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Department of
Agriculture

Soil
Conservation
Service

Huron,
South Dakota

TECHNICAL NOTE

Biology No. 10

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WETLAND PLANTS

The enclosed material is a field reference to plants commonly found in South Dakota wetlands. This publication does not cover all of the wetland plants that may be found in South Dakota. The Indicator Status of plants not covered in this Technical Note should be checked in "Wetland Plants of the State of South Dakota 1986," which is included in your handbook on Highly Erodible Land and Wetland Conservation.

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Enclosure

DIST: 0

CORRECTIONS TO MAKE

The following changes need to be made, primarily due to plant indicator status changes with issue of the 1988 Wetland Plant indicator list.

Scientific name	Common name	Region 4 Indicator	National Indicator
<i>Agropyron repens</i>	Quack grass	FAC	
<i>Distichlis spicata</i>	Inland saltgrass	NI	FAC+, FACW
	Seashore saltgrass	FACW	
<i>Ranunculus trichophyllus</i>	White water buttercup	OBL	
<i>Rumex maritimus</i>	Golden dock	FACW+	
<i>Salix exigua</i>	Sandbar willow	FACW+	
<i>Scirpus robustus</i>		omitted from 1988 list for Region 4	
<i>Xanthium pensylvanicum</i>	Common cocklebur	Not on list	
<i>Xanthium strumarium</i>	Rough cocklebur	FAC	

This Technical Note is provided as a quick reference on wetlands and the more common wetland plants. Plant species typical of the various wetland types are based on those described by R. E. Stewart and H. A. Kantrud in their 1971 publication "Classification of Natural Ponds and Lakes in the Glaciated Prairie Region", USFWS, Res. Pub. 92. The plant drawings are grouped according to plant form: forbs (p.1-33), floating plants (p. 54-55), grasses (p.56-76), grass-like (p.77-96), and trees (p.97).

The plant drawings were taken from the sources listed below. The source is given beside each of the plant drawings and/or descriptions. The NWI indicator status is also listed beside the plant drawings.

Correll, D. S. and H. B. Correll. 1972. Aquatic and wetland plants of southwestern United States. EPA Water Pollution Control Research Series 16030 DNL 01/72. 1777 p.

Heerwagen, Arnold. 1966. Sedges of the Midwest States. SCS. In-service use materials.

Hitchcock, A. S. 1950. Manual of the Grasses of the United States. USDA Misc. Pub. No. 200. 1051 p.

Hotchkiss, N. 1967. Underwater and floating-leaved plants of the United States and Canada. USDI-FWS. Resource Publication 44. 124 p.

Hotchkiss, N. 1970. Common marsh plants of the United States and Canada. USDI-FWS. Resource Publication 93. 99 p.

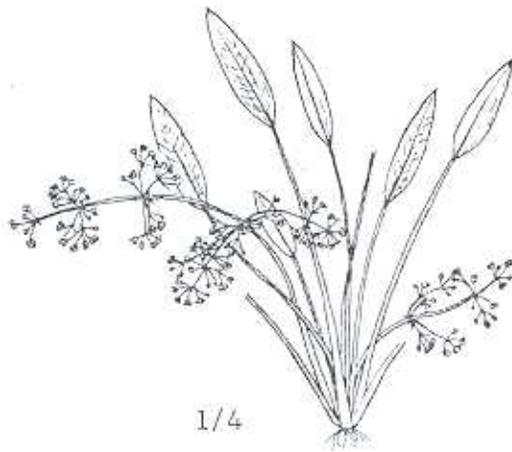
SCS. 1968. Key to the native perennial grasses - midwest region east of the Great Plains (Abstracted from Hitchcock's Manual of the Grasses). SCS-TP-151. 116 p. (cited as Hitchcock 1968).

SCS. 1979. North Dakota Biology Tech Note 12. Wetlands: Vegetation identification and typing.

South Dakota State University - Agriculture Extension Service. 1975. South Dakota Weeds. 228 p.

University of Illinois, Urbana-Champaign College of Agriculture and the North Central Region Technical Committee. 1981. Weeds of the North Central States. North Central Regional Research Publication 281 and Bulletin 772 U. of Illinois at Urbana-Champaign, College of Agriculture, Agricultural Experiment Station.

A key to the wetland plants is also provided. This key is based on one included in "A Guide to the Common Aquatic Plants of Iowa" which was developed by R. K. Neely and R. L. Pederson.



NARROWLEAF WATERPLANTAIN, *Alisma gramineum*

Inland fresh and alkali marshes and water; Alberta to Quebec, California, Iowa, and Vermont.

Flower clusters sprawling to knee-high, shorter or longer than leaves. Out-of-water leaves have a blade to 4 inches long, with a somewhat tapered base. Underwater leaves are usually ribbonlike and as much as 3 feet long. Ripe seeds and the white or pink flowers are similar to those of Broadleaf Waterplantain.

Source: Hotchkiss, 1970



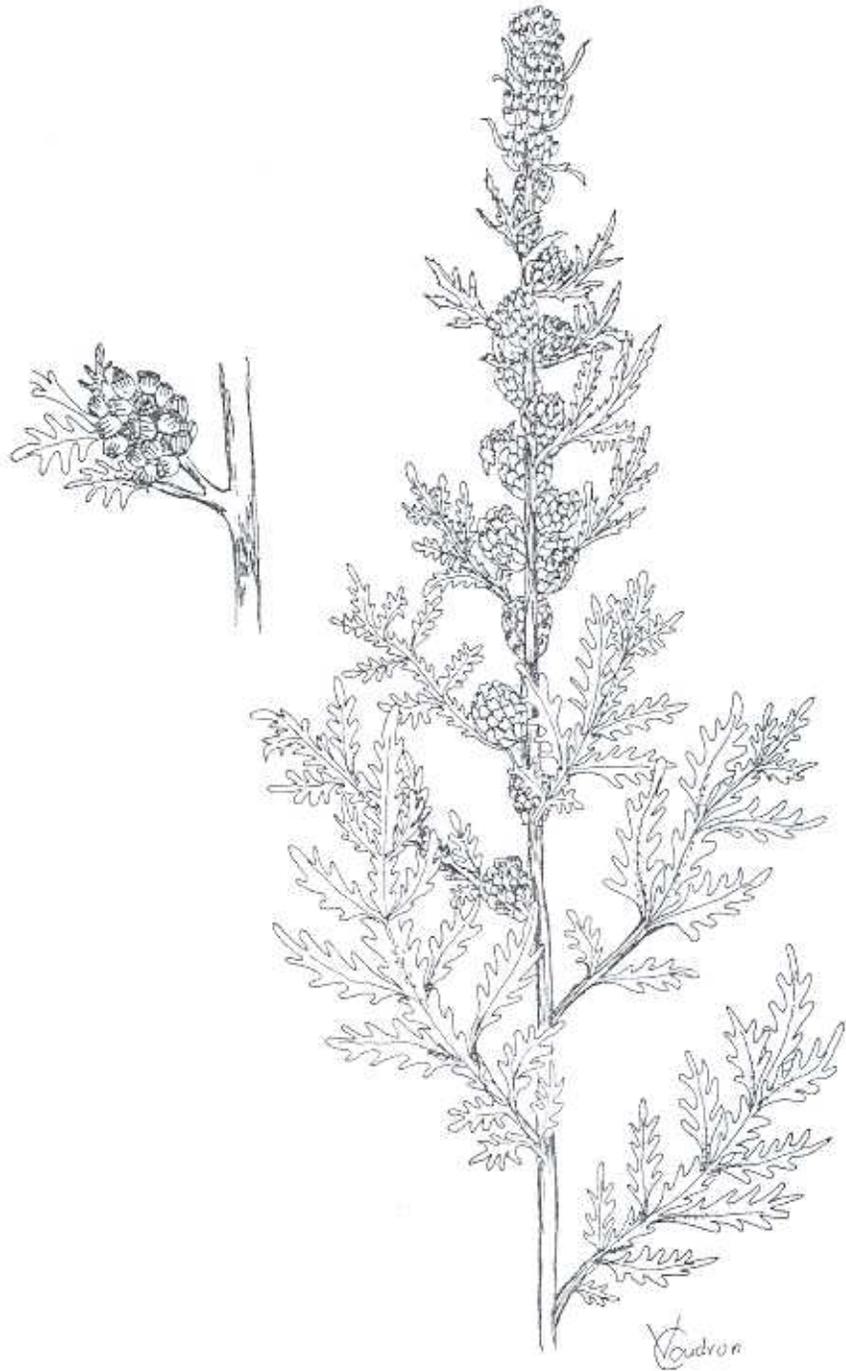
BROADLEAF WATERPLANTAIN, *Alisma plantago-aquatica*

Inland fresh marshes; British Columbia to Nova Scotia and the southernmost States.

Flower clusters ankle-high to waist-high, usually higher than the leaves which have a blade to 10 inches long with a roundish or slightly notched base. Early leaves often floating and with a somewhat tapered base. White or rarely pink flowers $1/4$ to $1/2$ inch across, 3-petaled. Flowers throughout a cluster produce a little circle of seeds which, as seen from above, resembles a cut orange. Ripe seeds are less than $1/8$ inch long and are grooved on their outer edges.

Source: Hotchkiss, 1970

OBL



Biennial Wormwood

Artemisia biennis

OTHER NAMES — bitterweed, false tansy.

Biennial sage is a native biennial, reproducing only by seed. It sometimes acts as an annual if the seedlings start early in the spring. It is found in cultivated fields, fence rows, pastures and woodlots.

Biennial sage grows 1 to 5 feet high and has dark green lobed or much divided leaves. The flowering stalk is a spike with dense heads of many flowers in the leaf axils. The entire plant has a strong disagreeable odor.

Source: South Dakota Weeds

FAC, DRA

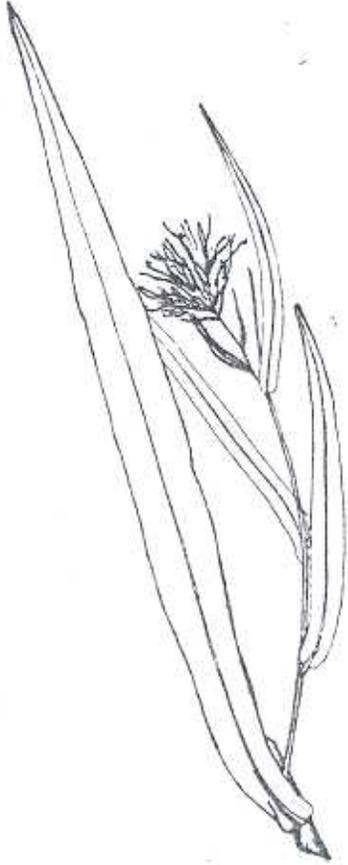


Fig. 636: *Asclepias incarnata*: a, habit, x 15; b, basal part of plant showing roots, x 1/2; c, flower, x 2 1/2. (V. F.).

Swamp milkweed

Source: Correll and Correll, 1972

OBL



Lowland White Aster
Aster simplex

Perennial from long often stout creeping rhizome, becoming densely colonial; stem stout, commonly 6-15 dm. tall, glabrous below, pubescent in lines above, sometimes very scantily so; leaves lanceolate or linear, serrate or occasionally entire, glabrous on both sides or somewhat scabrous above, sessile or tapering to a petiolelike base, sometimes a little clasping but scarcely auriculate, the principal ones mostly 8-15 cm. long and 3-35 mm. wide, mostly not strongly reticulate, the areolae (if visible) generally irregular and longer than wide; heads usually more or less numerous in an elongate leafy inflorescence, the involucre 3-5.5 mm. high; phyllaries narrow, sharply acute to acutish, glabrous except for the sometimes ciliolate margins, more or less strongly imbricate, with elongate usually appressed green tips; rays 20 to 40, white or occasionally lavender or blue, 4.5-12 mm. long; lobes of the disk corollas comprising 30 to 45 per cent of the limb; achenes strigose, few-nerved.

Moist low places, wet meadows, prairie swales, ditches, edge of streams and sloughs, alluvial soil in thickets in Okla. (*Waterfall*), July-Sept.; N.S. to Va., w. to N.D. and Okla.

Source: ND Bio. Tech Note 12

FACW

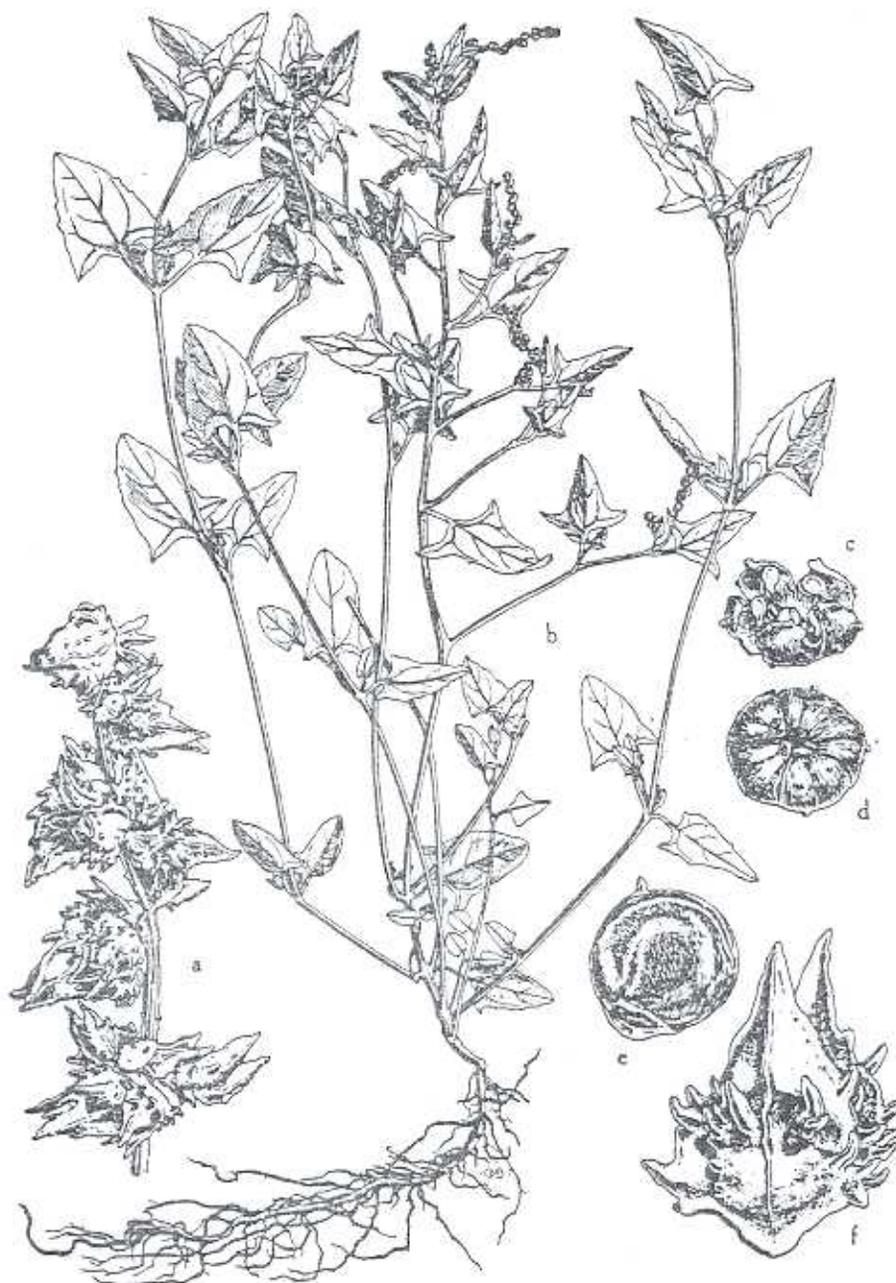
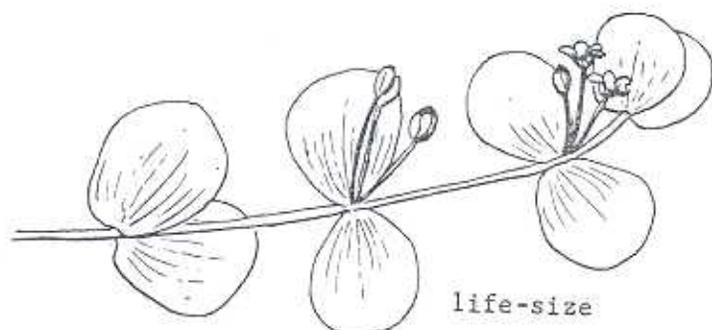


Fig. 424: *Atriplex patula* var. *hastata*: a, pistillate inflorescence, x 4; b, habit, showing the spreading branches, the hastate leaves and the spikelike inflorescences, x $\frac{2}{5}$; c and d, young staminate flowers, x 12; e, seed, showing curved embryo, x 12; f, single pistillate flower, showing tuberculate bracts, x 8. (From Mason, Fig. 215).

Orach or fathen saltbush

FACW, DRA

Source: Correll and Correll, 1972



ROUNDEAF BACOPA,
Bacopa rotundifolia
(*Bacopa eisenii* and
nobsiana; *Macuillamia*
rotundifolia)

Fresh water; British
Columbia to Manitoba,
California, Louisiana,
and North Carolina.
Flowers are white.

Disc water hyssop

Source: Hotchkiss, 1967

Bacopa rotundifolia (Michx.) Wettst. DISC WATER-HYSSOP. Fig. 683.

Plant creeping, with elongate and lax terminally pubescent branches to 6 dm. long, forming mats on mud or attached and floating; leaves thin, suborbicular to broadly obovate, with subcuneately narrowed but clasping bases, clearly palmately many-nerved, the larger ones to 35 mm. long and 25 mm. wide; flowers usually 2 to 4 from upper nodes; pedicels 2 or 3 times as long as calyx, slender, pubescent, to 2 cm. long; outer sepals ovate, 6-8 mm. long; corolla exserted, campanulate, 6-10 mm. long, the wide-spreading limb about as broad, white, with yellow throat; capsule globose to subglobose, about as long as sepals. *Macuillamia rotundifolia* (Michx.) Raf.

Source: Correll and Correll, 1972

OBL

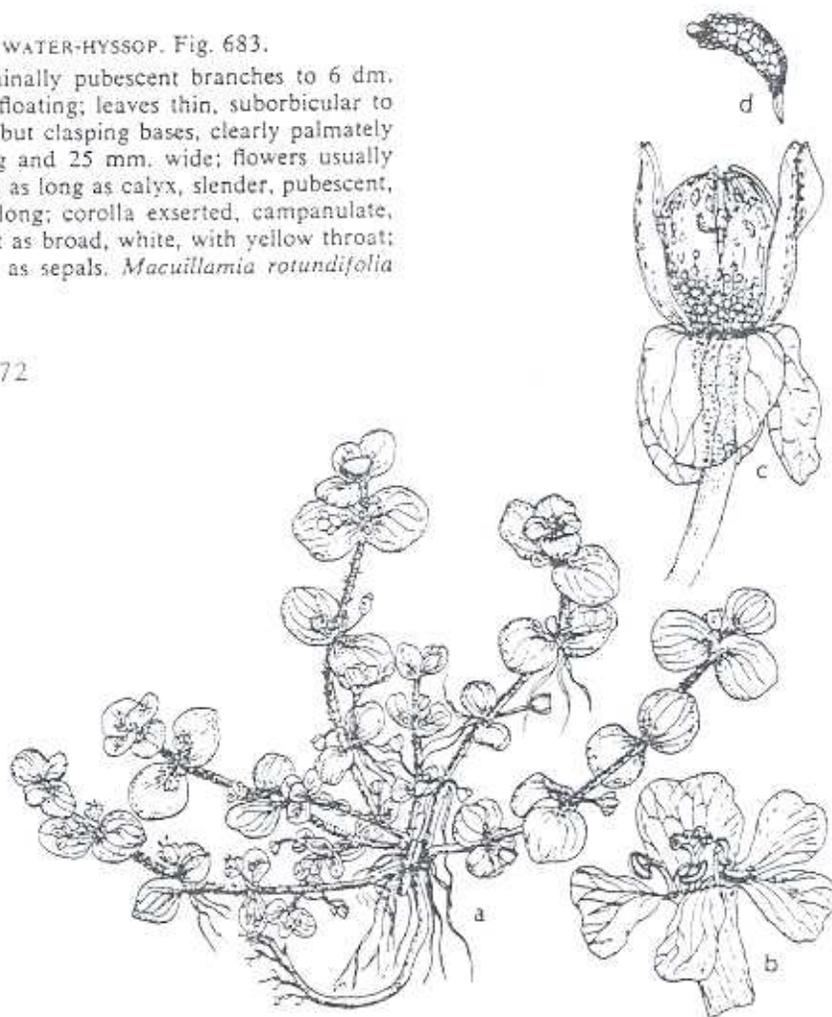
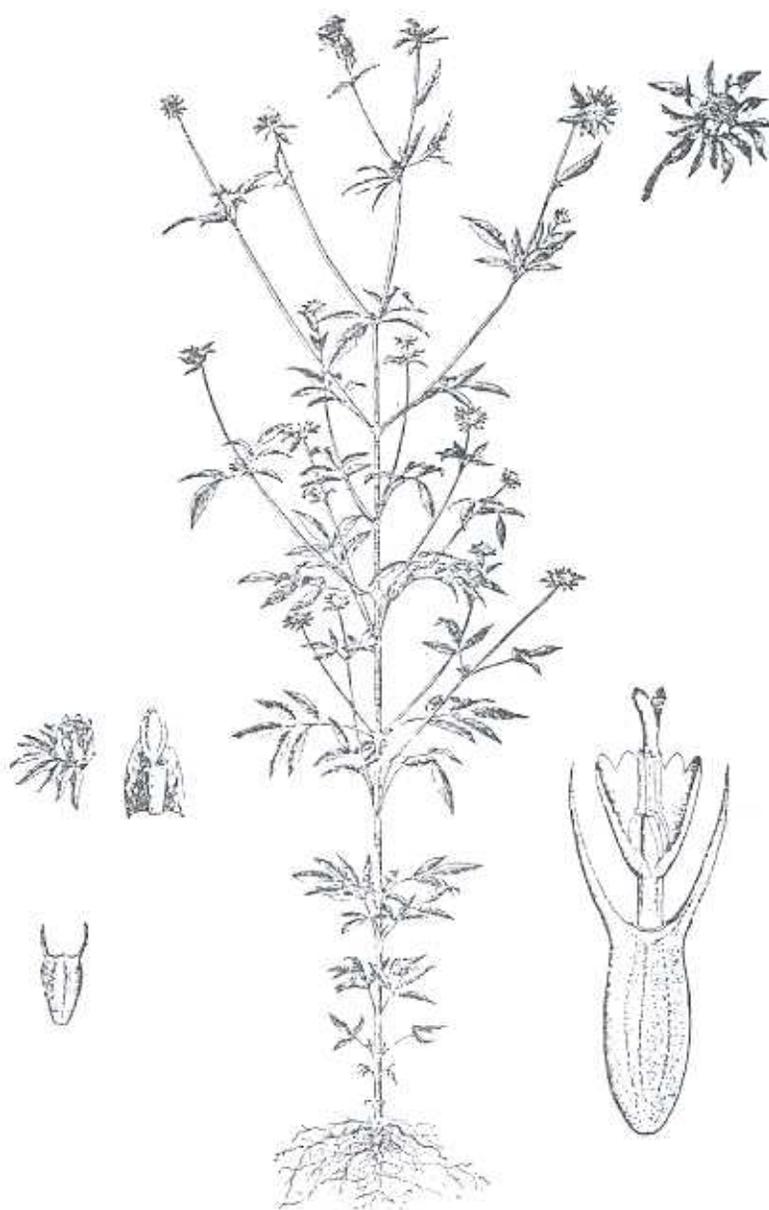


Fig. 683: a-d, *Bacopa rotundifolia*; a, habit, x $\frac{1}{2}$; b, flower, x 5; c, capsule, x 5; d, seed, x 20.



Devils Beggarticks

Bidens frondosa

OTHER NAMES — sticktight, beggarticks, bur-marigold, pitchforkweed.

Devils beggarticks is an annual, reproducing by seed. It is found in cultivated fields, ditches, fence rows and roadsides. The seeds stick to clothing, wool, or hair allowing them to be carried to other areas.

It grows erect, 1 to 4 feet high. The stem is branched, smooth and often purplish. The leaves are opposite, smooth, 2 to 4 inches long and

divided into 3 to 5 leaflets. The leaf margins are saw-toothed. The flowers are orange to yellow in color, flat, rounded, and compact. There are many flowers produced by each plant. The seeds are flat, oblong, smooth, dark-brown to black in color, and have two barbed, stiff bristles. Several seeds are produced in each head.

Source: South Dakota Weeds

FACW

MARSH BOLTONIA,
Boltonia asteroides
 (*Boltonia latisquama*)

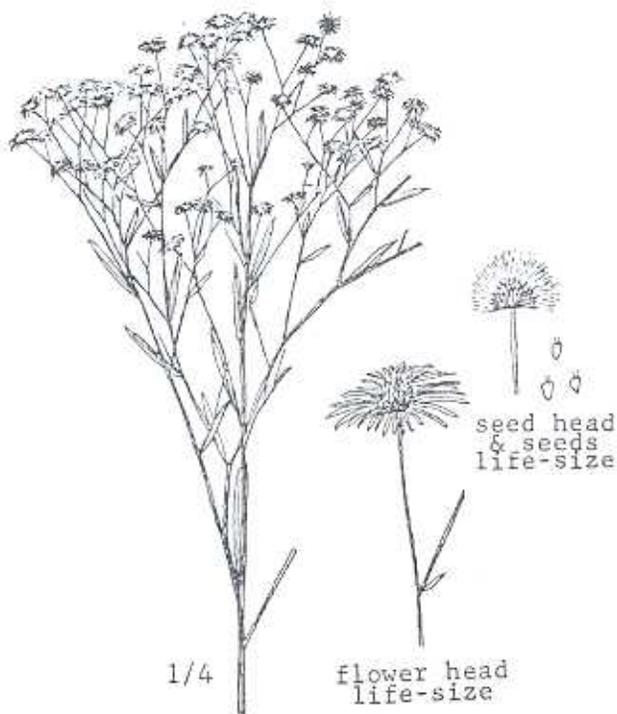
Inland and coastal fresh marshes; Oregon to Idaho; Saskatchewan to Maine, Texas, and Florida.

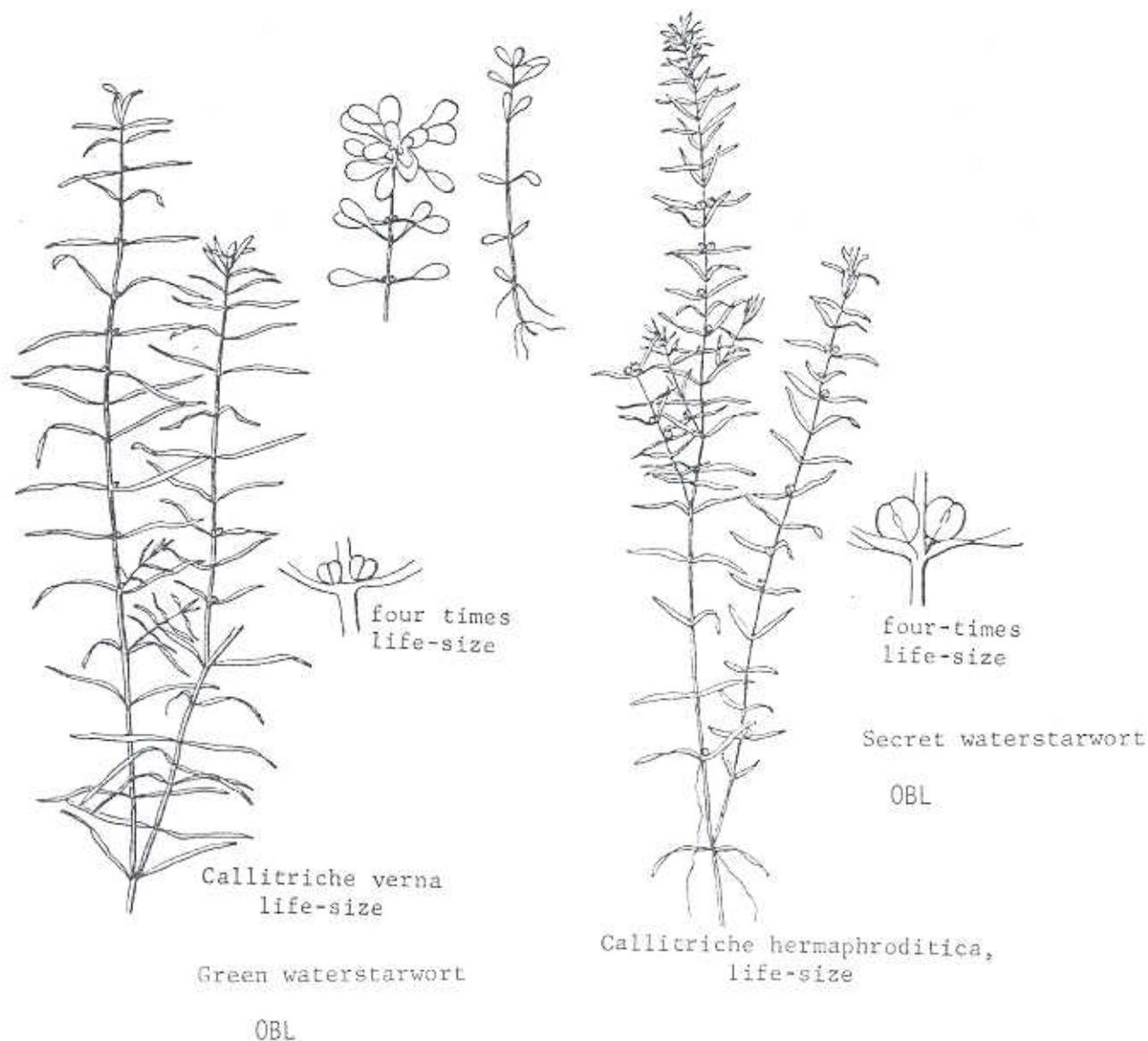
Stems less than knee-high to as high as a man branched toward the top. Leaves to 6 inches long. Flower heads white or pinkish. Ripe seeds light-brown, flat, with two tiny bristles at the top.

Also known as False aster

Source: Hotchkiss, 1970

FACW





WATER-STARWORTS, *Callitriche*

Fresh water, inland and rarely coastal, often in partly-shaded streams; Alaska to Greenland, California, and Florida.

Four kinds resemble each other so much that they can be told apart only by looking at them with a hand lens or microscope when they have seeds. These are partly-joined to each other in fours at the base of leaves. Under water, each of these plants has narrow leaves. All except *Callitriche hermaphroditica* also often reach the surface and

Source: Hotchkiss, 1967

there produce a cluster of oval floating leaves; and during low water they grow on mud and have oblong leaves.

Under water, when without flowers or seeds, Water-starworts resemble slim plants of Common Elodea (page 66); but the leaves are bunched only a little toward the tip of stems, and there are only two leaves at a joint.

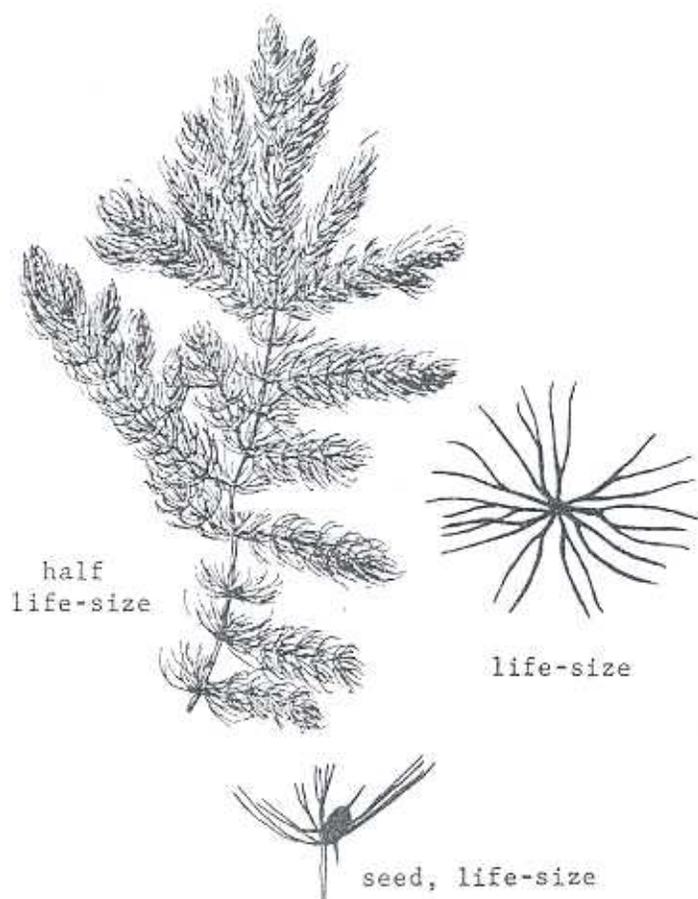
The four kinds are:

Callitriche hermaphroditica (*Callitriche autumnalis*). Alaska to Newfoundland, California, Colorado, and New York. Has only narrow, underwater leaves which are shorter than the underwater leaves of the other Water-starworts. Seeds are more than 1/16 inch long.

Callitriche longipedunculata. Not pictured. California. Seeds are less than 1/16 inch long and are on a stalk which is usually longer than the seeds.

Callitriche stagnalis. Not pictured. A native of Europe which has run wild from British Columbia to Oregon; and Wisconsin to Quebec and Maryland. Usually has some oval leaves. Seeds are more than 1/16 inch long.

Callitriche verna (*Callitriche anceps*, *heterophylla*, and *palustris*). Alaska to Greenland, California, and Florida. Seeds are less than 1/16 inch long and have little or no stalk.



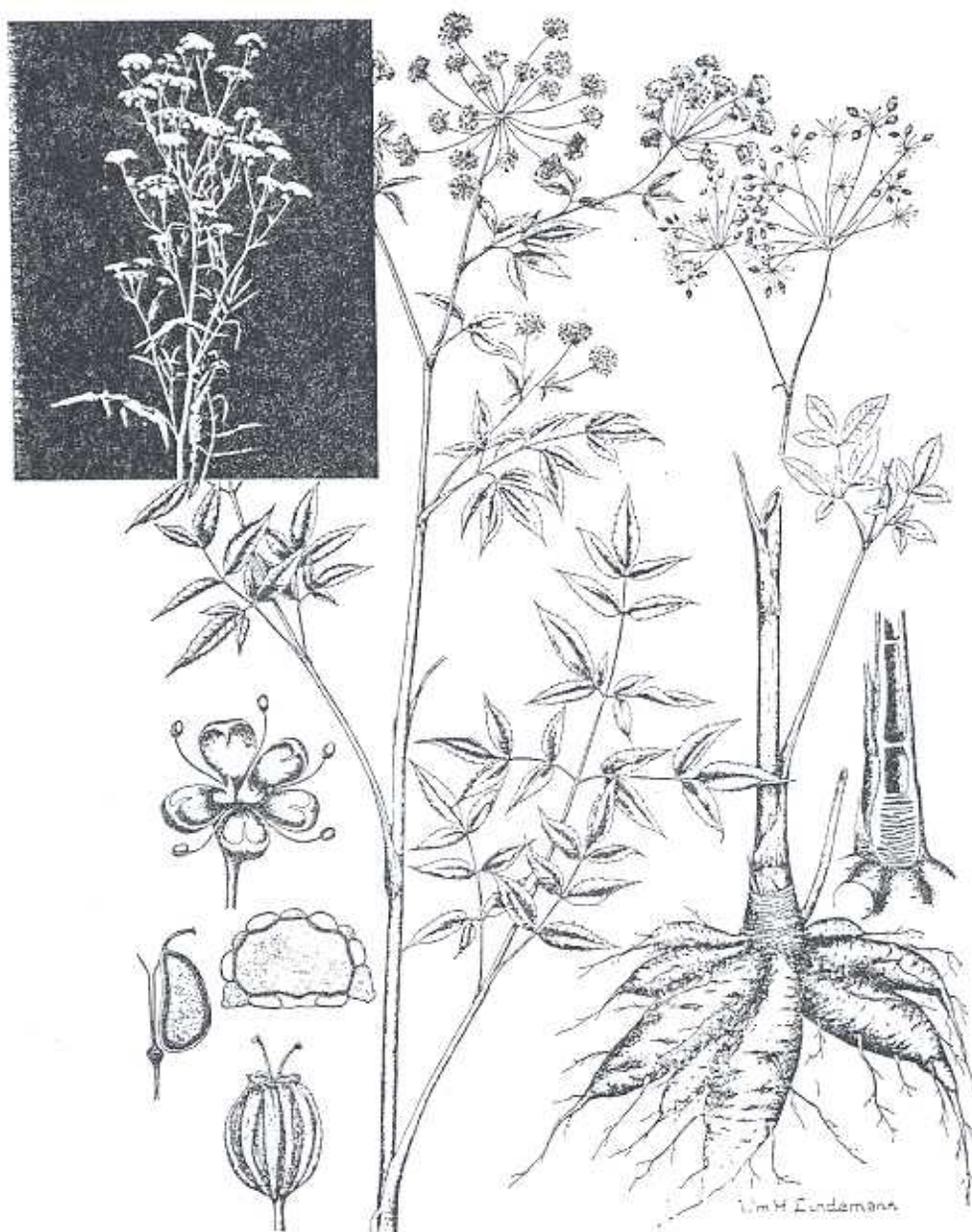
COONTAIL, *Ceratophyllum demersum*

Fresh water, inland and coastal; Northwest Territories to Nova Scotia, California, and Florida.

Stems entirely under water; usually much-branched, and sometimes stiff with a coating of lime. At each joint is a whorl of leaves. Leaflets vary in length, width, firmness, amount of forking, and prominence of teeth. Flowers and seeds, at base of leaves, are usually hard to find. The commonest form of seed is pictured. Other forms have as many as a dozen spines.

Source: Hotchkiss, 1967

OBL



Spotted Waterhemlock

Cicuta maculata

OTHER NAMES — spotted hemlock, poison hemlock, spotted cowbane, water hemlock.

Spotted waterhemlock is a poisonous perennial, reproducing by seed and short underground roots or tubers. It is found in low areas in pastures, meadows, and along streams, and ditches. All parts of the plant, especially the tuber-like roots, are very poisonous.

It grows 2 to 6 feet tall and has a shiny green stem streaked with purple. The stem is hollow

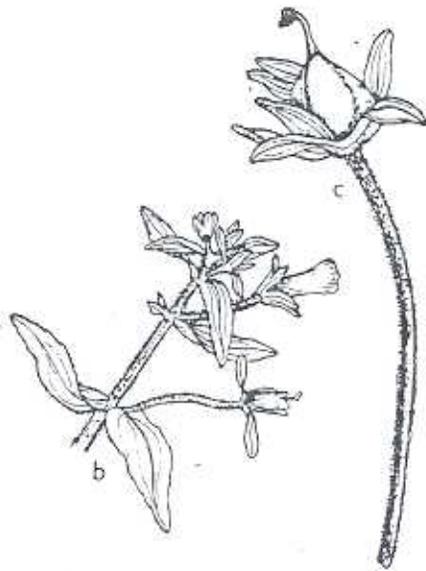
and branched mostly at the top. The leaves are divided in 2 to 3 separate sections (leaflets), are alternate and have prominently toothed edges. The flowers are white, developed in an umbel on the ends of the branches. The seeds are striped, smooth, flat, rounded and light-to-dark brown in color.

Canada Thistle
(*Cirsium arvense*)



Source: South Dakota Weeds

FACU, DRA



Gratiola neglecta: b, end of branch, x 1; c, capsule, x 5.

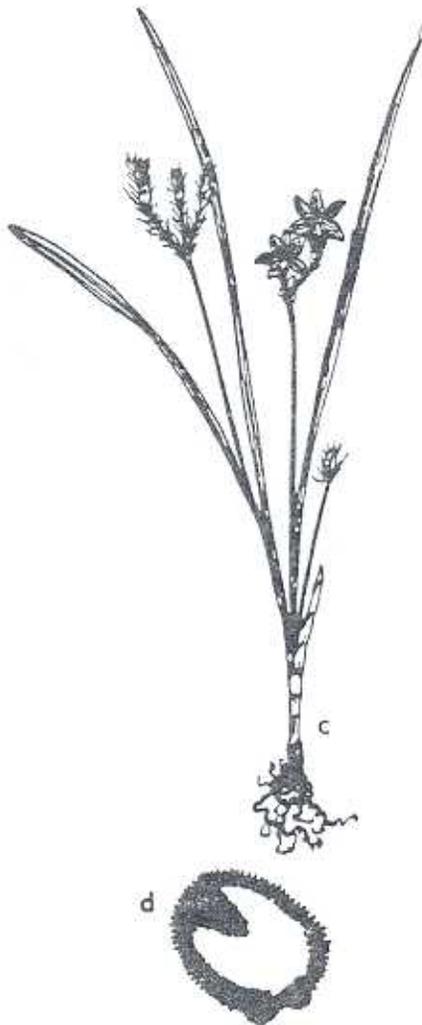
***Gratiola neglecta* Torr.**

Annual with simple or loosely branched soft stem to 4 dm. high, the upper internodes, pedicels and expanding leaves more or less clammy-puberulent; leaves thin, rhombic-lanceolate to lanceolate, tapering to base and apex, undulate-dentate or entire, to 55 mm. long; pedicels filiform, elongating to 25 mm. long; bractlets foliaceous, equal to or exceeding the calyx; corollas honey-color to creamy-white, with yellowish tube, the earlier ones 8–12 mm. long, the inside of the throat with clavate bearding; sterile stamens minute or none; capsule 3–5 mm. long, globose-ovoid; seeds thick-cylindric, about 0.5 mm. long. *G. gracilis* Benth., *G. Torreyi* Small.

Hedge hyssop, clammy

Source: Correll and Correll, 1972

OBL



Hypoxis hirsuta: c, habit, X 1/2; d, seed (with detail drawn to show surface only at the edge and in a section), X 20.

Common goldstargrass or yellow stargrass

Source: Correll and Correll, 1972

FACW



Common Sneezeweed

Helenium autumnale

OTHER NAMES — swamp sunflower, yellow star, false sunflower, sneezeweed.

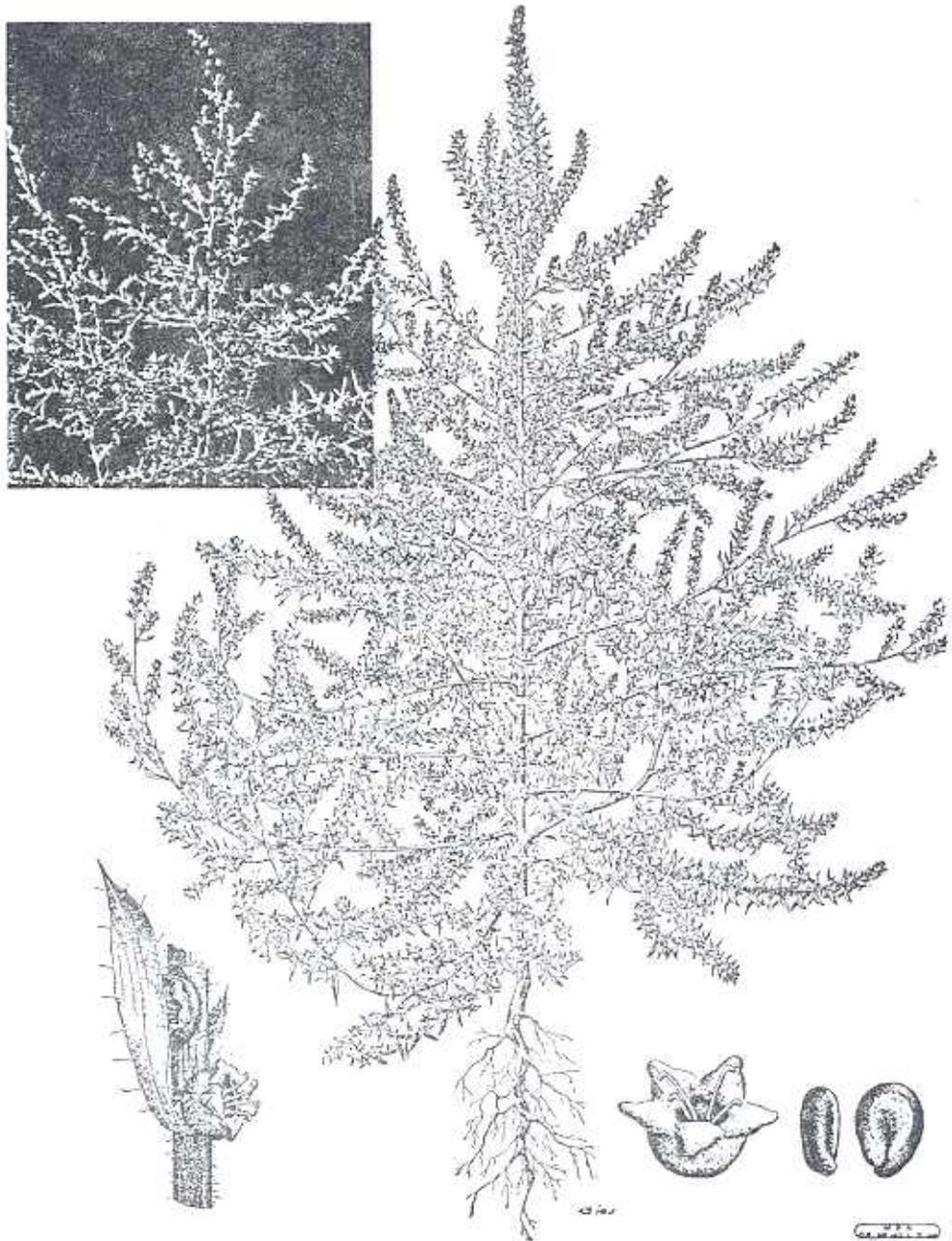
Common sneezeweed is a perennial, reproducing by seed and underground rootstocks. It is found in swamps, wet meadows, and along roadsides. Animals and people coming in contact with the plants tend to sneeze.

The plants grow 2 to 6 feet high. The stems are coarse, stout, branched, and often covered

with short hairs. The bright green leaves are alternate, 2 to 6 inches long, and have saw-toothed margins. The flowers measure 1 to 2 inches in diameter and have yellow petals that resemble a common sunflower. The yellow center of the flower is raised and round. Each flower contains from 10 to 18 drooping petals.

Source: South Dakota Weeds

FACW



Kochia

Kochia scoparia

OTHER NAMES — fireweed, burning bush, Mexican fireweed.

Kochia is an annual, reproducing by seed. It is one of our most common drought resistant weeds growing in all areas of the state. The young leaves and stems are high in protein. In the fall it breaks away from the root and tumbles over the ground, scattering large amounts of seed. The plant was first introduced as an ornamental.

Kochia is dark green when young and turns a straw or brownish-red as it matures. The bushy

plants grow 1 to 7 feet high. The stems are light green and much branched. The many alternate leaves are hairy, 1 to 2 inches long, narrow, pointed, and attached directly to the stem. Small, green flowers and seeds are produced in narrow heads at the base of the leaves. The seeds are dull, rough, flat, triangular and grayish-black in color.

Source: South Dakota Weeds

FAC, DRA