NORMALS GATHER WEEDS AND SEEDS

And Prepare Unique Herbariums Of Common Fall Species.

WONDERS OF PLANT LIFE

Brought Into Work of Common School Grades by University Training School.

It is mostly the fall weeds that are difficult to study. They are complex and at their fruiting stage. Their beauty is less evident than that of the spring flowers, and they are not usually collected in school herbariums. Yet there is greater reason for studying them than the spring species, for their nature, their work, and their economic impotance are far more evident than is the case with the spring flora. The production of its seed is the leading object of the life of the plant and this work discloses the true nature of the species. By their fruits we know them. The list here given comprises those suitable for study from the fifth to the eighth grades of the schools.

NORMALS WORK AT WEEDS.

At the state university last week the weed collections made by the fourth year normals were submitted for inspection. Each student had pressed, mounted, and classified from 20 to 75 of the common fall weeds and from 10 to 40 kinds of seeds of the same species. The collections were unique in character, and represented a good deal of hard study besides care and industry in preparation. From the list submitte, each student in special methods prepared one specimen with accompanying descriptive matter for the school herbarium. From this specimen study the following list is abridged for the convenience of those interested in the native wild flowers. The original summary contains one column for leaves—their shape, size, edge, surface, kind; another for roots—simple, branched, tap, fibrous, annual, perennial; another for method of cultivation, extermination, etc.; another for flowers—grouping, type, plan, number of parts, etc. This more complete study of the 50 fall weeds here given and of others not mentioned here may later be published by the university. The accompanying summary will illustrate the method and should be sufficient, in most cases, to identify the plant.

Dispersion of fruits and seeds by the wind.

SEEDS WITH TAIL-LIKE APPENDAGES FOR AIR TRAVEL.

1. Melica, a grass. 2 and 3. Calamagrostes, a grass. 4. Geum montanum, one of our field flowers, with lengthened and hairy style which carries the akene like a parachute. 5. Aeschynanthus. 6. Epilobium, or willow herb, a slender wild weed common in the summer. 8. Clematis flammula, with appendages less beautiful than those in our own C. Douglassii, or virgin's bower.

Dispersion of fruits and seeds by the wind.

SEEDS THAT FLY BY MEANS OF PARACHUTES.

1. Senecio, one of our wild flowers. 2. Adenium. 3. Valeriana. 4. Typha, a bullrush. 5. Eriophorum; or cotton grass. 6. Cynanchum, compare with our rabbit-brush. 7. Micromeria, with fruit similar to that of certain thistles. 8 and 9. Dandelion.

THE GUM PLANT, OR ARNICA.

Drawn from nature for this article by an Eighth grade student.

COMMON COMPOSITE SPECIES.

Prickly lettuce, Latuca scariola, has prickly leaves pointing north, (a compass plant), seeds in heads, flying by parachutes, and furnishing bird food. Marsh elder, Iva xanthifolia, is a tall, herb with racemes of greenish yellow flowers, some of them naked or without floral leaves. See student's drawing. The Sunflower, Helianthus annuus, has coarse, large stems and large, yellow rays. The Asters, A. Fremonti and A. longifolius, have respectively soft and stiff leaves, and lavender and violet flowers. See cut. Ornamental. Sagebrush, Artemesia tridentata, a silvery, everygreen shrub with three-toothed leaves, is the most common western plant. Medicine and firewood.

The Canada thistle, Carduus arvensis, and the Bull thistle, Carduus lanceolatus, have bristle tipped leaves and purple flowers, the former being small, three-fourths of an inch wide. Weed pests.

The Dandelion, Taraxacum dens leonis, known to every one, has seeds with parachutes. See cut. Bird food and medicine. The Sow thistle, Sonchus arvensis has fleshy stems, prickly leaves and parachute seeds. Bird food.

Burdock, Arctium lappa, has large woolly leaves, grooved stems, and seeds carried by hooks. Medicine. The Gumplant, or arnica weed, Grindelia squarrosa, has horizontal leaves and sticky heads. Medicine. White sage, Artemesia Ludoviciana, has silvery, wand-like stems and woolly leaves. Fodder. Grows on fertile soil.

Torchweed, Guiterrezia Euthamiae, has broom-like branches a foot high, yellow flowers, and awl-like leaves. It is a curiosity, whose use is not known.

Bitterweed, Ambrosia artemesifolia, has rough, ragged leaves, burs and a raceme of cup-like flowers that freely sprinkle their yellow pollen dust. Ambrosia means food of the gods, and so it must be, for nothing on earth eats it, unless it be insects, on account of its intensely bitter taste. After frost comes, the stems are filled with a brilliant red dye. South of us the Indians use a decoction made from its leaves as a cure for the bite of the rattlesnake.

The Cocklebur, Xanthium Canadense is distinguished by a spotted stem, rough leaves, disagreeable odor, and dagger-spined burs, an inch long. Medicine. A weed pest.

Rabbit brush, Chrysothamus pulchellus, is an interesting shrub with smooth stems, few and thread-like leaves, showy yellow flowers, and seeds bearing a pretty parachute for air travel. Bird food and rabbit shelter.

The Goldenrod, Solidago Canadensis, has long plumes of golden flower-heads, and has been proposed (absurdly, as botanists think, for they prefer the columbine) as the national flower. Ornament and bird food.

Yarrow, Achillea millefolium is well known from its odor, its finely dissected leaves, upright stems, and heads of small, white flowers. Medicine.

The fall compositae are suitable as a rule for study in the seventh and eighth grades, as are also the cultivated grains and the following wild grasses.

COMMON WILD GRASSES.

June grass, Bromus tectorum nudus covers Utah as far eastward as the western slopes of the main range of mountains. It has one-sided, nodding panicles of flowers, and is less than a foot high. This pest feeds the forest fires. It was introduced from the west, and it is a thousand pities that it was not exterminated on its first appearance.

Squirrel-tail grass, Hordeum jubatum, with a flower spike somewhat resembling a squirrel's tail, is common everywhere, as is also and, most unfortunately, cheat grass, or chess, Bromus secalinus, which has a spreading panicle of turgid spikelets, supplying bird-food. Orchard grass, panicum crus galli, is generally well known; but besides these it is probable that red-top, timothy, wire grass, blue grass, salt grass, the horsetail, and the bull-rush, are the only grass and sedge species commonly known by name.

THE MARSH ELDER, OR IVA.

Drawn from nature for this article by an Eighth grade student.

They are all interesting objects for examination with a hand lens, and present fine subjects for drawing.

WESTERN KNOT WEEDS.

Our knot weeds form an interesting group. One division, known as Eriogonum, flourishes on desert or semi-arid and sandy regions without alkali. They have bare, branching, thin and often threadlike stems, leaves, sometimes woolly, forming a rosette at the base of the stem, and spikes of pretty pink or white flowers.

Many of the knotweed order, Polygonaceae, have peculiar, three-winged seeds, as shown in our common dock, Rumex crispus, whose heavy spikes of brown fruit hang all winter to feed the birds. The broad-leaved dock R.obtusifolius is very similar. Medicine. The Smartweed, Polygonum amphibium, is another, with pink flowers and smooth, pointed leaves.

Most interesting of the order, perhaps, is the most common of all, the group called knotgrasses. The trailing knotgrass, Polygnonum aviculare, is found in dooryards, covering waste places and rubbish accumulations with an elegant laced carpet of jointed stems, and producing an infinite number of seeds for the birds. Certain erect knotweeds also are not uncommon. Most of the order have jointed stems, which are sheathed by papery coverings.

SALTBUSHES AND GREASEWOOD.

An interesting group of desert shrubs described in a former article are the saltbushes: the shadscale, the Utah saltbush; the Tumbleweed, Amarantiis alba; the winter sage; the rolling saltbush, Atriplex expansa, and the prickly pear, Opuntia humifusa, with rose-like flowers. All of these may be used as fodders; but the Greasewood, Sarcobatus vermiculatus, seems worthless.

THE PIGWEEDS.

Many of our fall weeds belong to the order chenopodiacea, all weedy looking and apparently worthless, but supplying a great abundance of bird food. Ten kinds of pigweed were found by the normals on the university campus and school garden. The saltbushes are pigweeds, as are also the red-root, the amaranth, the Russian thistle, and several mealy-leaved plants that grow in cultivated fields and on alkaline plains.

THE MUSTARDS.

The mustards, which have seeds in pods, form another familiar group of easy study, and of well known medicinal qualities. The water cress, the black and the yellow mustard, the shepherds purse, the false flax, Camelina sativa, with pear-shaped pods on short pedicels, the bushy Stanleya pinatifida of the fields, with purple flowers, long pods and cut leaves, these are all common and interesting weeds when observed and grouped together. The radish, peppergrass, etc., belong here.

WEEDS THAT FORM MATS.

The dandelion is the best known of the mat plants, and its seed parachute (see cut) is one of the most striking. The eriogonum and the knotweed have been mentioned above. The amaranth, or tumble-weed, forms a thick rug, often a yard in diameter; but the Spurge, Euphorbia glyptosperma, forms a beautiful and delicate mat of jointed, spreading, thread-like leaves, that is "perfectly beautiful," to use the language of the sixth grade students who found it on a high hill side. It may be known by its milky juice, small, entire leaves, odd flowers and flesh color. A woolly spreading mat, a foot in diameter, is made by our little verbena, verbena bracteosa, which has inconspicuous blue flowers, buried in its hairy leaves. The storksbill, erodium cicutarium (see cut of fruit), forms a mat, as many other weeds do, when it is cut off or mown on the lawn. Its striking storksbill fruit, elegant compound leaves, jointed stems, and pretty pink flowers, together with the fact that it blooms for six months, if cut down, and the curious behavior of its spirally uncoiling fruit carpels, make it a most interesting study.

STORKSBILL, A GERANIUM.

Drawn from nature for this article by an Eighth grade student of the state normal.

THE NITROGEN GATHERERS.

All the plants of the legume or pea family, are nitrogen storers, and as previously explained, enrich the desert soil. Of these two kinds of lady's finger, Astragulus Utahensis and A Iodanthus, are the most common of the hill species; but there are many desert plants of this order. The poisonous Woolly loco, A molissimus, grows in our state. They all bear pods. The wild pea, the lupines, the clovers, lucern, etc., belong to this family, as well as the locust shade trees, also the sweet clover, melilotus alba, the red and the white clovers.

THE MINT FAMILY.

The peppermint plants (mentha) growing in moist soils, the catnip, nepeta cataria, the hoarhound, Marrubium vulgare, form an interesting group for study, because of their square, jointed stems, opposite and crenate leaves, and medicinal qualities. Some of their seeds or calyx tubes have hooks for clinging, in order to scatted the seed.

UMBRELLA PLANTS.

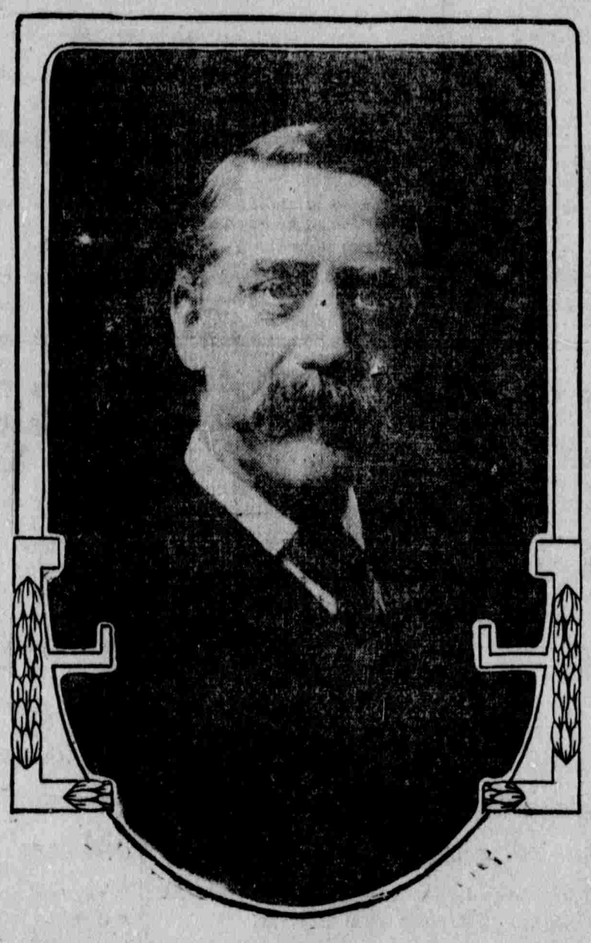
All of the large family of the umbelliferae, bearing their seeds in umbrella-like heads, must be studied when the seeds are ripe, though they all flower early. Of these, the wild carrot, chondrilla juncea, like most of the order, has compounded upper leaves and a rosette of leaves below. It has hooked seeds and is a troublesome pest. The cow parsnip, heracleum lanatum, which grows in our swamps, has large, woolly leaves and a root like a parsnip, but subdivided. This root is poisonous and is called the wild parsnip. The cultivated carrot and parsnip are of this order.

OTHER NOTABLE FALL WEEDS.

First in interest stands the milkweed, Asclepias speciosa, with its odd flowers that entrap insects, its pods of shingled seeds appendaged with the beautiful silky down by means of which they fly on the breeze. The monkey flower, mimulus luteus, with hollow stems and golden snapdragon flower, growing in wet places and blooming all summer; the large, beautiful mentzelia, with golden yellow flowers several inches in size opening in sunshine, with foliage sticky from barbed hairs, and growing in very dry places; the moth mullein with a straight stem six feet high, woolly, with yellow flowers; the plantain, plantago major, small, mat-forming, in dooryards, with a little spike of green flowers and a pod that cuts into two teacups to cast out the seeds; the wild morning glory, with showy flowers, twining stems, which climb by means of hairy bristles pointing downward; its near relative, the miserable dodder, cuscuta arvensis, of the fields, whose pale, leafless stems entwine and strangle the growing plants; the scarlet mallow, malvastrum coccineum, of the hill sides, and the cheesewood, malva rotundifolia, of the fields, both known to all children, with flowers like the hollyhock, these, we think, about complete the list of flowers useful and interesting for fall study because of their relation to agriculture or because of their unique structure and characteristics.

BITTERWEED, OR RAGWEED.

Drawn from nature for this article by an Eighth grade student of the state normal.



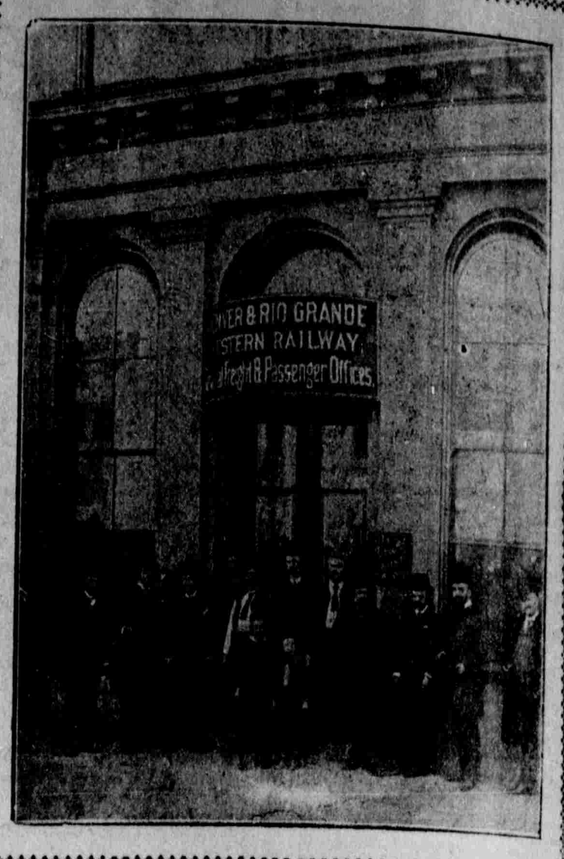
STUYVESANT FISH SCORES THE TRUSTS.

Stuyvesant Fish, in a speech delivered at the banquet of the Woman's club of Hope lodge, No. 121, F. & A. M., in East Orange, N. J., last week, among other things said:

"That there has been maladministration, not to say stealing, in many of our great corporations is a matter of common notoriety. The contest is no longer between those who have and those who have not, but between those on the one hand who have moderately, sufficiently or even abundantly, and on the other those who, through the use of trust funds and the power incident thereto, seek by questionable practises to have excessively. This is the issue which is daily brought into every home in America."

Mr. Fish explained that Dist. Atty. Jerome's trite description, "the criminal rich," might, in some instances, all things considered, be nearer the mark had it been the "anarchistic rich."

LEAVES FROM OLD ALBUMS



DENVER & RIO GRANDE OFFICES,

As They Looked in Salt Lake Twenty Years Ago.

The accompanying picture, taken 20 years ago, is that of the uptown freight offices of the Denver & Rio Grande Western railway which were located where the National Bank of the Republic now stands on the corner of East Temple and Second South streets. The picture was taken during the time W. H. Bancroft was receiver for the system and includes a number of well-known citizens who now occupy prominent positions and some who have passed to the great beyond. Reading from left to right the personnel of the group is:

W. A. Weatmore, general agent of the Colorado Coal & Iron company.

R. F. Neslin, now general agent of the Burlington, but in those days director for the Rio Grande—director of envelopes.

E. S. Blair, operator, now division freight agent of the Great Northern at Spokane.

A. Rudy, clerk.

J. E. Oglesby, clerk for the Union Pacific, now commercial agent here for the Rock Island.

J. R. Keifer, chief clerk, now general agent for the Pacific Railroad & Steamship company.

W. H. Murphy, contracting agent, died of pneumonia.

John Crompton, clerk. Later met death at Medicine Bow, Wyo., where he was agent. His body was cremated in the burning depot.

Agent for a powder company, name forgotten.

F. W. Kilby, freight claim agent, now freight claim agent for the Southern Railway system.

W. E. Lake is the individual in all the glory of a plug hat and creaseless trowsers. In those days he was secretary for J. H. Bennett. Today he is confidential man for M. H. Walker and his large interests.

The last man to the extreme right wearing his derby at a saucy tilt is a Rio Grande conductor, whose identity is somewhat hazy.