DISTRIBUTIONAL AND CYTOLOGICAL NOTES ON SALSOLA COLLINA[1]

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The Eurasian *Salsola collina* Pall. has been previously reported by Schapaugh (1958) from Minnesota, Colorado, and Iowa. At the time of this report, the only collection of this species from Minnesota was a specimen collected by Moore in South St. Paul in 1937. Field observations of this species during 1959 indicate that it is now well established and apparently vigorously spreading in Sherburne County, about sixty miles northwest of the original record. In late June numerous young seedlings and dead plants of the previous year were found near Monticello and along sandy roadsides in the vicinity of Sand Dunes Game Preserve. In July, the species was found in great abundance along the railroad and newly graded embankment of Hys. 10 and 52 northwest of Becker, some ten to twelve miles from the earlier find. Citations of specimens collected at these localities are given below and specimens ultimately will be distributed to various herbaria.

Sandy roadside along highway 1.5 mi. n. e. of Monticello, Sherburne Co., Minnesota. Abundant at this locality and for several miles along sandy country roads near Sandhills Game Preserve. *Richard W. Pohl 7771*, June 19, 1959 (ISC).

Abundant on road shoulders and railroad right-of-way, along Hys. 10 and 52, 4.5 mi. n. w. of Becker, Sherburne Co., Minnesota. Plants monopodial, later producing lateral branches. Dark green, up to 2 ft. tall, *Richard W. Pohl 8017*, July 20, 1959 (ISC).

In general appearance, *S. collina* resembles the common Russian thistle, *S. kali* var. *tenuifolia*. However, the young plants possess a strong erect monopodial stem and later become bushy by the growth of basal branches. This growth

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habit is in striking contrast to that of the common Russian thistle, which has a more diffuse branching pattern. With a little practice it is easy to separate the two at a distance from a moving car.

The original Iowa collection of *S. collina*, made in 1957, was a scrap of a dead and dry plant. The species was apparently very rare in Ames at that time. This year the original colony has spread considerably and contains hundreds of plants, which are thriving on the dry slag and cinders of the railroad embankment. Apparently *S. collina* is well adapted to midwestern conditions and may become as aggressive a weed as *S. kali* var. *tenuifolia*.

Gametic chromosome numbers in the genus *Salsola* are

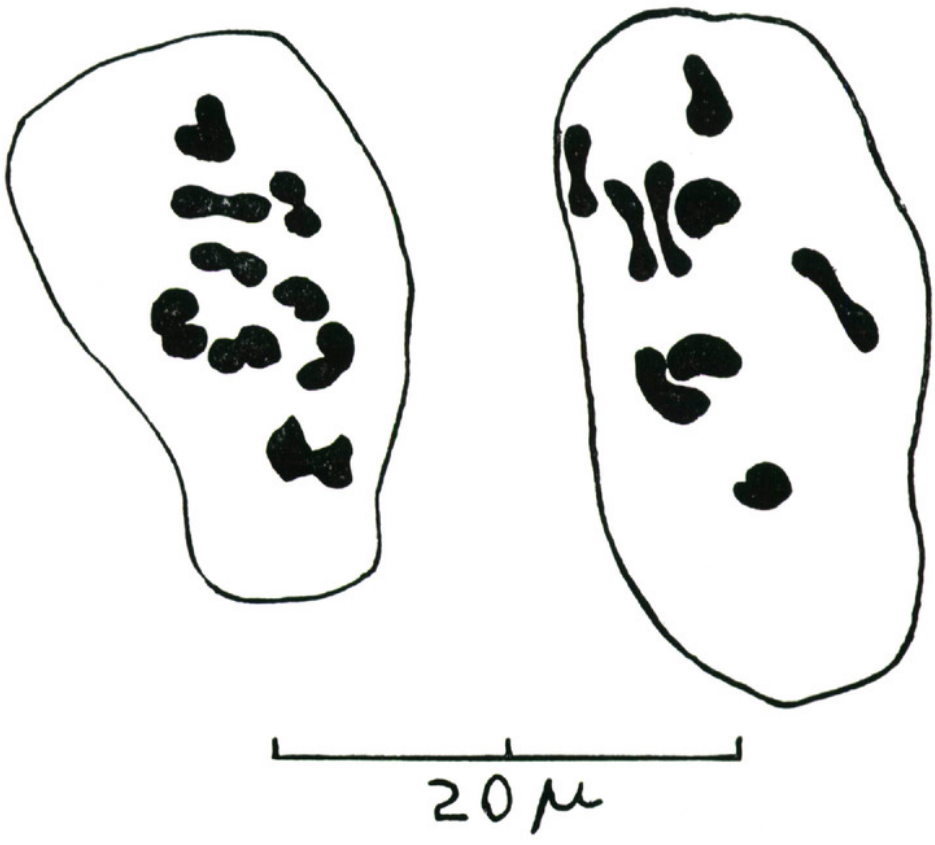

FIG. 1. *Salsola collina* Pall. Diakinesis in pollen mother cells, showing 9 pairs of chromosomes.

N = 9 (Reese, 1957) and N = 18 (Wulff, 1936, 1937). *S. kali* is a tetraploid with 18 pairs.

The gametic chromosome number of *S. collina* was determined from pollen mother cells as N = 9 (Fig. 1). The determination was made from plants grown in the greenhouse from wild seedlings collected at the Ames locality. It was found that the anther walls contained large numbers of druses which prevent proper flattening of aceto-carmine squash preparations. Efforts to dissolve the druses with versene or hydrochloric acid failed. In order to get sufficient flattening of squashes, it was necessary to remove all fragments of the minute anthers.

A voucher specimen for the above chromosome count is preserved in the Iowa State University Herbarium. The pertinent data are: cultivated in I. S. U. greenhouse, Ames, Story County, Iowa. Grown from wild seedlings taken at 6th St. overpass of C. & N. W. R. R., Ames. Chromosome number N = 9 from P. M. C.'s. July 26, 1959. *James P. Gillespie 1293A* (ISC).

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