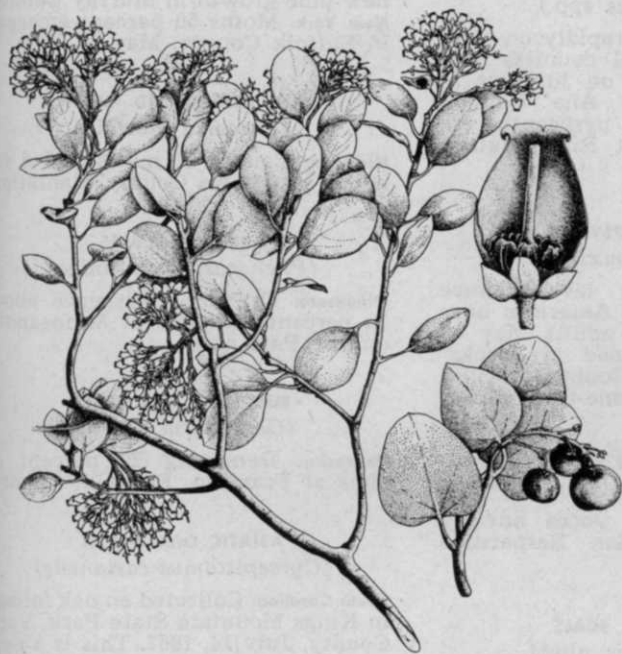


GREENLEAF MANZANITA

(*Arctostaphylos patula*)



Drawing from: California Range Brushlands and Browse Plants, by Arthur W. Sampson and Beryl S. Jespersen. Calif. Agric. Expt. Sta. Ext. Ser. Manual 33.

Prepared by: O. A. Leonard, Botanist, assisted by B. J. McCaskill, Senior Herbarium Botanist, Botany Department, University of California, Davis, California.

Greenleaf manzanita (*Arctostaphylos patula*) is one of the approximately 70 species of manzanitas that are distributed in western North and Central America. Of these—close to 40 species—several varieties and numerous forms are native to California. The genus *Arctostaphylos* is a member of the Heather Family (*Ericaceae*), which includes cranberries, blueberries, and rhododendrons.

In both the chaparral and forest lands of California, southern Oregon, and the eastern slopes of the Cascade mountains of Oregon, the manzanitas are common plants varying from prostrate groundcovers to small trees. They can be problems on ranges, especially when brushlands are being converted into grasslands, and in forested areas following fires, when they are capable of springing from sprouts or seeds and out-competing small coniferous trees. Since manzanitas are not browsed much by either domestic livestock or large animals, they can out-compete other species which are desired by such animals. The manzanitas are either sprouters or non-sprouters, the former being the

most difficult to control because they can quickly occupy an area after a fire. Greenleaf manzanita is one of the important sprouting forms. The discussion on this species applies generally to the others which also sprout, and control measures are similar.

Greenleaf manzanita is an erect, much-branched shrub, 3 to 7 feet high, with several stout stems arising from a swollen base. The bark is reddish-brown on old stems and branches and may become shreddy with age. The branchlets are finely glandular-puberulent with yellowish-green glands or with a white downy covering. The leaves are fairly thick, rigid, ovate or nearly round, 1 to 1¼ inches long, bright green or yellow-green and smooth, with petioles about ½ inch long. The small deep pink flowers are about ¼ inch long, in dense terminal clusters, and bloom from April through June. The fruit is globose or depressed, ¼ to ½ inch in diameter, dark chestnut-brown to nearly black, and glabrous. They were, incidentally, commonly ground by the Indians for use as a porridge or drink.

This species usually occurs in the open yellow pine and red fir forests of the northern Coast Ranges, Sierra Nevada, Cascade mountains of California and southern Oregon, and east to Nevada and Utah, at elevations from 2000 to 9000 feet. It forms an enlarged burl or root-crown just below the ground surface which sends up new shoots after fires or cutting, thus enabling it to occupy areas following forest fires. Consequently, extensive brushfields occupied by Greenleaf manzanita will occur in some areas.

This plant is most easily killed when its sprouts are sprayed following a fire. The best time to make the applications varies with the objective. If the land is to be planted to pine, it is important to make the applications as soon as possible after the fire to stop the invasion of grasses which are highly detrimental to young pine. If the land has not been planted to pine, spraying should commence in July of the year following the fire. Although Greenleaf manzanita is more sensitive to 2,4-D than to 2,4,5-T, mixed species usually require the use of brush killer mixtures of 2,4-D and 2,4,5-T applied at 4 pounds per acre. After the area has been planted, the spraying should be delayed until late August or September, using only 2,4,5-T. In order to achieve good control, 2 or 3 applications applied at yearly intervals are required.

On rights-of-way and non-forest sites, kills can be improved by adding picloram to the phenoxy sprays. Picloram generally enhances the kill obtained on old, unburned bushes but has less effect on young resprouts.

Insect Report

WTT's compilation of insect problems occurring in turfgrasses, trees, and ornamentals throughout the country.

TURF INSECTS

MAY BEETLES

(*Phyllophaga* spp.)

Michigan: Increasing in blacklight traps in Lenawee and Livingston Counties since April 23.

CHINCH BUG

(*Blissus Leucopterus*)

Rhode Island: Present in lawns in State.

A MEALYBUG

(*Chorizococcus rostellum*)

Arizona: Moderate in Bermuda grass in Gila and Roll areas, Yuma County.

CLOVER MITE

(*Bryobia praeetosa*)

Maryland: Ranged 500-700 per 10 sweeps on Kentucky bluegrass on turf farm near Ashton, Montgomery County.

SOD WEBWORMS

South Dakota: Present in western and eastern areas; some lawns damaged earlier this year. Nebraska: damaging lawns in Lancaster County; 35 per square yard at one location.

INSECTS OF ORNAMENTALS

APHIDS

(*Macrosiphoniella sanborni*)

Oklahoma: Decreased sharply past week due to lady beetles and syrphid fly larvae; predator-aphid ratio 1:10.

(*Myzocallis arundinariae*)

California: Heavy on bamboo nursery stock and *Neophyllaphis podocarpi* heavy on podocarpus nursery stock at Fresno, Fresno County. *Myzus cerasi* heavy on *Prunus avium* at Sacramento, Sacramento County.

(*Cinara tujafilina*)

Nevada: Heavy on arborvitae at Reno and Sparks area, Washoe County; honeydew heavy.

BAGWORM

(*Thyridopteryx ephemeraeformis*)

Ohio: Nearly all overwintering eggs hatched; larvae out in Scioto County.

SPIDER MITES

(*Tetranychus* spp.)

Nebraska: Increasing rapidly on juniper in south-central counties. New Mexico: Building up on junipers at Las Cruces, Dona Ana County. Arizona: Heavy on pyracantha in many areas of Salt River Valley, Maricopa County.

BOXWOOD PSYLLID

(*Psylla buxi*)

Maryland: Infestation levels above normal this year on American boxwood. Virginia: First adults May 12 on American boxwood at Blacksburg, Montgomery County; populations approximately one-third adults.

AN ARMORED SCALE

(*Hemiberlesia lataniae*)

California: Heavy on yucca nursery stock in Chino, San Bernardino County.

OYSTERSHELL SCALE

(*Lepidosaphes ulmi*)

Ohio: Hatching; crawlers in central area. Lilac most severely damaged; but poplar, grape, pachysandra, and peony occasional hosts. Iowa: Heavy on lilac in Sioux City, Woodbury County. Minnesota: First crawlers May 15 at St. Paul.

PRIVET THRIPS

(*Dendrothrips ornatus*)

California: Light on privet at Cloverdale, Sonoma County. Collected by S. Bradbury, May 8, 1968. This is a new state record.

BLACK VINE WEEVIL

(*Brachyrhinus sulcatus*)

Ohio: Pupation just beginning in Lake County. Mostly late instars and pupae collected in upper inch of soil around bases of *Taxus* plants.

TREE INSECTS

BALSAM TWIG APHID

(*Mindarus abietinus*)

Pennsylvania: Heavy on new terminal growth of Concolor fir in Centre County.

EUROPEAN PINE SHOOT MOTH

(*Rhyacionia buoliana*)

New York: Larvae feeding in Suffolk County. Ohio: Late instars infested 5-10 percent of new shoots in stand of about 200 red pines in Ashland County. Infested 60-80 percent of shoots on some trees. No pupae. Michigan: Larvae moved from overwintering quarters; active within new candles.

NANTUCKET PINE TIP MOTH

(*Rhyacionia frustrana*)

Alabama: First-generation larvae pupated in tips of new growth on isolated young pine plantings in central and southern areas. Oklahoma: First-generation larvae in tips of new pine growth in Murray County. New York: Moths 50 percent emerged in Suffolk County, May 13.

AN OLETHREUTID MOTH

(*Eucosma gloriola*)

Michigan: Caught 11 males and 6 females in Ottawa County plantation.

ARMORED SCALES

(*Phenacaspis pinifoliae*)

Minnesota: Crawler emergence about 75 percent complete at Minneapolis and St. Paul area.

EUROPEAN ELM SCALE

(*Gossyparia spuria*)

Nebraska: Damaging 20 percent of elms at Franklin, Franklin County.

ASIATIC OAK WEEVIL

(*Cyrtipistomus castaneus*)

South Carolina: Collected on oak foliage in Kings Mountain State Park, York County, July 14, 1967. This is a new county record.

Compiled from information furnished by the U. S. Department of Agriculture, university staffs, and WTT readers. Turf and tree specialists are urged to send reports of insect problems noted in their areas to: Insect Reports, WEEDS TREES AND TURF, 9800 Detroit Ave., Cleveland, Ohio 44102.

Automation

(Continued from page 11)

These include axes, shovels, ropes, stakes, etc.

Beverly Hills' truck crane, personnel and material carrier unit, has increased tree planting activity 2-fold. When not being used for planting jobs, it can be found on tree removal jobs or carrying men and maintenance tools to various job sites. For example, at the beginning of a work day, the HYDRA-LIFT may be used to load rotary mowers, power rollers, renovators, or hammer knife mowers on the truck deck, then distribute the men and the machines at various locations throughout the city. This procedure is reversed at the end of the day.

Suppliers Personnel Changes

Vistron Corp., Lima, O., a subsidiary of Standard Oil Co., has promoted John F. Murray to manager of retail marketing for Vistron's Agricultural Chemicals Division. He will be responsible for retail sales and related support groups for Solar Nitrogen Chemicals, Inc., a joint venture between Standard Oil and Atlas Chemicals Industries, Inc.

Jefferson Chemical Co., Inc., Houston, Tex., has named Allen M. Brandt its Cleveland district manager. Brandt was previously sales representative, transportation chemicals, midwest region.

Landscapers Northwest, Inc., Tacoma, Wash., announces executive appointments in its recent reorganization. George Harrison will be president of the new corporation and will serve as public relations director and business manager. William Detering becomes vice president and is to be in charge of all field operations. Landscape Maintenance Division will be headed by James Ely.

Victor Forzley has been appointed Senior Consultant to the Consulting Div. staff of Chemical Construction Corp. (Chemico). His assignment will involve market and industry surveys, budget analyses, feasibility studies, and operation research.

The new agricultural equipment sales manager of Ford Motor Co.'s Overseas Tractor Operations is John J. Connor. He joined the company in 1961 and has more than 20 years' experience in his field.

Andrews Industries, Dayton, N. J., announces that Richard C. Slawinski has been elected vice president of Marketing and Engineering.

Ralph Keidel has joined Koehring Co., Milwaukee, as manager of welding engineering and will be responsible for establishing and maintaining welding standards for each of the company's divisions.

Classifieds

When answering ads where box number only is given, please address as follows: Box number, c/o Weeds Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

Rates: "Position Wanted" 10c per word, minimum \$3.00. All other classifications 20c per word, minimum \$4.00. All classified ads must be received by Publisher the 10th of the month preceding publication date and be accompanied by cash or money order covering full payment. Bold-face rule box: \$25.00 per column inch, two inch minimum.

FOR SALE

80 ACRE sod farm on peat. 70 acres of Merion ready to cut. Metal barn, deep well for irrigating. Near Lansing, Michigan. Phone Ann Arbor 313 662-9398.

SPRAYERS, USED, all sizes and makes, at large savings. Send your requirements. Equipment Sales Co., 4742 Sunrise Highway, Massapequa Park, N. Y. 11762.

USED EQUIPMENT

WANTED—Used chipper. Give size, age, condition and price. Write Westville Tree and Saw Service, 141 Adams, Westville, Illinois 61883.

HELP WANTED

SPRAY FOREMAN—Man wanted for year-round salaried position to operate sprayer for private shade tree spraying and other specialized shade tree insect control procedures. Should be interested in repair of machinery and equipment during winter months. Background in entomology or pathology preferable. Fringe benefits. Box 34, Weeds Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

FIELD SUPERVISOR Industrial Weed Control firm in eastern Pennsylvania is looking for a field supervisor. Degree in one of the agricultural sciences is desirable but not necessary. Write Box 30, Weeds, Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

ASSISTANT Course Superintendent for 18 hole golf course. Write K. W. Stover, Sr., Supt., 6200 Gathright Ave., Norfolk, Va. 23502.

RUBBER STAMPS

LANDSCAPE DESIGN Rubber Stamps. Over 125 designs and sizes. Free illustrated brochure on request. Write: T-Gordon's Landscape Stamps, P.O. Box 741C, Reseda, California 91335.

Turf Days Cancelled At Rutgers University

Rutgers University, New Brunswick, N. J., has announced that Turf Research Field Days for 1968 are being cancelled.

According to Professor Ralph E. Engel the Lawn and Utility

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Turf Growers Field Day and the Golf and Fine Turf Growers Field Day, both of which were originally set for late this month, will not be held.

However, Engel does report that the 1969 events will be held and will be announced later.

Prior to the announcement, WEEDS TREES AND TURF magazine carried the now cancelled dates in the "Meeting Dates" department of the June issue.

NYSU Agricultural College Honored by AAN Award

The American Assn. of Nurserymen presented the New York State University's Agricultural and Technical College with a special citation for outstanding work in horticultural education.

The AAN applauded the college's Dept. of Ornamental Horticulture for its development of a model technical horticultural curriculum, a program that can be used as a guide by other technical colleges.

According to F. Raymond Brush, AAN corporate secretary, the nursery industry is faced with the critical problem of attracting well-trained technical personnel and depends heavily upon the college at Farmingdale for personnel recruits.

This marks the first time in the AAN's 93-year history that such a citation has been awarded.

New National Golf Group Has HQs in N. Carolina

A national golf group, known as the American Golf Assn., has recently been formed in Morganton, N. C. Operating as a service organization to individual golfers throughout the states, the AGA will devote its efforts toward making the game a more enjoyable sport for all golfers.

Offering its members advantages such as a computed point handicap system, tournaments, contests, and the official monthly publication, the AGA intends to promote fellowship, good sportsmanship, and course etiquette.

AGA officers point out that their organization is not in competition with any existing golf association and will extend its co-operation to all golf groups. Currently serving as Executive Director is Edward L. Poteat and as President, P. N. De Vere.

National HQs are at 206 S. Green St., Morganton, N. C. 28655.

Control of Illinois Pond Weeds Proves Complicated

Attempts to control "water weeds" in Illinois ponds and small lakes are bringing to light some interesting information concerning aquatic vegetation.

In his 10 years of studying the effects of various herbicides on unwanted aquatic plants, Survey biochemist R. C. Hiltbran has noted that changes in one component may set the stage for the spread of other species.

For example, in 1960 northern milfoil covered 95% of 5-acre Miller Pond in central Illinois, while only a few plants of sago pondweed were present. The following year found that a mixture of these 2 species had infested about 70% of the pond, while later that summer 2 other species — slender naiad and southern naiad — made an ap-

pearance. From 1962 through 1966, sago pondweed and southern naiad had become the predominant plants in the pond.

Efforts to control curlyleaf pondweed in another pond reduced that species drastically but enabled the previously minor component, water horsetail or chara, to practically take over the pond.

Observations reveal that, although it is understood that all plant species do not react in the same way to control chemicals and do not reach maximum growth at the same time of year, much additional information and experimentation will be necessary to come up with satisfactory year-round and year-to-year control of unwanted pond vegetation.

Even Grass Seed Can Be Pretty "Corny"

William M. Cranstoun, a New Jersey Dept. of Agriculture seed inspector, recently purchased a 5-lb. bag of "grass seed" and discovered that almost half of the bag's contents proved to be ground-up corn cobs.

Although obviously intending to defraud the consumer, the distributor did not break the state seed law, explained Cranstoun, as the package does bear a statement that 46.50% of the contents is "inert material."

Cautioning buyers of lawn seed to read labels carefully before completing a purchase, Cranstoun reported that a good grass mixture may contain some inert material but that the proportion would be extremely small.

Dept. of Agriculture seed inspectors regularly make the rounds of retail outlets where seed is sold and check to see that the "truth in labeling" law is being maintained. Checking the list of materials contained in a package, however, is the buyer's responsibility.

Trimmings

Wise Men Will Still Practice Safety. Findings of the Maryland State Board of Agriculture that workers face no danger in exposure to malathion and Dibrom-14 is good news. But it doesn't lessen the need for caution in handling pesticides. Nevertheless, the study reported by Jerry Mallack, MSBA, did show that there is no hazard for workers who follow recommended procedures in space spraying. Workers studied handled diluted mist sprays and concentrated materials used in preparing them for a period of 12 weeks during which they were exposed a total of 420 hours. The extensive test and the favorable results bode only good for the sprayman.

* * *

Another Synthetic Turf. A new one, known as saran evergreen, has been developed in Japan. The so-called textile turf is being made of polypropylene base cloth and saran or vinylidene chloride yarns. The maker, a joint venture by Asahi Chemical Co., and Dow, reports the yarns to be resistant to water and flame, and to hold their color. Domestic market price is expected to be \$7 per yard.

* * *

A Million Acres By 1973? Will golf courses cover a million acres in the next 5 years? Could be. Present acreage for almost 9400 courses in the country is 850,000. Capital investment is more than \$2 billion, based on National Golf Foundation estimates. Cost for maintaining courses across the country ran \$255 million last year. Courses were busier than ever, with more than 10 million golfers playing 190 million rounds, according to the NGF.

* * *

Keeping It Natural. Natural landscape beauty is often destroyed when new highways are built. Florida officials are seeking ways to preserve more of the natural vegetation growth along new highway rights-of-way. A \$35,000 grant from the Florida State Road Department is helping support such a study project at the University of Florida. Idea is to take the best which a piece of land has to offer and combine it with the most economical way of preserving and conserving its natural vegetation during highway building.



Meeting Dates

Landscape Seminar, Associated Landscape Contractors of America, Inc., for Michigan and Ohio, Dearborn Inn, Dearborn, Mich., July 13.

American Association of Nurserymen, Annual Convention and Trade Show, Chase-Park Plaza Hotel, St. Louis, Mo., July 13-17.

Georgia Seedsmen's Association, Annual Convention, Stuckey's Carriage Inn, Jeckyll Island, Ga., July 14-15.

National Fertilizer Solutions Association, 1968 NFSA Round-Up, Regency Hyatt House, Atlanta, Ga., July 25-26.

Summer Turf Day, Purdue University, Lafayette, Ind., July 29.

American Sod Producers Association Field Day, Shamrock Turf Nursery, Hanna, Ind., July 30.

Southern Nurserymen's Association, Convention and Trade Show, includes nur-

serymen's associations of Alabama, Kentucky, North Carolina, and Tennessee. Marriott Motor Hotel, Atlanta, Ga., Aug. 4-6.

Indiana Association of Nurserymen, Summer Meeting, Imperial House Motel, Columbus, Ind., Aug. 7-8.

Commercial Turf Maintenance Field Day, Orange County Extension Service, N. Y., New Orange County Park Golf Course, Montgomery, N. Y., Aug. 8.

Illinois Turfgrass Field Day, University of Illinois Turf Research Plots, Urbana, Ill., Aug. 9.

Miss Lark Convention and Trade Show, Heidelberg Hotel, Jackson, Miss., Aug. 10-13.

Midwestern Nurserymen's Summer Meeting, Zelenka Evergreen Nursery, Grand Haven, Mich., August 13-14.

Third International Peat Congress, Laval University, Que-

bec City, Canada. Aug. 19-23.

1968 Turfgrass Field Day, Pennsylvania State University, Joseph Valentine Turfgrass Research Center, Campus, noon August 21-noon August 22.

Hawaii 4th Annual Turfgrass Management Conference, Punahou School Campus, Honolulu, Hawaii, August 21-24.

Turfgrass Field Days, Virginia Polytechnic Institute, V.P.I. Turf Plots, Blacksburg, Va., noon Sept. 4-noon Sept. 5.

Maryland Lawn and Turf Show, University of Maryland Campus, College Park, Md., Sept. 7.

Western Street Tree Symposium, 11th Annual, University of California, Santa Cruz, Calif., Sept. 11.

Industrial Weed Control Conference, 3rd Annual, Texas A&M University, Memorial Student Center, College Station, Tex., Oct. 20-22.

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