

Asters and Daisies in North Dakota

By

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THE ASTERS COMPRISE a large and conspicuous group of many species of autumn flowers. Several of our native kinds are grown as ornamentals, a few are decidedly weedy, but nearly all are attractive, either as wild or garden flowers. The name means "star," and can be traced back into the Greek of 2000 years ago. The genus *Aster* comprises some 200 species mostly perennial and native to North America. A standard regional manual of North American plants describes about 50 kinds, whereas a similar book of European plants has only half a dozen of which one-half have been introduced from America. Oddly enough, the large showy annual asters seen in gardens and flower shops, are not true asters, but "China asters" and come from a single species native to China.

The general appearance of the flowers is well known but technical characters are difficult and often misunderstood. The "flower" is really a head, or dense cluster of many small flowers and the "petals" are the strap-shaped corollas of the outer flowers of the head. The inner flowers have small tubular corollas. Each flower produces a one-seeded achene, which in the wild asters is very small and bears a tuft of hairs which enables the wind to blow it about. The flowers are white, blue, or various shades of purple or violet. The corollas are never yellow in true asters, but the masses of pollen-bearing stamens often give a yellowish color to the center of the head.

North Dakota has about a dozen species of asters. One of the most common and showy is the Smooth Blue Aster (*Aster laevis*) which is found all over the State and is often grown as an ornamental. It is late in blooming and is one of our best flowers after the first frosts. It is found along roadsides or brushy places and not on the more open, dry prairie. The New England Aster (*Aster novae-angliae*) has similar flowers, though more of a reddish purple or rose color. The plants are tall, leafy and branch only on the upper part. This species grows best in moist protected places and blooms rather early in August. Another good purple one (*Aster oblongifolius*) has been called Aromatic Aster, though Blue Prairie Aster seems more appropriate. It has small leaves and grows in dry,

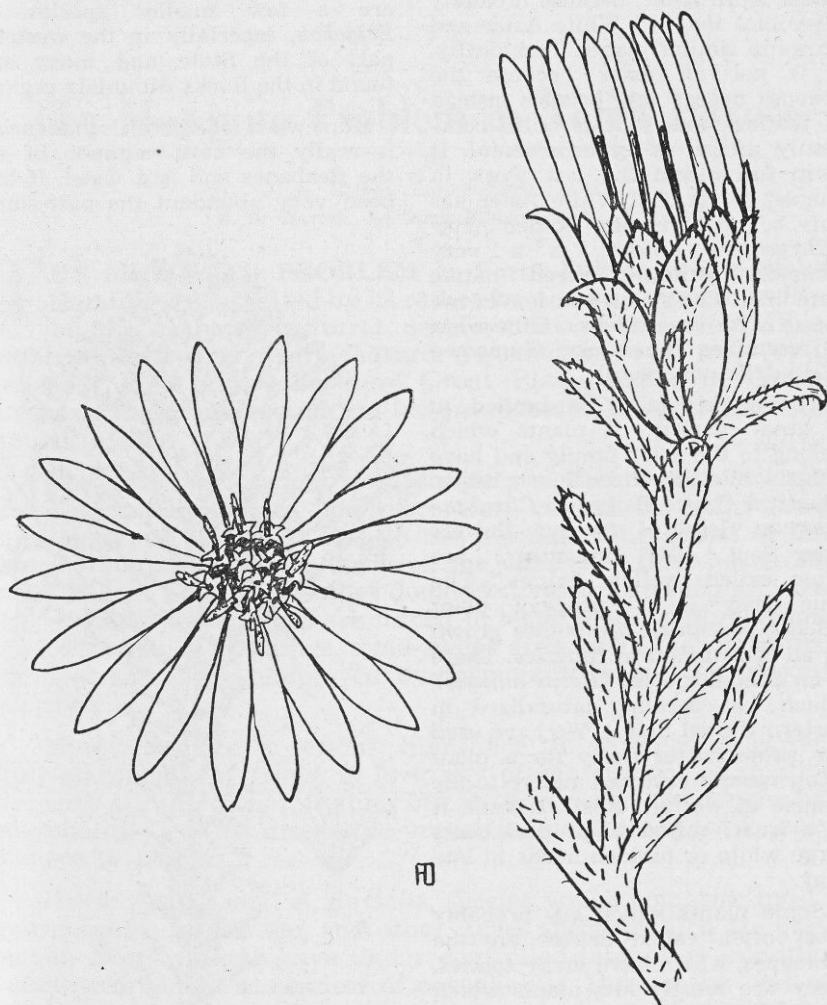
stony soil, so it can be grown in places where many flowers would not thrive.

Of the white-flowered kinds, two are especially common. The White Prairie Aster (*Aster ericoides*) grows everywhere on the prairie. It is weedy and sometimes too prevalent in dry lawns, but it is not a field weed and the masses of small heads are very attractive. The Tall White Aster (*Aster paniculatus*) is much taller and has larger heads. It grows in low places and may be quite weedy in low fields. The flowers sometimes have a bluish color. The White Upland Aster (*Aster ptarmicoides*) is a low upright, white-flowered sort which is common on stony hillsides and prairies.

We have some half-dozen more of the strictly perennial true aster

which are less common and mostly restricted to certain areas. Three others are sometimes separated from the asters. The Ray-less Aster (*Aster brachyactis* or *Brachyactis angustus*) is an inconspicuous annual, which has no ray flowers on the heads and blooms late on low alkaline soils. Umbelled Aster (*Aster umbellatus* or *Doellingeria*

umbellatus) is a large, white-flowered sort which reaches a height of five or six feet in swampy, brushy places. Species of the Tansy Aster group are especially worthy of mention. One which has a finely divided leaf (*Aster tanacetifolia* or *Machaeranthera tanacetifolia*) is sometimes grown as an ornamental. It is not native to North Dakota.



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Figure 1.—White Prairie Aster. Leafy branch with one un-opened flower head, showing the group of small leaves (involucre) enclosing the base of the head. The open head shows the long, white corollas of the outer flowers, also the central flowers with small tubular corollas.

Our native one is Hoary Aster (*Aster canescens* or *Machaeranthera canescens*). It has a low, bushy habit of growth and occurs naturally on some of the most barren Bad Land clays. It should be given consideration as a good blue flower for dry clay soils.

Plants which are closely related to asters are numerous. *Boltonia* (*Boltonia asterioides*), we have called False Aster, because it closely resembles the Tall White Aster and grows in similar places. Technically, it is not an aster because the achenes bear a few bristles instead of feathery hairs. It is quite commonly grown as an ornamental. It is in full bloom the last week in August, when Tall White Aster has only begun to bloom. Golden Aster (*Chrysopsis villosa*) is a very common, yellow-flowered native perennial. The stems and leaves are rough with coarse hairs. Otherwise, it resembles the sticky Gumweed (*Grindelia squarrosa*).

The name "daisy" is applied to a great variety of plants which belong to the aster family and have either white or yellow flower heads. Thus, the Oxeye Daisy is a *Chrysanthemum*. Some of the cone-flowers (see Sept., 1941 Bimonthly) are often called "yellow daisies." The true daisy is a European plant (*Bellis perennis*), sometimes grown as an ornamental in America. There is an annual species (*Bellis annuus*) which has become naturalized in eastern United States. We have used the name Easter Daisy for a plant (*Townsendia exscapa*) native to the prairie of western North Dakota. It is a small tufted plant and bears large white or pinkish heads in late May.

Some plants which are probably most often called daisies are the fleabanes, which have many species. They are mostly low plants which have white flower-heads about one-half or three-quarters of an inch in diameter. The individual flowers are very small and the white or pinkish

ray-flowers are fine and numerous. One of the most common is *Erigeron glabellus*, a prairie perennial which grows about a foot high and blooms in June. Another, which is taller, much branched and has smaller heads, blooms in July. This is known as Daisy Fleabane (*Erigeron ramosus*). A third species, *Erigeron philadelphicus*, resembles the first, but is taller and more leafy. It is found only in low, wet soil. There are a few smaller species of *Erigeron*, especially in the western part of the State and many are found in the Rocky Mountain region.

Horseweed (*Erigeron canadensis*) is really the most common of all the fleabanes and is a weed. It has been very abundant the past sum-

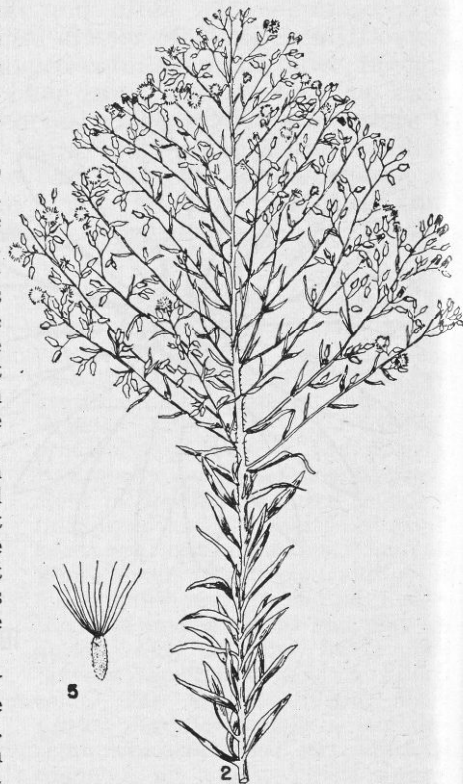


Figure 2.—Horseweed. Upper part plant and one enlarged fruit. Mo. Exp. Sta.

mer. As one correspondent stated, "it is found mostly in tilled but unused fields." It is quite a striking plant, which reaches a height of three or four feet. The stems are stiff and thickly covered with narrow leaves. They have no branches except those of the flower clusters at the top. The flower heads are only about one-eighth of an inch wide but each contains many indi-

vidual flowers. This weed is often abundant in grain fields which have been stubbled in. It is little seen in fields which receive the usual fall plowing or good spring tillage. It can be controlled by mowing in perennial forage crops and in thin pastures if it is abundant. In the later case, however, plowing and re-seeding may be a better plan.

The Mosquito Problem in North Dakota

By

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THE MOSQUITO PROBLEM in North Dakota is one of long standing as indicated by its rather frequent mention in writings on the early agricultural development of this area. It is a problem which has many features in common with most of the adjoining area of the Northern Great Plains region in that the predominating species and the factors involved in control are very similar.

The earlier references to mosquitoes in this area have largely stressed the annoyance and discomfort caused by their attacks upon man and livestock. Due to the blood-sucking habits of these insects, they are a serious drain on the vitality of their hosts. They molest cattle, horses, and other domestic livestock to such an extent that at times the animals are forced to leave their feeding grounds to seek shelter in buildings, wind-swept areas or in the smoke from smudges sometimes employed by farmers to abate the mosquito nuisance.

Mosquitoes are a serious hindrance to workers in gardens, fruit plantings and fields, in fact, any of the outdoor occupations. Not only are the bites irritating but at times when the danger from encephalitis, a virus disease, is prevalent mosquitoes are a serious menace to health.

Aedes vexans and *A. dorsalis*, species which comprise most of our mosquito population, and other *Aedes* species which are prevalent in North Dakota have under controlled laboratory conditions been incriminated as carriers of encephalitis. During the 1941 outbreak (a year in which encephalitis reached an all-time high in humans in the United States and Canada) 1,101 people and 2,552 horses contracted the disease in North Dakota with a mortality rate of 12.6 percent (139 deaths) and 21 percent (549 deaths) respec-