

ALLIUM DESERTORUM AND A. SINDJARENSE IN PALESTINE

FANIA KOLLMANN*

ABSTRACT. It is shown that *Allium modestum* Boiss. is synonymous with *A. desertorum* Forssk., while Palestine plants previously identified as *A. desertorum* are *A. sindjarense* Boiss. & Hausskn. ex Regel.

A. desertorum Forssk. has generally been confused both with *A. modestum* Boiss. and *A. sindjarense* Boiss. & Hausskn. ex Regel by authors of Floras and papers covering Palestine and Sinai (Boissier, 1882; Post, 1896 and 1933; Feinbrun, 1948).

The description of *A. desertorum* by Forsskål (1775) is rather short and the type specimen—from deserts near Cairo—lacks a bulb. However, the type does have the same leaf and flower characters as are found in present-day material of the species called *A. desertorum*. In all the examined specimens of this species the outer bulb sheaths are greyish-black, thick and bark-like. In Egypt, *A. desertorum* is mostly confined to sandy and stony deserts east of the Nile.

The identity of *A. modestum* is rather obscure. This species was described by Boissier (1882) from a living plant cultivated in his garden from bulbs collected in the deserts south of Gaza. This is the only plant recorded by Boissier in his *Diagnoses* (1854) and in *Flora Orientalis* (1882). I have not been able to trace the type specimen in the Boissier herbarium at Geneva. One specimen collected in a natural habitat (Sinai—"Arabia Petraea") and named by Boissier, with a query, as *A. modestum* is apparently *A. desertorum*. In the same cover are several other cultivated specimens; only one of them, grown in Jardin du Rivage, originates from Palestine (without exact locality). The others were grown from bulbs collected in Syria; they are of different habit and deserve further study. Yet another specimen in Boissier's collection (Mt. Hermon, 1846) was described by Oppenheimer (1941) as *A. feinbergii*, a species endemic to Mt. Hermon; though closely related to *A. desertorum* it does deserve the status of a separate species.

The plants from Palestine, usually known as *A. modestum*, do not differ from the type specimen of *A. desertorum*. Feinbrun (1948) recorded *A. modestum* from Palestine (Negev, Judaeen Desert, Lower Jordan Valley) and Sinai—desert habitats similar to those in which *A. desertorum* occurs.

A. modestum was placed by Boissier (1882) among species with membranous outer bulb sheaths. In all living plants examined by us the outer bulb sheaths are, however, bark-like, similar to those of *A. desertorum*. No other *Allium* species with membranous bulb sheaths from desert districts of Israel could correspond to *A. modestum*. One of the most characteristic features of *A. desertorum* is the nodding of the inflorescence when in bud. This phenomenon, observed in Israel in living plants previously known as *A. modestum*, can also be clearly seen in dried young specimens of *A. desertorum* from Egypt (Schweinfurth 77, G). Thus, *A. modestum* does not differ from *A. desertorum* and by the rules of priority this epithet must be relegated into synonymy.

* Department of Botany, The Hebrew University of Jerusalem, Israel.

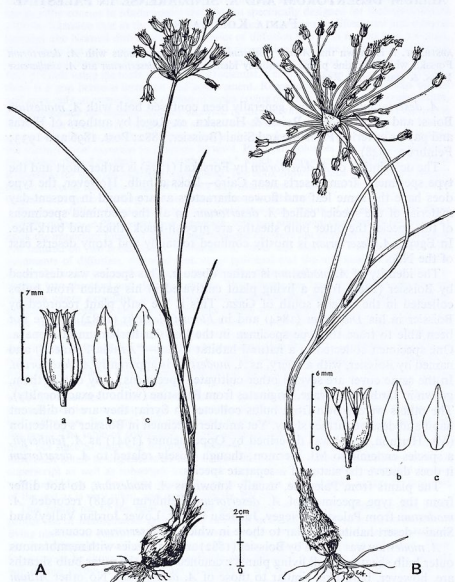


FIG. 1 A. *Allium desertorum* Forssk., drawn from a living plant: Negev, Wadi Nitzana, 1967. B. *A. sindjarense* Boiss. & Hausskn. ex Regel, drawn from a living plant: Negev, Kefar Yeroham, 1967. a, flower; b, outer tepal; c, inner tepal.

The material with oblong bulbs and reticulate bulb sheaths from both Palestine and Iraq which was reported by Feinbrun (1948) as *A. desertorum* is now identified as *A. sindjarense*. The latter has been described as having an intensely purple perianth but plants from Palestine have whitish-green tepals with a green-brown or purple mid-nerve, and somewhat longer pedicels. In this flower-colour and general habit our material is similar to *A. azaurenum* described by Gombault (1962) from the Syrian Desert. The type specimen of *A. azaurenum* (P) was collected rather early in the season (beginning of April) and is a somewhat undeveloped plant, unrepresentative with regard to inflorescence. Other specimens examined from the Syrian desert, as well as from Iraq and Saudi Arabia, mostly do not differ from our material, though purple flowers and/or shorter pedicels are found in some of them. It thus seems that flower-colour and length of pedicels vary within *A. sindjarense*. Consequently, *A. azaurenum* should be included within the range of the former. The distribution area of *A. sindjarense* comprises Southern Iran, Iraq, Syria, Southern Turkey, Palestine and Saudi Arabia. In the Syrian Desert this species inhabits grey, compact calcareous soils often intermixed or covered with gravel; in Palestine it is confined to desert areas of Edom and Central Negev; in the latter it occurs on sandy or loess soils.

A selection of specimens of *A. desertorum* and *A. sindjarense* are listed below and, unless otherwise stated, are preserved in the herbarium of the Hebrew University of Jerusalem (HJ).

A. desertorum Forssk., Fl. Aegypt.-Arab. 72 (1775). Fig. 1A.

Syn.: *A. modestum* Boiss., Diagn. ser. 1, 13:33 (1854); Feinbrun in Palest. J. Bot., Jerusalem Ser., 4:155 (1948).

Type: Aegyptio, in desertis Kahirinis, ann. 1762, *Forsskal* (holo. C!).

EGYPT. Dans les montagnes au NE du Bir, Suez-Caire, 2 v 1880, *Sickenberger* (G). Nördliche Hammada oberhalb Wadi Muray, mittelaegyptische Wüste, arabische Seite, 28 v 1877, *Schweinfurth* 77 (G). Tel-el-Kebir, iii 1906, *Muschler* (K). N Galala, plateau near Ras Nooz, 1100 m, in shallow wadi, *Artemisietum herbae albae*, 29 iii 1944, *Davis* 7224.

SINAI. Arabia Petraea, iii 1846, as *A. ? modestum* at G. Environs of Convent in Sinai, 28-30 iv 1891, *Cramer* (G). N Sinai, Gebel Racha, 700 m, 12 iv 1970, *Danin*.

ISRAEL. Negev: env. of Asluj, sands, 17 iv 1928, *Eig, Zohary & Feinbrun*. Tureibe, stony hill, 19 v 1965, *Weichselfisch*. Judaeen Desert: Hatrurim, northern slope, 26 iv 1965, *Danin*. Khirbet el-Mird, *Salsolietum villosae*, rocks, eastern slopes, 2 iv 1932, *Eig & Feinbrun*. Lower Jordan Valley, about 3 km E of Wadi Kuteif, grey lissan soil, 31 iii 1935, *Eig, Zohary & Grizi*.

A. sindjarense Boiss. & Hausskn. ex Regel in Acta Hort. Petrop. 3, 2:121 (1875); Boissier, Fl. Or. 5:266 (1882). Fig. 1B.

Syn.: ? *A. azaurenum* Gomb. in Bull. Soc. Bot. Fr. 109:204 (1962).

Type: Iraq. In uliginosis salsis inter Sindschar et Tell Afar, v 1867, *Haussknecht* 964 (holo. JE!; iso. BM!).

ISRAEL. Negev, Kurnub, sandy soil, *Anabasisetum articulatae*, 4 iv 1936,

Eig, Zohary & Feinbrun. Env. of Revivim, loess hill covered with gravel, 4 v 1949, *D'Angelis*.

JORDAN. Shobek to Aneizi, on the plateau Edom, 21 iv 1945, *Davis* 9151. About 40 km S of Ma'an, Nubian sand fields, 18 iv 1929, *Eig & Zohary*.

SYRIA. 17 km SW of Deir ez Zor, grey soil covered by thin gravel, 300 m, 30 iv 1933, *Eig & Zohary*. Rat'tusch, SE of Qaryatein, 900–1200 m, 8 vi 1947, *Davis*. Jebel Abou el Kos, 5 v 1934, *Gombault* (P—as *A. sindjarense* forma “pedicellis longius pedicellatis”). Nebk Sahel, edge of fields, 1300 m, 21 vi 1943, *Davis* 6593 (E). In vicin. urbis Damascus ad orientem versus, c. 650 m, Dmeir, ad marginem agri deserti, 5 v 1933, *Samuelsson* 4329 [f. “flor. longius pedicellatis”] (W).

IRAQ. 29 km SW of Az Zubair (S of Basra), somewhat compact sandy soil with scattered gravel, 8 iv 1933, *Eig & Zohary*.

IRAN. Bushir, zwischen den Steinen, 19 iv 1885, *Stapf* (K).

SAUDI ARABIA. Najd, land patches on gravel plain, 1 iv 1944, *Fitzgerald*.

ACKNOWLEDGMENTS

The author thankfully acknowledges the loan of material from the following herbaria: BM, C, E, G, JE, K, P, W. Sincerest thanks are expressed to Dr Irene Gruenberg-Fertig for critical reading of the manuscript.

REFERENCES

- BOISSIER, P. E. (1854). *Diagnoses plantarum orientalium novarum*, Ser. 1, 13:33. Genève.
 — (1882). *Flora Orientalis* 5. Genève and Basel.
 FEINBRUN, N. (1948). Further studies on Allium of Palestine and the neighbouring countries. *Palest. J. Bot.*, Jerusalem Ser., 4:144–157.
 FORSSKÅL, P. (1775). *Flora aegyptiaco-arabica*. Copenhagen.
 GOMBAULT, R. (1962). Nouvel Allium syrien. *Bull. Soc. Bot. Fr.* 109:204.
 MOUTERDE, P. (1966). *Nouvelle flore du Liban et de la Syrie*. Beirut.
 OPPENHEIMER, H. R. & EVENARI, M. (1941). *Florula cisiordanica* (Reliquiae Aaronsohnianae, II). *Bull. Soc. Bot. Genève*, Ser. 2, 31:185–187.
 POST, G. E. (1883–1896). *Flora of Syria, Palestine and Sinai*. Beirut.
 — (1933). ed. 2 by J. E. Dinsmore. 2 vols. Beirut.