

NATIVE GROWTHS ON UTAH PLAINS

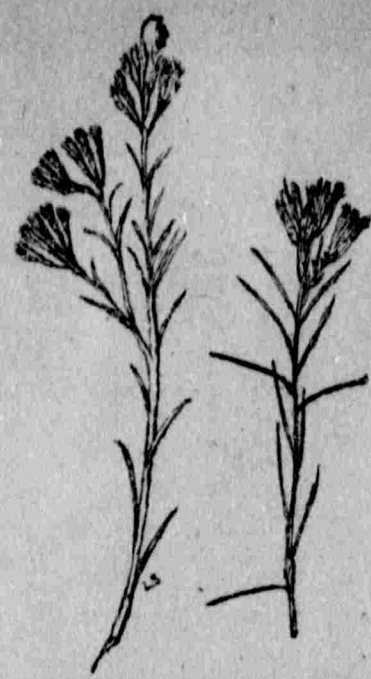
Normals Make Collections of
Desert Flora at State
University.

TORCH AND RABBIT BRUSH.

Interesting Species of the Dry Lands
And What They Signify as to
Soil and Climate.

A collection of our characteristic desert flora is easily made. The children of four grades at the State Normal have collected and now readily recognize at sight the most common of the species that thrive on the dry lands, so as to be able to give useful and interesting information about each of them; while the student-teachers have preserved in herbariums, with some matters of technical description, a collection of the leading forms. The desert species do not look inviting at first as objects of study but a short acquaintance with their structure, habits and uses, will awaken enthusiasm.

AROUSING AN INTEREST.
The teacher asks such questions as



BRANCHES OF RABBIT-BRUSH.
From pen drawings by pupils of the state normal training school.

ous, yellow, perfect, with stamens and pistils in clustered involucre, one-eighth of an inch in diameter, with five to eight flowers in each involucre; the anther tips of the stamens being pointed and slender; the pistil with a divided style at the top and without any pappus; the involucre of several rows of scales, the outer covered with short wool. The leaves grow in fascicles of from five to ten and are wedge-shaped, an inch long, cut off square at the top, and incised there with three teeth (occasionally more), whence the name *artemesia tridentata*.



BRANCHES AND FRUIT OF SAGE-BRUSH.

Drawn from nature by eighth grade pupils. On the left above, a flowering branch of the common sage, *artemesia tridentata*. In the center a leafy branch. At the right a branch of the white sage. At the bottom, leaves and flower head (involucre) of the sagebrush.

these: What plant is most common in the Rocky mountain region? What is the most striking feature of the plant? What is its color? Its shape and size? The odor of its leaves? What of its prevalence and local qualities? Any one in the west would respond, as the students did in the nature-study section, that it is the sagebrush, that its color is silver-gray and really beautiful, harmonizing with many other hues, that its odor is heady and aromatic and that its obvious useful qualities are worth special mention apart from its relatively unknown medicinal properties.

THE SAGE BRUSH.

The first plant to strike the attention of the stranger coming into the arid west then, is the "everlasting sagebrush," which usurps entire predominance of the soil, covering hill, valley, and mountain, and extending in some places for hundreds of miles without perceptible interruption. The sagebrush has been the main firewood of the desert camper, and settler for over half

a. The bark is shreddy, the wood tough, the roots thick and spreading. The aroma is strong and invigorating, but not sweet. The medicinal qualities are supposed to be many, but beyond its use as a household remedy in certain ailments, little seems to be known of this line of inquiry.

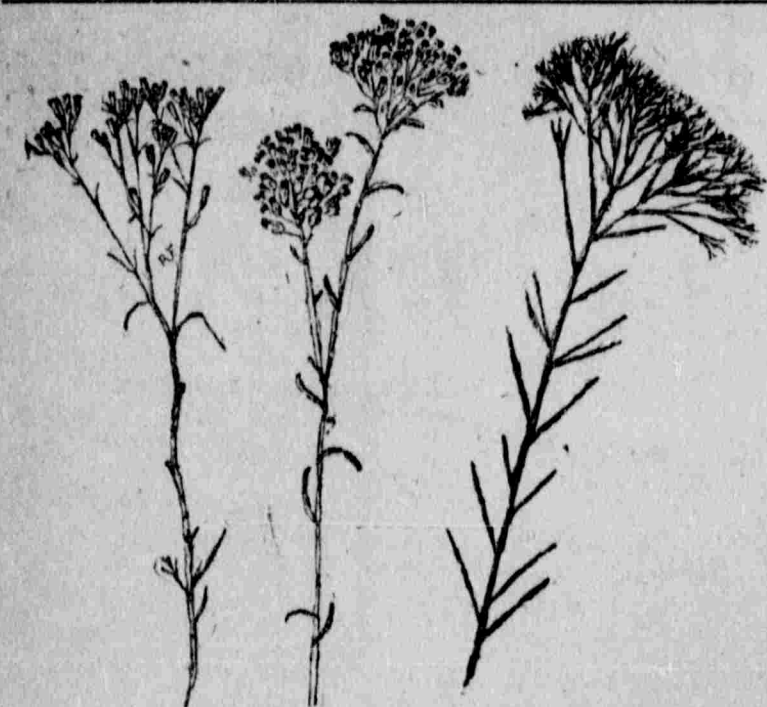
OTHER SAGES.

Two other growths resembling the sagebrush are occasionally found associated with the former. These are two kinds of white sage, one of which has entire and the other divided leaves. These are *A. cana* which has leaves an inch or two long and entire, or with or two three large acute teeth, and *A. ludoviciana*, a foot to a yard high, and covered with white woolly pubescence.

These white sages and others are said to indicate a very fertile soil of themselves and to make excellent pasturage, especially for sheep.

THE TORCH WEED.

A unique growth found upon many



BRANCHES OF TORCH-WEEDS.

On the left two branches of the small and commoner form. On the right, the more robust form, *G. longifolius*. Drawn from nature by training school pupils.

a century, and is to be regarded as a special provision of nature to cover the earth with a useful and ornamental shrub, where for thousands of square miles the soil is too dry for almost any other form of vegetation. It is a plant without any noxious qualities, is easily cleared from the soil, has a delicate and artistic color, a neutral tint of silver gray with a greenish hue. With modest preference this plant prefers to live apart from regions in which man begins to cultivate the soil. Easily killed off by cultivation or cutting, the sagebrush retreats from the cultivated field and troubles the husbandman no more. Its roots generally do not go deep into the soil and a very little rough usage serves to destroy it. This bushy shrub averages perhaps three feet in height by two feet in diameter, but with occasional variations rises to a height of six feet in moist soil, or is dwarfed to less than a foot in height where the soil is rocky or filled with too much gravel. But this plant is always found on fertile soil. And its thriftiness in any place is a rough indication of the degree of fertility of the land it occupies. If one can get water to any land that is covered with shrubby sagebrush, he may be sure of a fruit or grain farm of the highest productiveness, on which also will thrive almost every vegetable of the latitude and altitude.

METHOD OF STUDY.
Find the flowers—small, inconspicuous.

chellus and Bigelow, for the two principal kinds that mostly flourish here. The pale shining stems, anescent with a very short and close tomentum when young, and the leaves thin as filices (filiform) an inch or two long, are the most noticeable features of these desert or plain shrubs; though the minute study of the interesting flowers repays the trouble. First, the students, use a magnifying glass to study the top of the flower head and to lift out the flowers from the involucre. These are five in number, and unlike the sandflower and aster, they have no tube with five teeth each, thereby showing the number of the united petals. Like the aster, however, each flower (calyx) is copious, soft pappus of capillary bristles in place of a calyx; and the anthers are silky

with short and fine pubescence. The branches of the forked style are long and narrow, the anthers pointed, the anthers peg-shaped. The slender filiform leaves and the dry stems indicate that nature guards these plants from losing their moisture by rapid evaporation from the leaves, as in the case also of the torchweed and sagebrush. In the greasewood and sand-sage these peculiarities are still more strongly marked, for these plants have no water to waste. The rabbit brush thrives in a heavier soil, requiring more clay than the sage, and it is not averse to alkali in the land. The accompanying drawings were made by the training school pupils as part of their regular work in art, and as an illustration of what they had been taught by the normals in nature study.

NEXT WEEK IN HISTORY.

OCTOBER 28.

1467—Desiderius Erasmus, distinguished scholar and writer, born; died 1536. Erasmus at first favored, but later opposed, the reformation and engaged in a controversy with Luther.
1492—Columbus discovered Cuba.
1708—Prince George of Denmark, husband of Queen Anne of England, died.
1766—Marshal Grouchy, the commander blamed by Bonaparte for his loss at Waterloo, was born at Paris.
1776—Battle of White Plains, N. Y.; Americans defeated.
1864—John Leech of Punch, the most fertile humorist known in modern pictorial art, died; born 1807.
1877—Julia Kavanagh, well known literary and novelist, died at Nice, Italy; born 1824.
1900—The Right Hon. Friedrich Max Müller, professor of philology at Oxford university, died at Oxford; born 1823.

OCTOBER 29.

1618—Sir Walter Raleigh beheaded at Westminster.
1740—James Boswell, noted biographer of Dr. Johnson, born in Edinburgh; died 1795.
1783—Jean le Rond d'Alembert, a French founding who became a noted mathematician and man of letters, died in Paris; born there 1717.
1796—John Keats, poet, born; died 1821.
1829—Thomas Francis Bayard, statesman, the first United States ambassador (appointed under that title) to England, born in Wilmington, Del.
1842—Allen Cunningham, Scottish author and poet, editor of Robert Burns' works, died; born 1785.
1886—General George Brinton McClellan died at Elmer, N. J.; born in Philadelphia 1826.
1899—Florence Marryat (Mrs. Francis Leach), English novelist, died at Brighton, England; born 1837.
1905—Mrs. Booth Tarkenton, well known Salvation Army leader, killed in a railroad accident in Kansas.

OCTOBER 30.

1735—John Adams, second president of the United States, born; died 1826.
1759—Earthquake in Syria; Baalbek destroyed and 20,000 lives lost.
1860—Admiral Thomas Cochrane, earl of Dundonald, a dashing naval commander who saw service with the British, Chilean and Brazilian fleets, died; born 1775.
1867—Orsted Marknigh Mitchell, astronomer and soldier, died at Beaufort, S. C.; born in Kentucky 1802. General Mitchell established at Cincinnati the first laboratory built in the United States. He was in command of the federal department of the south at the time of his death.
1885—Ferdinand Brignone, well known, died in New York city; born in Naples 1824.

1891—General Truman Seymour, a veteran of the Mexican and Civil wars, died in Florence, Seymour was an officer at Fort Sumter in April, 1861. He commanded the division which stormed Fort Wagner, South Carolina, in 1863.
1896—Cardinal Johannes von Hergenrother, ranking member of the sacred college, died in Rome.
1905—Car Nicholas II issued a manifesto granting civic liberty.

OCTOBER 31.

1517—Luther published his "Thesis" at Wittenberg; beginning of the reformation.
1723—John Adams, second president of the United States, born; died July 4, 1826. Adams died within a few hours of Thomas Jefferson.
1861—Ferdinand Brignone, well known, died in New York city; born in Naples 1824.
1873—The Cuban filibustering steamer, *Virginius*, captured near Jamaica by the Spanish gunboat *Tomada* and taken to Cuba.
1879—General Joseph Hooker died at Garden City, N. Y.; born 1814.
1896—Jonathan N. Sussbaum, surgeon and oculist, died at Munich; born 1829.
1905—Railway strike committee of

CATARH OF THE STOMACH

A Pleasant, Simple, But Safe and Effective Cure for It.

COSTS NOTHING TO TRY.

Catarh of the stomach has long been considered the next thing to incurable. The usual symptoms are a full or bloated sensation after eating, accompanied sometimes with sour or watery risings, a formation of gases, causing pressure on the heart and lungs and difficult breathing, headaches, feeble appetite, nervousness and a general played out, languid feeling.

There is often a foul taste in the mouth, coated tongue and if the interior of the stomach could be seen it would show a slimy, inflamed condition. The cure of this common and obstinate trouble is found in a treatment which causes the food to be readily, thoroughly digested before it has time to ferment and irritate the delicate mucous surfaces of the stomach. To secure a prompt and healthy digestion is the one necessary thing to do and when normal digestion is secured the catarh condition will have disappeared.

According to Dr. Harrison, the safest and best treatment is to use after each meal a tablet, composed of Diastase, Aseptic Pepsin, a little Nux, Golden Seal and fruit acids. These tablets can now be found at all drug stores under the name of Stuart's Dyspepsia Tablets, and not being a patent medicine, can be used with perfect safety and assurance that healthy appetite and thorough digestion will follow their regular use after meals.

Mr. R. S. Workman, Chicago, Ill., writes: "Catarh is a local condition resulting from a neglected cold in the head, whereby the lining membrane of the nose becomes inflamed and the poisonous discharge therefrom passing backward into the throat reaches the stomach, thus producing catarh of the stomach. Medical authorities prescribe for me for three years for catarh of stomach without cure, but today I am the happiest of men after using only one box of Stuart's Dyspepsia Tablets." Can you find appropriate words to express my good feeling. I have found flesh, appetite and sound rest from their use.

Stuart's Dyspepsia Tablets is the safest preparation as well as the simplest and most convenient remedy for any form of indigestion, Catarh of the stomach, biliousness, sour stomach, heartburn and bloating after meals. Send your name and address today for a free trial package and see for yourself. Address F. A. Stuart Co., 28 Stuart Bldg., Marshall, Mich.

Russia decided to continue the strike.

NOVEMBER 1.

1609—Sir Matthew Hale, eminent English judge, born; died 1676.
1755—Awful earthquake in western Europe; Lisbon, Madrid, Cadiz, destroyed, with 69,000 lives; cities in Spain, Morocco and the islands of the Atlantic suffered severely.
1757—Antonio Canova, sculptor, born; died 1822.
1765—Stephen Van Rensselaer, patriot, statesman and general, born in Albany; died 1839.
1770—Alexander Cruden, compiler of the Bible concordance, died; born 1701.
1791—Lydia Huntley Sigourney, American authoress, born; died 1865.
1877—Field Marshal von Wrangel, who entered the Prussian army in 1796 and fought against Napoleon at Leipzig, died; born 1784.
1894—Alexander III, Czar of Russia, died at Livadia, in the Crimea; born 1845.
1903—Professor Theodor Mommsen, famous German historian, died in Berlin; born 1817.
1905—Riots and attacks on the Jews at Odessa.

NOVEMBER 2.

1767—Edward, Duke of Kent, father of Queen Victoria and at one time commander of the forces in British America, born; died 1820.
1795—James Knox Polk, eleventh president, born; died 1849.
1887—Jenny Lind-Goldschmidt, noted vocalist, known as the "Swedish Nightingale," died in London; born in Stockholm 1821. Jenny Lind began her wonderful American tour under Barnum in 1849. She married in America in 1851 and afterward lived in retirement in London.
1892—Lieutenant Frederick G. Schwatka, soldier and explorer, died at Portland, Ore.; born 1849.
1901—Major Alexander Sharp, U. S. A., retired, brother-in-law of General U. S. Grant, died at the Presidio, California; born 1826.

NOVEMBER 3.

1492—Columbus, on his second voyage, reached Dominica.
1794—William Cullen Bryant, American poet and editor, the author of "Thanatopsis," born at Cummington, Mass.; died June 12, 1878, in New York.
1820—John Estlin Cooke, American author and writer, died; born chiefly of southern inspiration, born; died 1886.
1892—General Samuel Wylie Crawford, one of the defenders of Fort Sumter, died in Philadelphia; born 1829.
1893—A cargo of dynamite exploded at the quay in Santander, Spain; nearly 1,000 people killed and injured.
1903—The independence of the republic of Panama was proclaimed.

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