

FURTHER DISCOVERIES OF SAND VERBENA IN ALBERTA

by HOPE JOHNSON¹ and BERYL HALLWORTH²

An unusual plant, Sand Verbena (*Abronia micrantha* Torrey), was collected by the first author in southern Alberta in July, 1972. It was found in the South Saskatchewan River valley about 15 miles north of Medicine Hat at a spot known locally as the "Bull Pound" (Fig. 1). The site was an area of silty sand that had been cleared in early 1971 to make a small emergency landing strip. Associated species were June Grass (*Koeleria cristata*), Blue Grama Grass (*Bouteloua racilis*), Sand Dropseed (*Sporobolus cryptandrus*), Lance-leaved Psoralea (*Psoralea lanceolata*), Clammy-weed (*Polanisia trachysperma*), Golden Aster (*Chrysopsis villosa*) and Prairie Sunflower (*Helianthus petiolaris*).

The plant was first taken to be Sand Dock (*Rumex venosus*) because of large wings around its fruits but its brittle stems and annual roots suggested otherwise. Young plants looked like those of the Goosefoot group in the shape, colour and mealiness of the underside of their leaves.

Curiosity drove the collector to go north a few miles where it was known that Sand Dock was common along a sandy road. Unfortunately, it was found that some sort of disease, apparently a bacterial wilt or blight, had affected the formerly flourishing colony, and it was possible to find only one flowering stem, and that an immature one. However, examination of

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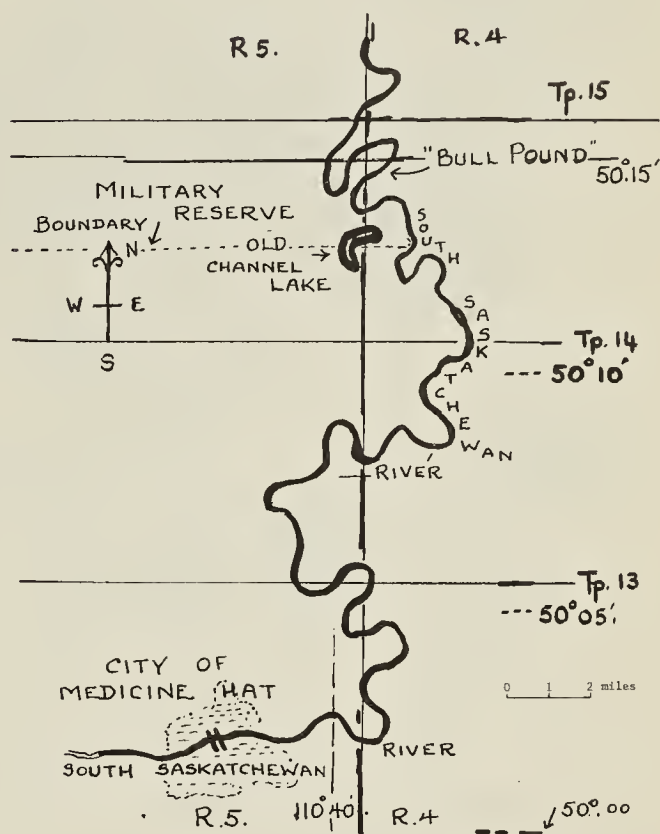


Fig. 1 "Bull Pound" area, South Saskatchewan River, 13 miles N. of Medicine Hat, Alberta.

it showed that the two plants were quite different.

The following winter the specimens and a drawing (Fig. 2) was examined and determined by the second author as Sand Verbena (*Abronia micrantha*). The only other known location of the plant in Alberta at that time was Manyberries (B. Boivin, 1967, "Flora of the Prairie Provinces, Part I.").

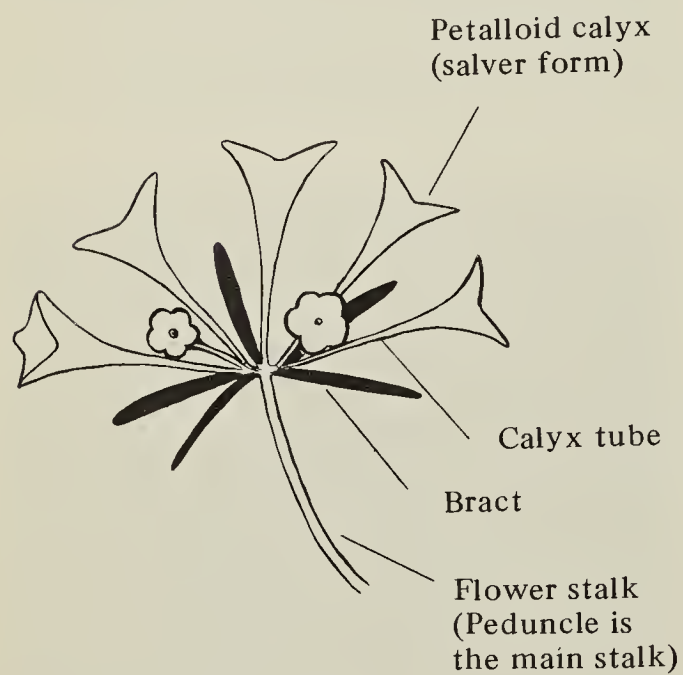
A return visit to the area in July, 1973, yielded no further plants at the former site but reason suggested that a search down-wind would be profitable and, indeed, numerous plants were



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Fig. 2 *Abronia micrantha* Torrey.

Drawing by Hope Johnson



The flowers are sessile, i.e. there are no pedicels.

Fig. 3 *Abronia micrantha* Torrey. Enlarged flower-head.

found about 100 yards to the north east.

An additional site was later discovered in the Lost River area near Manyberries, when the first author recognized the plant on two colour slides taken in the area by a participant in an Opportunities for Youth (OFY) project. Unfortunately the exact location could not be determined.

Abronia (from "abros" — the Greek word for "delicate") *micrantha* (which means "small-flowered") belongs to the Family Nyctaginaceae, called the "Four-o'clock Family" because the flowers tend to open in late afternoon. A more familiar member of the family in Alberta is Umbrellawort (*Mirabilis hirsuta*), while a well-known tropical species is *Bougainvillea spectabilis*. Members of the genus *Abronia* are at

attractive plants with bright pink to white, rather fragrant, flowers which are conspicuous in the spring in sandy places, especially in Arizona and California.

Abronia micrantha is an annual, up to 1 ft. high, with succulent, pale stems that are enlarged at the nodes. The paired leaves are petiolate, entire, lanceolate to ovate, farinose below, and have prominent veins. Sheathing stipules (ochrea) are absent but are present in the similar Sand Dock.

The tiny flowers are quite showy as they are arranged in dense "heads" with a ring of bracts underneath. The flowers themselves are very interesting as they lack petals but have a petaloid calyx in the form of a long tube which ends in 5 petal-like lobes (Fig. 3). The stamens lie inside this tube while the ovary is found at its base. A curious thing happens when the ovary becomes

a fruit. The base of the calyx tube becomes transformed into a winged structure, closely enclosing the fruit and aiding in its dispersal. These winged fruits are characteristic and look quite attractive as they are pale green with a pink blush. (Fig. 2).

This species is of interest as it is usually associated with desert or semi-desert conditions. Sand Verbenas are "ephemerals", i.e., they cover the desert in the spring with a blaze of colour, then set seed and die. This is an adaptation to desert conditions, and a very successful one, as the plants survive the torrid heat of midsummer as dormant seeds. *Abronia micrantha* has been found growing on sand dunes and dry ground in the Mohave Desert, California, Arizona, Nevada, Colorado and Montana.



SOME BUTTERFLIES AND BIRDS AT HASBALA LAKE, SASKATCHEWAN

by RONALD R. HOOPER*

Hasbala Lake is Saskatchewan's northeasternmost lake. It sits astride the Saskatchewan-Manitoba border, and the north shore comes within 1/2 mile of the Northwest Territories. It is in the sub-arctic zone and is only about 75 miles from the barren grounds. On June 27, 1973, I began a 7-day field trip there for the Provincial Museum accompanied by a

botanist, Bernard DeVries. We flew from La Ronge, stopping at Kinosa on Reindeer Lake to refuel enroute. We set up camp on a knoll near the southwest corner of the lake.

Much of the area on the west and south shores of the lake had been burned by a forest fire a few years previously. Outside of this burned area the predominant trees were black spruce. There were also sand blowout areas with jack pines. Birch grew along the eskers. Poplars and white spruce were scarce. The forest cover was, in

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