

CONTRIBUTIONS TO THE FLORA OF ISRAEL AND SINAI.
V. *TRIGONELLA SIBTHORPII* BOISS., A NEW RECORD FROM ISRAEL

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ABSTRACT

Trigonella sibthorpii Boiss., since Post (1932) considered absent from the flora of Israel, was found in the Judean Desert. The species is illustrated and a chromosome count is reported ($x = n = 8$).

In declining to include *Trigonella sibthorpii* in *Flora Palaestina*, Zohary (1972, p. 130) noted that "*T. sibthorpii* Boiss., Diagn. Ser. 1, 9: 14 (1849) et Fl. 2: 81 (1872), recorded by Dinsmore (in Post, Fl. Syr. Palest. Sin., Ed. 2, 1: 316 (1932)) from Jaffa, has not been found by others." We have not had the opportunity to examine the collection from Jaffa in the Post Herbarium, but we report here an Israeli collection of *T. sibthorpii*.

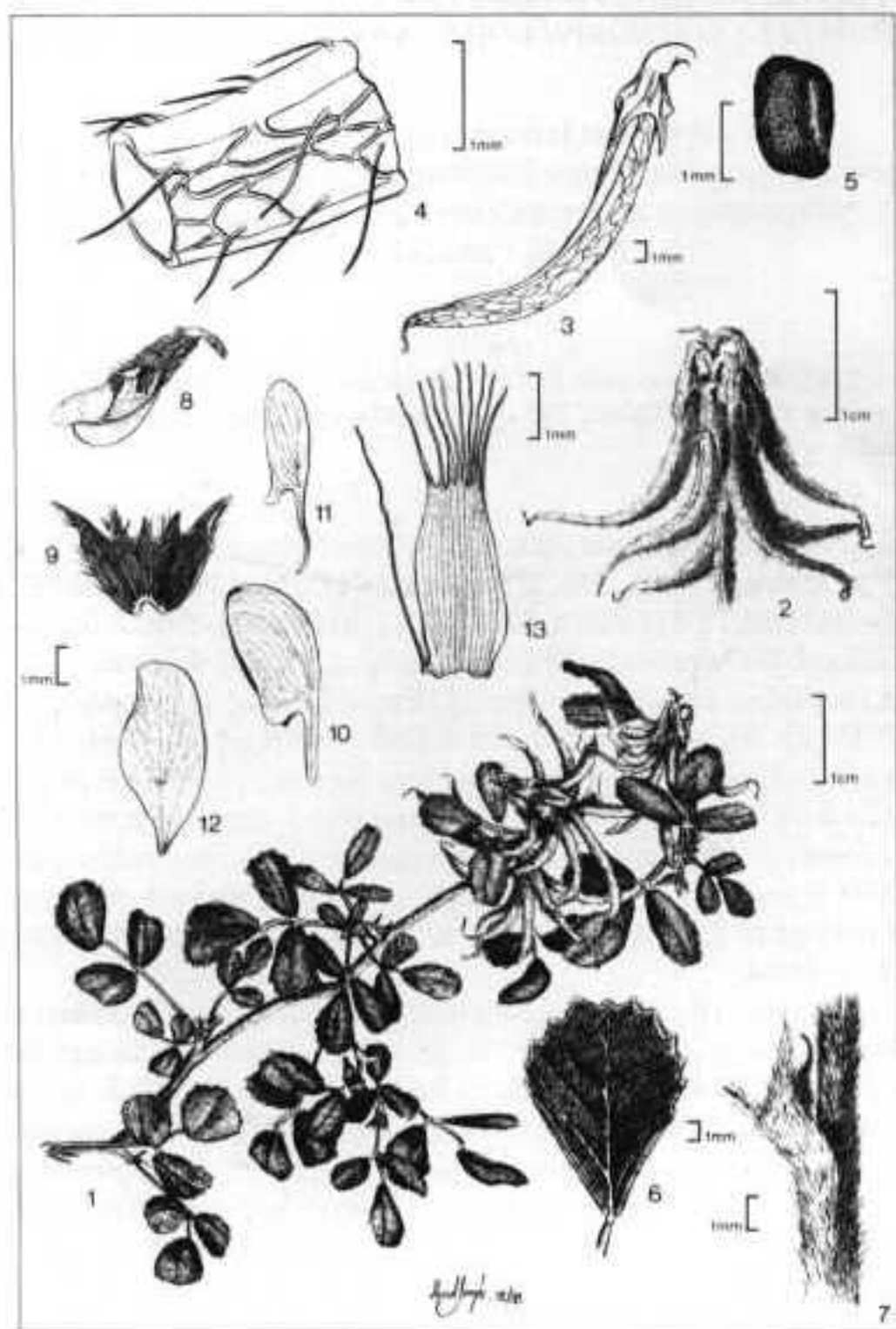
Specimens of a *Trigonella* species, that did not correspond to any known species of this genus in Israel, were collected by Danin near the road, 15 km ENE of Jerusalem to Jericho on 24.iv.1974 (voucher at HUJ). Zohary (in herb.) coined the nom. nov. *Trigonella judaica* Zohary et Danin and also used this epithet in a Hebrew publication (Zohary, 1976, p. 203). *T. judaica* has never been published validly. We have concluded that the collection belongs to *T. sibthorpii* Boiss., which accordingly should be added to the known flora of Israel.

Meikle (1977) stated that *T. sibthorpii* is indistinguishable from *T. spruneriana* Boiss., the latter being the correct name if only one species is recognized, although the name *T. torulosa* Griseb. has also been considered correct. (The epithet of *T. spruneriana* is encountered in various forms: *sprunneriana* (as coined by Boissier), *spruneriana*, *sprunnerana*, *sprunerana*. The epithet requires one "n", since it commemorates Spruner (Article 73.1, Voss et al., 1983), and the correct Latin ending "iana" (Article 73C.1(d).) Huber-Morath (1970) recognized *T. sibthorpii* as *T. spruneriana* Boiss. var. *sibthorpii* (Boiss.) Hub.-Mor. (Huber-Morath (1970) recorded the range of the number of seeds in the species as three to four; in fact, we have observed up to seven seeds in the fruit, both in the Israeli collection studied here and elsewhere.) In the absence of a careful study of variation in the complex, we maintain the name *T. sibthorpii*.

Huber-Morath (1970) recorded *T. sibthorpii* (as *T. spruneriana* Boiss. var. *sibthorpii*) in Cyprus, Lebanon, Syria, and Turkey, and *T. spruneriana* var. *spruneriana* in Greece,

Syria, Iraq, Turkey, Iran, Transcaucasia, and Transcaspia. The presence of *T. sibthorpii* in Israel is therefore not surprising.

The collection is illustrated in Figures 1–13. Scanning electron micrographs of seeds



Figs. 1–13. *Trigonella sibthorpii* Boiss. 1. Fruiting branch. 2. Infructescence. 3, 4. Fruit. 5. Seed. 6. Leaflet. 7. Junction of stem, petiole, and stipules. 8. Flower. 9. Calyx (slit between long lobes). 10. Keel. 11. Wing petal. 12. Standard petal. 13. Flattened staminal column (anthers removed). Figures 1–7 are based on samples taken from Danin, 24.iv.1974, and preserved at DAO; Figures 8–13 are based on E. Small T277d at DAO.

of an Israeli and of a Turkish specimen of *T. sibthorpii* are shown in Figure 14. It will be seen that the seeds of the two collections are essentially identical.

Seeds of the 1974 collection by Danin were grown by Small in 1987 in a greenhouse in Ottawa (vouchers at DAO as Small T277). Meiotic metaphases of two of these plants were examined and found to have eight pairs of metacentric chromosomes, every arm usually exhibiting a chiasma (Fig. 15). This is the first chromosome count we have

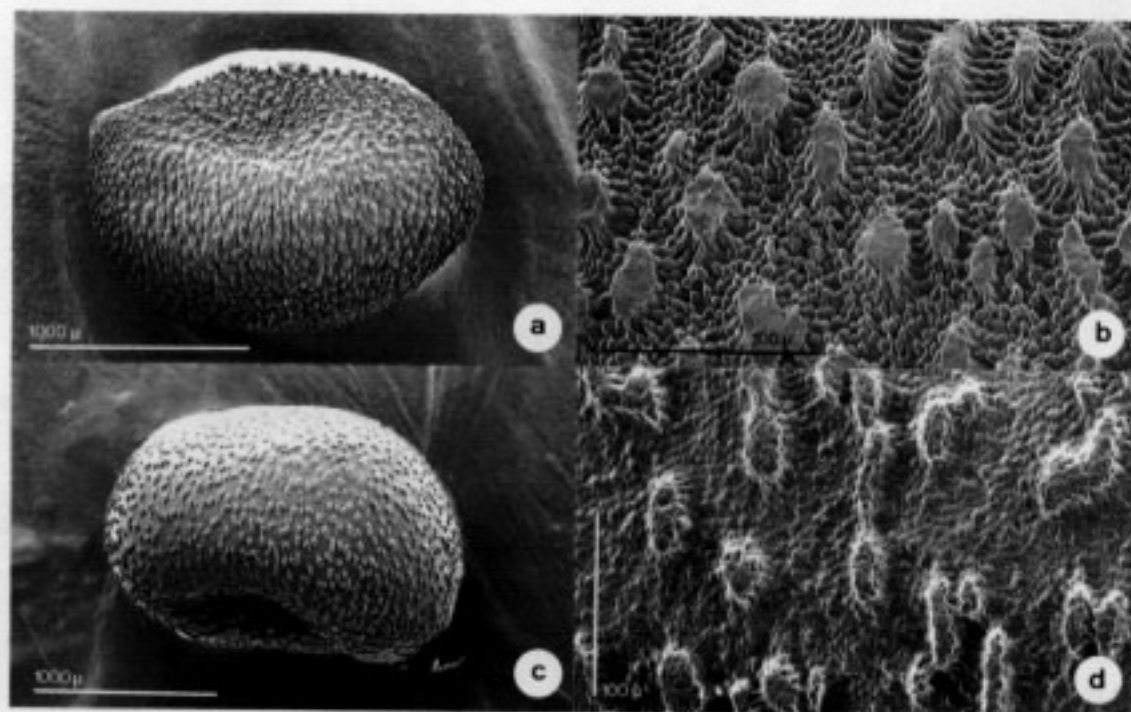


Fig. 14. Scanning electron micrographs of seeds of *Trigonella sibthorpii*. a, b. Israeli plant (based on E. Small T277, DAO). c, d. Turkish plant (based on E. Small T155, DAO).

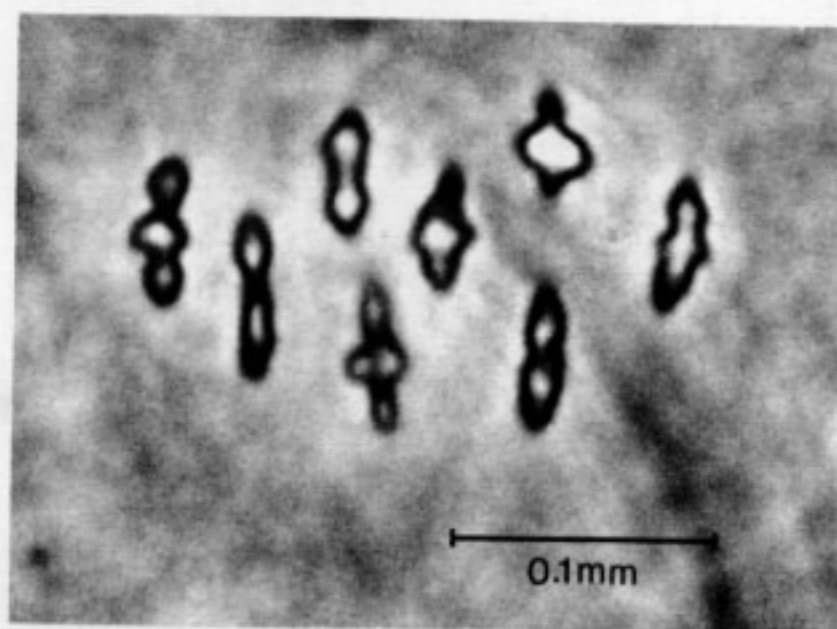


Fig. 15. Meiotic metaphase in *Trigonella sibthorpii*, showing eight pairs of chromosomes (based on E. Small T277, DAO).

encountered for *T. sibthorpii*, and indeed for any species of *Trigonella* Section *Cylindri-cae* (Boiss.) Sirj., although counts of $2n = 16$ have been recorded for many other species of the genus.

SELECTED SPECIMENS EXAMINED. Syntype: Asia Minor, 1842. Boissier (G BOIS). Turkey: Icel, Silifke. 18.xi.1967. R. Alava 6676 (E). Turkey: Grown in the greenhouse, 1987, from seeds from U.S. Dept. Agric. PI352710. E. Small T155 (DAO).

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