



COAST TARWEED

Madia sativa Molina

plant symbol = MASA

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Jeanne Russell Janish
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Abrams & Ferris (1960)

Uses

Ethnobotanic: Coast tarweed seeds were one component in pinole, which was a staple food of the Indians of the Pacific coast. There are several *Madia* species, called “tarweed” because of the intense stickiness of the plant. The tarweeds produce abundant seed and are agreeably aromatic and oily. The Miwok, Hupa, Cahuilla, Digueño, Chumash, Costanoan, Kawaiisu, and Maidu tribes in California made pinole from *Madia* species.

Women harvested coast tarweed seeds in late summer during a period of a fortnight. A seed beater and a basket were used to gather the seeds. Then, the seeds were winnowed and ground very fine in a bedrock mortar with a stone pestle. Both winnowing and sifting were done in a flat circular basket plaque. The sifting was done by jiggling the plaque so that large fragments separated from the fine meal. The large fragments were pulverized into meal, which

was eaten dry. The seeds were kept in storage in every household, and eaten all year. Coast tarweed roots were also eaten.

When the seeds had matured but the plants were still green, the Hupa burned the areas where *Madia* grew. Seeds gathered from the scorched plants needed no further parching before being crushed into flour. The Yokuts added *Madia sativa* seeds to manzanita cider for flavoring.

Wildlife: The dark seeds (achenes) of tarweeds are used as food by many birds and small mammals, including mourning doves, quail, blackbirds, finches, Oregon juncos, California horned larks, western meadowlarks, American pipits, sparrows, towhees, chipmunks, ground squirrels, and mice. Cottontail rabbits, ground squirrels, and chipmunks eat the plants.

Status

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant’s current status, such as, state noxious status and wetland indicator values.

Description

General: Sunflower Family (Asteraceae). *Madia sativa* is an annual herb, 2-24 dm tall, and strongly scented. The stems are stiff and very leafy, with glandular hairs throughout the plant producing a very sticky substance that covers the stems and leaves. The small (7-15 mm involucre), greenish-yellow, sunflower-like heads are sessile in dense cymes or panicle-like clusters. The fruits are small (2.5-5 mm) black or dark brown achenes.

Distribution

For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site. *Madia sativa* grows in coastal grasslands at elevations below 950 m. The distribution is quite widespread along the Pacific coast, from Alaska to northern Baja California and southwestern South America.

Establishment

Madia sativa seeds ripen in late summer, usually in August in California. After gathering, seeds can be stored in a cool, dry place for at least a year and still maintain viability. Coast tarweed requires well-drained, fairly dry soils with full sun. These annual species produce prolific seeds, and can be planted

directly in the soil or in seed flats. Plant seeds at the soil surface or plant 1/8" to 1/4" in a well-drained soil. Water seedlings as the soil dries to stimulate growth. It is best to plant seeds in the fall. Fertilization stimulates growth and seed production. Seeds germinate rapidly. Plant the seedlings into 2" or 4" pots after they grow 2-4 leaves beyond the cotyledons. Water as needed, but do not overwater.

Management

Traditional Resource Management: Resource management of coast tarweed includes the following:

- Seeds were distributed during the process of gathering seeds through seed beating.
- Burning occurred during September-October after seeds were harvested. Grassland species were burned for plant improvement by the tribes throughout California.
- Seeds were planted from wild plants. A Diegueño woman reported her people always cleared a small spot near their dwelling to plant seeds of plants with greens, seeds, and roots.
- Ownership of seed-gathering grounds promoted long term care and sustainable harvest practices.

Cultivars, Improved and Selected Materials (and area of origin)

This species is somewhat available from native plant nurseries within its range. Please check the Vendor Database, expected to be on-line through the PLANTS Web site in 2001 by clicking on Plant Materials.

References

Abrams, L. & R.S. Ferris 1960. *Illustrated flora of the Pacific states*. 4 Vols. Stanford University Press, Palo Alto, California.

Anderson, K. 1993. *Native Californians as ancient and contemporary cultivators*. IN: T.C. Blackburn and K. Anderson (eds.) *Before the wilderness. Environmental management by native Californians*. 151-174 pp. Ballena Press.

Barrett, S.A. & E.W. Gifford 1933. *Miwok material culture Indian Life of the Yosemite region*. Yosemite Association, Yosemite National Park, California. 388 pp.

Barrows, D.P. 1977. *Ethno-botany of the Coahuilla Indians*. Malki Museum Press. Morongo Indian Reservation, Banning, California. 82 pp.

Bean, L.J. & H.W. Lawton 1993. *Some explanations for the rise of cultural complexity in native California with comments on proto-agriculture and*

agriculture. IN: T.C. Blackburn and K. Anderson (eds.) *Before the wilderness. Environmental management by native Californians*. 27-54 pp. Ballena Press.

Hartmann, H.T., D.E. Kester, & F.T. Davies, Jr. 1990. *Plant propagation principles and Practices*. Prentice Hall, Englewood Cliffs, New Jersey. 647 pp.

Hickman, J. C. (ed.) 1993. *The Jepson manual. Higher plants of California*. University of California Press. 1400 pp.

Martin, A.C., H.S. Zim, & A.L. Nelson 1951. *American wildlife and plants. A guide to wildlife food habits*. Dover Publications, Inc., New York. 500 pp.

Mayer, K.E. & W.F. Laudenslayer Jr. (eds.) 1988. *A guide to wildlife habitats of California*. USDA Forest Service, California Department of Fish and Game, and PG&E.

Murphy, E.V.A. 1959. *Indian uses of native plants*. Mendocino County Historical Society. 81 pp.

Strike, S.S. 1994. *Ethnobotany of the California Indians. Volume 2. Aboriginal uses of California's indigenous plants*. Koeltz Scientific Books, USA/Germany. 220 pp.

Timbrook, J., J.R. Johnson, & D.D. Earle 1993. *Vegetation burning by the Chumash*. IN: T.C. Blackburn and K. Anderson (eds.) *Before the wilderness. Environmental management by native Californians*. 117-150 pp. Ballena Press.

Prepared By

Michelle Stevens

formerly USDA, NRCS, National Plant Data Center

Bart O'Brien

Director of Horticulture, Rancho Santa Ana Botanic Garden, Claremont, California

Species Coordinator

M. Kat Anderson

USDA, NRCS, National Plant Data Center
c/o Environmental Horticulture Department,
University of California, Davis, California

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