

Notes on living plants from Iter Mediterraneum II cultivated in the Botanical Garden Berlin-Dahlem

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Introduction

When collecting monocots on the 2nd OPTIMA Expedition to Israel (19.3.-10.4.1992) I harvested a certain amount of bulbs and corms, either sterile and thus unidentified or identified but too few to be included in the expedition's general 10-set collection. This material was privately numbered and later incorporated into the living collection of the Botanical Garden Berlin-Dahlem for further cultivation. In the meantime many of the plants produced flowers, making determination possible. Some of the results confirm relevant data as published in the general check-list (see Danin, this volume). They are not repeated here. Others, however, represent records or taxa additional to those in the general check-list of Iter Mediterraneum II.

They are given alphabetically in the following list. For each entry site and date of original collection, collection number, accession number of the Botanical Garden (BG) Berlin-Dahlem, and - following the words "in flower" - the date of taking a voucher specimen (deposited at B) are given.

Some 30 gatherings, (representing the genera *Allium*, *Arum*, *Bellevalia*, *Caralluma*, *Colchicum*, *Gagea*, *Muscari*, and perhaps others) did not yet flower in cultivation. They are still unidentified, and consequently excluded from the following list.

Results

Allium dictyoprasum Kunth, Enum. Pl. 4: 390 (1843)

Negev Highlands: Makhtesh Ramon, Karnei Ramon (34°40'00"E;30°30'20"N). Basalt outcrops, 770 m, 27.3.1989, *Raus 14644* (BG Berlin-Dahlem acc. no. 138-34-89-20; in flower 21.6.1990); **Kinnrot Valley (Upper Jordan Valley):** 2 km NE of Kibbutz Haon (35°38'30"E - 32°44'00"N). Steep limestone and sandstone slopes, (-) 150 m, 2.4.1989, *Raus 14672* (BG Berlin-Dahlem acc. no. 138-62-89-20; in flower 13.7.1990).

The Negev plants have purple anthers, whereas the collection from the Upper Jordan Valley exhibits yellow anthers, thus confirming the observations by Kollmann (in Feinbrun-Dothan, Fl. Palaest. 4: 95. 1986).

Allium pallens L., Sp. Pl. ed. 2: 427 (1762)

Negev Highlands: Makhtesh Ramon, Karnei Ramon (34°40'00"E - 30°30'20"N). Basalt outcrops, 770 m, 27.3.1989, *Raus 14647* (BG Berlin-Dahlem acc. no. 138-37-89-20; in flower 21.6.1990).

With their filaments included and their anthers shortly exerted the plants clearly key out to *A. pallens*. The colour of the anthers, however, is yellow and not purple as stated by Kollmann (in Feinbrun-Dothan, Fl. Palaest. 4: 85. 1986), which illustrates the wide range of variability within this species.

Allium paniculatum L., Syst. Nat. ed. 10, 2: 978 (1759), subsp. *paniculatum*

Judean Mts: Jerusalem, Givat Bet Hakerem, near Bet Hakerem (35°11'30"E - 31°46'00"N). Dolomite outcrops, terra rossa in karstic landscape, 770 m, 24.3.1989, *Raus 14630* (BG Berlin-Dahlem acc. no. 138-20-89-20; in flower 16.6.1990).

Plants similar to *A. stamineum* in habit but differing by their fully included stamens. Umbel effuse, thus matching the characters of the populations of the Judean Mts as circumscribed by Kollmann (in Feinbrun-Dothan, Fl. Palaest. 4: 84. 1986).

Allium stamineum Boiss., Diagn. Pl. Orient., ser. 2, 4: 119 (1859), subsp. *stamineum*

Kinnrot Valley (Upper Jordan Valley): 2 km NE of Kibbutz Haon (35°38'30"E - 32°44'00"N). Steep limestone and sandstone slopes, (-) 150 m, 2.4.1989, *Raus 14674* (BG Berlin-Dahlem acc. no. 138-64-89-20; in flower 26.5.1992); Mt. Hermon: near the tomb and oak reserve of Sheikh Othman, 1 km E of Qala' at Namrud (35°43'50"E - 33°15'00"N). Calcareous substrate, 800 m, 4.4.1989, *Raus 14689* (BG Berlin-Dahlem acc. no. 138-79-89-20; in flower 16.6.1990); Upper Galilee: near Ya'ara (35°12'00"E - 33°04'10"N). Terra rossa on hard limestone, maquis and clearings, 200 m, 5.4.1989, *Raus 14690* (BG Berlin-Dahlem acc. no. 138-80-89-20; in flower 16.6.1990); Coastal Galilee: coast of Rosh Haniqra (35°05'07"E - 33°05'30"N). Hard calcareous sandstone (kurkar), gravels and sandy soil in the sea-spray zone, 10 m, 5.4.1989, *Raus 14692* (BG Berlin-Dahlem acc. no. 138-82-89-20; in flower 16.5.1990, 18.6.1990).

Allium trifoliatum Cyr., Pl. Rar. Neap. 2: 11, t. 3 (1792), subsp. *hirsutum* (Regel) Kollmann in Israel J. Bot. 24: 204 (1975), var. *hirsutum* Kollmann in Israel J. Bot. 24: 204 (1975)

Judean Mts: Jerusalem, near Ora (35°09'00"E - 31°45'15"N). Terraces on marly-chalk with poor vegetation of *Coridothymetum capitati*, 780 m, 24.3.1989, *Raus 14629* (BG Berlin-Dahlem acc. no. 138-19-89-20; in flower 26.3.1990); Upper Galilee: near Ya'ara (35°12'00"E - 33°04'10"N). Terra rossa on hard limestone, maquis and clearings, 200 m, 5.4.1989, *Raus 14691* (BG Berlin-Dahlem acc. no. 138-81-89-20; in flower 26.3.1990); Mt. Carmel: Upper Nahal Neshet, 2 km S of Neshet (35°31'40"E - 32°45'30"N). Terra

rossa on hard limestone, 280 m, 6.4.1989, *Raus 14697* (BG Berlin-Dahlem acc. no. 138-87-89-20; in flower 26.3.1990).

Allium trifoliatum Cyr., Pl. Rar. Neap. 2: 11, t. 3 (1792), subsp. *hirsutum* (Regel) Kollmann in Israel J. Bot. 24: 204 (1975), var. *sterile* Kollmann in Israel J. Bot. 24: 204 (1975)

Golan: near the ancient synagogue of Qazrin (35°42'32"E - 32°59'10"N). Protogrumusol on basalt, 350 m, 3.4.1989, *Raus 14678* (BG Berlin-Dahlem acc. no. 138-68-89-20; in flower 26.3.1990).

Androcymbium palaestinum Baker in J. Linn. Soc., Bot., 17: 445 (1879)

Judean Desert: near Mishor Adumim (35°19'20"E - 31°48'10"N). Stony slopes with nari crusts on Senonian chalk, brown lithosol, semi-steppe batha of *Echinops polyceras* and *Phlomis brachyodon*, 250 m, 22.3.1989, *Raus 14623* (BG Berlin-Dahlem acc. no. 138-13-89-20); Negev Highlands: Makhtesh Hazera / Makhtesh Katan (35°13'00"E - 30°57'30"N). Sandy alluvium, pebbly wadis and limestone outcrops, (-) 10 m, 30.3.1989, *Raus 14669* (BG Berlin-Dahlem acc. no. 138-59-89-20); Kinnrot Valley (Upper Jordan Valley): 2 km NE of Kibbutz Haon (35°38'30"E - 32°44'00"N). Steep limestone and sandstone slopes, (-) 150 m, 2.4.1989, *Raus 14671* (BG Berlin-Dahlem acc. no. 138-61-89-20).

None of the collections under cultivation in Berlin has flowered yet. The records are included here because *Androcymbium palaestinum* is the only representative of the genus known to occur in Israel (see Greuter in Candollea 22: 253 & fig. 2. 1967; Feinbrun-Dothan, Fl. Palaest. 4: 32. 1986).

Arum dioscoridis Sm., Fl. Graec. Prodr. 2: 245 (1816)

Coastal Carmel: Atlit (34°56'00"E - 32°42'20"N). Coastal sands, salt marsh margin, and hard calcareous sandstone (kurkar), 2-20 m, 6.4.1989, *Raus 14699* (BG Berlin-Dahlem acc. no. 138-89-89-20; in flower 12.3.1990); *Raus 14700* (BG Berlin-Dahlem acc. no. 138-90-89-20; in flower 3.3.1990).

Colchicum stevenii Kunth, Enum. Pl. 4: 144 (1843)

Judean Foothills: near Sedot Micha (34°54'43"E - 31°43'25"N). Brown rendzina developing on nari crusts over Eocene chalk, *Ceratonia siliqua*-*Pistacia lentiscus* community, much of the area burnt in summer 1988, 220 m, 21.3.1989, *Raus 14612* (BG Berlin-Dahlem acc. no. 138-02-89-20; in flower 8.11.1989, 18.12.1989).

Crocus cf. damascenus Herbert in Bot. Reg. 31: 37, fig. 1, misc. 1 (1845) [*C. cancellatus* subsp. *damascenus* (Herbert) B. Mathew]

Negev Highlands: Nahal Loz and Borot Loz (34°39'30"E - 30°30'00"N). Various habitats, 960-1000 m, 27.3.1989, *Raus 14653* (BG Berlin-Dahlem acc. no. 138-43-89-20; corms with coarsely netted tunics).

This is the only *Crocus* collection of Iter Mediterraneum II. The plants have not yet flowered under cultivation in Berlin. The field determination reported here is preliminary owing to the occurrence in Israel of several species of the genus with reticulate-fibrous corm tunics.

Cyclamen coum Miller, Gard. Dict., ed. 8: *Cyclamen* n° 6 (1768), subsp. *coum*

Golan: Odem forest, near Masaáda (35°45'15"E - 33°13'00"N). Shallow soil on basalt, 1010 m, 4.4.1989, *Raus 14682* (BG Berlin-Dahlem acc. no. 138-72-89-20)

Only producing leaves and not yet flowering under cultivation in Berlin; determination *vide* Grey-Wilson (Gen. Cyclamen: 81. 1988).

Cyclamen persicum Miller, Gard. Dict., ed. 8: *Cyclamen* n° 3 (1768)

Mt. Carmel: Upper Nahal Neshet, 2 km S of Neshet (35°31'40"E - 32°45'30"N). Terra rossa on hard limestone, 280 m, 6.4.1989, *Raus 14696* (BG Berlin-Dahlem acc. no. 138-86-89-20; in flower 26.3.1990).

Gagea reticulata (Pallas) Schultes & Schultes fil., Syst. Veg. 7: 542 (1829)

Northern Negev: 5 km N of Beer Sheva (34°47'00"E - 31°18'30"N). Brown loessial lithosol, *Noaetum mucronatae*, 300 m, 26.3.1989, *Raus 14633* (BG Berlin-Dahlem acc. no. 138-23-89-20; in flower 29.3.1990); **Negev Highlands:** 6 km SW of Dimona (34°59'00"E - 31°01'30"N). Sandy loess soil near the nature reserve of *Iris petrana*, 330 m, 26.3.1989, *Raus 14662* (BG Berlin-Dahlem acc. no. 138-52-89-20; in flower 21.2.1990).

Ixiolirion tataricum (Pallas) Herbert, Appendix: 37, t. 2 (1821)

Negev Highlands: 8 km SW of Yerokham (34°53'10"E - 30°56'00"N). Loessial soil and stony slopes, 500 m, 27.3.1989, *Raus 14665* (BG Berlin-Dahlem acc. no. 138-55-89-20).

Flowering in the field, but not yet again under cultivation in Berlin.

Narcissus tazetta L., Sp. Pl.: 290 (1753)

Golan: near the ancient synagogue of Qazrin (35°42'32"E - 32°59'10"N). Protogrumusol on basalt, 350 m, 3.4.1989, *Raus 14677* (BG Berlin-Dahlem acc. no. 138-67-89-20; in flower 17.12.1991); Coastal Carmel: Atlit (34°56'00"E - 32°42'20"N). Coastal sands, salt marsh margin, and hard calcareous sandstone (kurkar), 2-20 m, 6.4.1989, *Raus 14702* (BG Berlin-Dahlem acc. no. 138-92-89-20).

The plants from Atlit did not yet produce flowers under cultivation in Berlin but doubtlessly represent *N. tazetta*.

Ornithogalum neurostegium Boiss., Fl. Orient. 5: 222 (1882), subsp. *eigii* (Feinbrun) Feinbrun, Fl. Palaest. 4: 55 (1986) [*O. neurostegium* var. *ciliatum* (Boiss.) Mouterde]

Golan: Odem forest, near Masaáda (35°45'15"E - 33°13'00"N). Shallow soil on basalt, 1010 m, 4.4.1989, *Raus 14679* (BG Berlin-Dahlem acc. no. 138-69-89-20; in flower 14.3.1990, 3.4.1990).

Ornithogalum sorgerae H. Wittmann in Stapfia 13: 80 (1985)

Mt. Hermon: near the tomb and oak reserve of Sheikh Othman, 1 km E of Qalaát Namrud (35°43'50"E - 33°15'00"N). Calcareous substrate, 800 m, 4.4.1989, *Raus 14688* (BG Berlin-Dahlem acc. no. 138-78-89-20; in flower 20.4.1990).

The collection confirms the occurrence of *O. sorgerae* in Israel, already assumed by Wittmann (in Stapfia 13: 83. 1985). The inflorescences are c. 25-flowered; the tepals are strongly recurved when in full flower (so that the flower may have a ball-like appearance) and differ distinctly in this character from specimens of *O. narbonense* L. (with straight tepals) collected elsewhere on Iter Mediterraneum II (e.g. 05.018 !, 44.020 !).

Ornithogalum trichophyllum Boiss. & Heldr. in Boiss., Diagn. Pl. Orient., ser. 2, 4: 108 (1859)

Northern Negev: 5 km N of Beer Sheva (34°47'00"E - 31°18'30"N). Brown loessial lithosol, *Noaetum mucronatae*, 300 m, 26.3.1989, *Raus 14634* (BG Berlin-Dahlem acc. no. 138-24-89-20; in flower 6.2.1990).

Scilla hyacinthoides L., Syst. Nat., ed. 12, 2: 243 (1767)

Mt. Carmel: Upper Nahal Neshet, 2 km S of Neshet (35°31'40"E - 32°45'30"N). Terra rossa on hard limestone, 280 m, 6.4.1989, *Raus 14698* (BG Berlin-Dahlem acc. no. 138-88-89-20; in flower 26.3.1990).

Urginea undulata (Desf.) Steinh. in Ann. Sci. Nat., Bot., ser 2, 1: 330 (1834) [*Drimia undulata* (Desf.) Stearn]

Negev Highlands: 6 km SW of Dimona (34°59'00"E - 31°01'30"N). Sandy loess soil near the nature reserve of *Iris petrana*, 330 m, 26.3.1989, *Raus 14664* (BG Berlin-Dahlem acc. no. 138-54-89-20); **Negev Highlands:** Makhtesh Hazera / Makhtesh Katan (35°13'00"E - 30°57'30"N). Sandy alluvium, pebbly wadis and limestone outcrops, (-) 10 m, 30.3.1989, *Raus 14670* (BG Berlin-Dahlem acc. no. 138-60-89-20).

Neither collection has yet flowered under cultivation in Berlin, but field determinations are safe in view of the very distinctive undulate leaves.

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