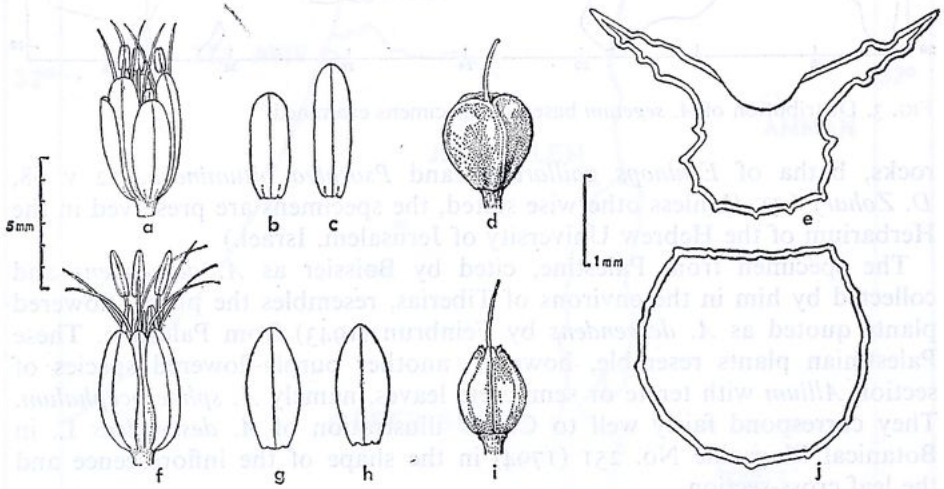

FIG. 2. a–e, *A. segetum*. f–j, *A. davisi num.* a, f, flower; b, g, outer tepal; c, h, inner tepal; d, i, capsule; e, j, cross section of leaf.

A. davisianum Feinbr., Palest. Journ. Bot., Jerusalem ser. 3: 13–14 (1943) emend. Kollmann. Fig. 1, b; 2, f–j; 4.

Syn.: *A. descendens* auct.: Feinbrun l.c. 1943, non L.

Inflorescence ovate to broadly ovate, rarely globose; flower colour purple or greenish, or purple tinged in the upper part while greenish below.

Selected specimens. ISRAEL: Judean Mts., Kiryat Anavim, rocks on the edge of maquis, 1 v 66, *Kollmann* 128; Samaria, Mt. Grizim, near the top of hill, gravelly soil, NE exposure, *Ononis natrix* assoc., 26 vi 68, *A. Schmida* 650; Upper Galilee, 1 km N of Kefar Gileadi, hard Eocene limestone rocks, batha of *Echinops gaillardotii* and *Convolvulus dorycnium*, 18 v 61, *D. Zohary*; Dan Valley, 12 vi 66, *D. Peri*; Upper Jordan Valley, Tiberiadi, 1846, *Boissier* (G); Golan Heights, terra rossa on hard calcareous Eocene

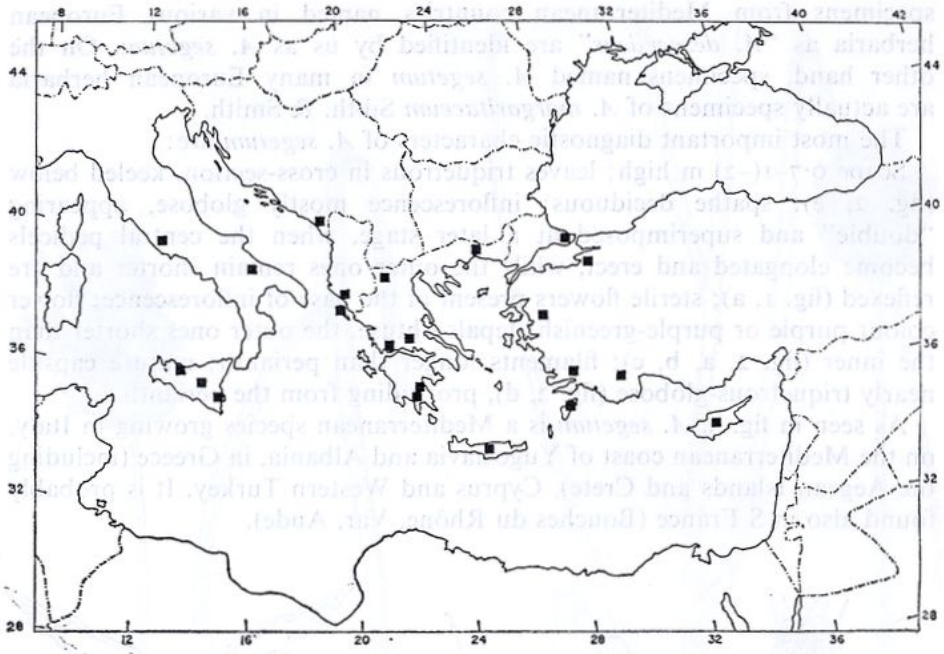

FIG. 3. Distribution of *A. segetum* based on specimens examined.

rocks, batha of *Echinops gaillardotii* and *Psoralea bituminosa*, 12 v 68, *D. Zohary* 641. (Unless otherwise stated, the specimens are preserved in the Herbarium of the Hebrew University of Jerusalem, Israel.)

The specimen from Palestine, cited by Boissier as *A. descendens* and collected by him in the environs of Tiberias, resembles the purple-flowered plants quoted as *A. descendens* by Feinbrun (1943) from Palestine. These Palestinian plants resemble, however, another purple-flowered species of section *Allium* with terete or semiterete leaves, namely *A. sphaerocephalum*. They correspond fairly well to Curtis' illustration of *A. descendens* L. in Botanical Magazine No. 251 (1794) in the shape of the inflorescence and the leaf cross-section.

A. davisianum, the name accepted here for this species instead of *A. descendens*, was published by Feinbrun in 1943 and based on greenish-flowered plants, collected by P. H. Davis in Samaria. The characters by which it was distinguished from "*A. descendens*" were flower colour, shape of the inflorescence and length of pedicels. Following new collections of living *A. davisianum* in the type locality (wadi Beidan in Samaria), the latter two characters were found to be non-diagnostic. Moreover, other populations of *A. davisianum* on Mt. Grizim (Samaria) were found to be polymorphic in flower colour. The following combinations in colour of flower parts were observed:

Tepals	Filaments	Anthers	Style
purple	purple	purple	purple
greenish; upper part purple	purple	purple	purple
greenish	white	pale purple	white

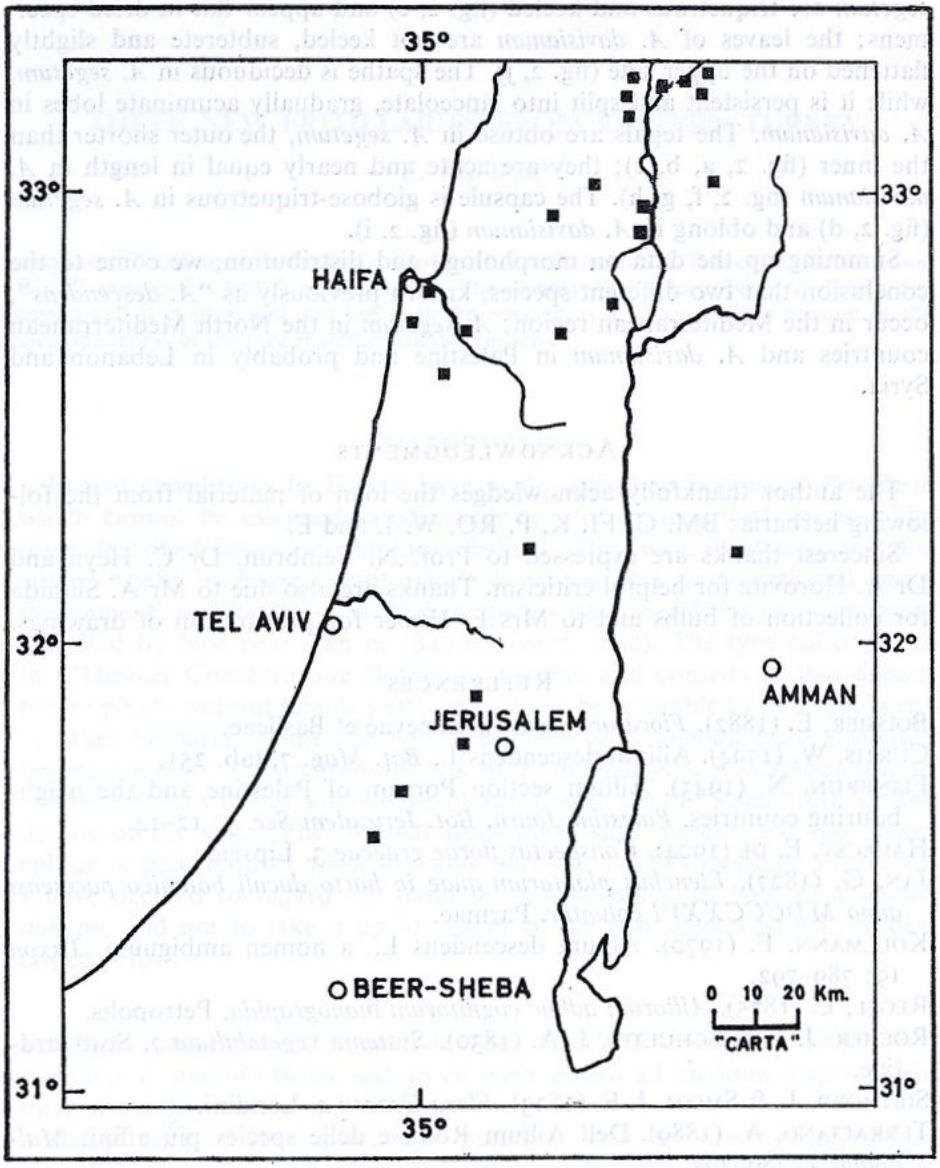

FIG. 4. Distribution of *A. davisianum* in Israel.

As a result of the new observations, the description of *A. davisianum* has to be emended and the range of variation in flower colour widened from purple to green.

Purple-flowered plants of this species were collected in the Mediterranean districts of Palestine, viz. the Judean Mts., Samaria, Mt. Carmel, Lower Galilee, Upper Galilee, Dan Valley, Upper Jordan Valley, Gilead, and Golan Heights (fig. 4). Greenish-flowered plants of *A. davisianum* were found in Samaria only.

A. segetum differs from *A. davisianum* mainly in the shape of the leaf cross-section and in the shape of perianth and capsule. The leaves in *A.*

segetum are triquetrous and keeled (fig. 2, e) and appear flat in dried specimens; the leaves of *A. davisianum* are not keeled, subterete and slightly flattened on the upper side (fig. 2, j). The spathe is deciduous in *A. segetum*, while it is persistent and split into lanceolate, gradually acuminate lobes in *A. davisianum*. The tepals are obtuse in *A. segetum*, the outer shorter than the inner (fig. 2, a, b, c); they are acute and nearly equal in length in *A. davisianum* (fig. 2, f, g, h). The capsule is globose-triquetrous in *A. segetum* (fig. 2, d) and oblong in *A. davisianum* (fig. 2, i).

Summing up the data on morphology and distribution, we come to the conclusion that two different species, known previously as "*A. descendens*", occur in the Mediterranean region: *A. segetum* in the North Mediterranean countries and *A. davisianum* in Palestine and probably in Lebanon and Syria.

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