BOTANY

NATURE RAMBLINGS

National Flowers

➤ GOLDENROD IS coming into bloom over many miles of prairie and in millions of fencerow thickets; its bright sprays will return greetings to the sky until first frost signals the sun's retreat for another season. Sturdy, tough-stemmed, able to take care of itself in any kind of situation, it is a typically American plant.

So American is the goldenrod that many people advance its claim to honors as the American national flower—a spot in the world's official flora that has not yet been filled. There is some reason in this claim. It belongs to a highly developed, widely adapted genus; its four-score or so species are found practically altogether on the North American continent, with only a couple of outliers in the Old World.

Symbolically it would be a good choice: as a member of the composite family, in which many small flowers combine to form one federated bloom, it typifies very neatly the American national motto, "E Pluribus Unum."

Principal contender against the goldenrod, and as stoutly supported by its advocates, is the columbine. This lovely flower also has its unique symbolism, for its common name is an appeal to the dove of peace, whereas its botanical title, Aquilegia, is supposed to be an eagle-reference, inspired, perhaps, by the resemblance of its flower spurs to the talons of our national emblem.

Goldenrod and columbine suffer from opposite but equal handicaps in their flowering time. The best known of our several native columbine species, found in practically all eastern and Midwestern woodlands, is out of bloom by July 4, except in the extreme northern part or this country.

On the other hand, no goldenrod is showing its gold until several weeks after Independence Day. So neither of the two contenders is able to be present at the celebration of the nation's birthday.

Goldenrod is further handicapped by the widespread though erroneous belief that it is a prime cause of hay fever. Actually almost no hay-fever cases can be traced to its pollen. However, its conspicuous blossoms reach their fullest development just when the ragweeds, the real hay-fever villains, are shedding their pollen. So the innocent goldenrod gets the blame.

Science News Letter, August 1, 1953

PSYCHOLOGY

Predict Children's Looks

➤ A UNIQUE project at the University of California at Los Angeles is enabling students to predict what their children will look like and to learn more about their ancestors.

Originated by Dr. Waldo Furgason, associate professor of zoology, the project consists of preparing a term paper in which students assemble and analyze all available genetic data pertaining to themselves. They select hypothetical mates. If they are dating someone with matrimony as their object, they can choose potentially real ones. Combined genetic data are used to predict how future children might look.

Hair and eye color, shape of face and ears, and condition of teeth are some of the factors governed by genetic laws. For example, only blue eyes can beget blue eyes, except in very rare cases. Dark colors tend to be dominant over light ones. Such laws are the basis of the predictions.

The project was initiated several years ago, and former students who have since married and have had children have returned to present evidence of accuracy of their predictions. In many cases the predictions are strikingly accurate, Dr. Furgason reports.

The assignment has also helped fill in many genetic blanks for some students. In this respect it has helped solve certain psychological problems.

Dr. Furgason cites the case of one student who is an adopted child. She had no knowledge of her parents, and this lack of knowledge seemed to be a psychological handicap. On the basis of an analysis of her own genetic characteristics, she learned much about her parents. This proved excellent psychotherapy in her case.

In other instances, students were quite different in appearance from other members of their families. This had given them a feeling of not belonging, a fear that perhaps they were adopted children. The genetics assignment often erased their fears because of a better understanding of certain genetic mechanisms not generally known to the public.

The project is of scientific value too. The assembling of such records is one of the few means of studying human genetics.

Science News Letter, August 1, 1953

ENTOMOLOGY

Insect Peter Pan Would Avoid Virus

➤ THIS INSECT could lick a childhood disease by not growing up.

A deadly disease of the European pine sawfly, called polyhedral virus disease, affects chiefly the young, or larval, stages of the insect. But during its prepupal stage—the stage between being a grubby larva and a winged adult—the sawfly is immune to the disease that infects it. The virus cannot start its deadly activity again until the adult state is reached.

Here is what happens:

The virus disease occurs only in the large digestive cells lining the mid-intestine of the insect. Another type of cell found there in little groups, the embryonic replacement cells, is immune to attack from the virus—why, no one knows.

During the change between larva and prepupa, all the digestive cells, infected or uninfected, are distintegrated and are replaced by the embryonic cells.

When this happens, the infection process is halted abruptly, because the mid-intestine is then made up entirely of immune cells.

If the sawfly could stay permanently in this stage, it would remain free from further ravages of the disease. But as development continues on toward the adult stage, the embryonic cells change into typical digestive cells, and the virus infection speedily recurs.

Up to the fifth molt, when normal disintegration of the digestive cells begins, molting of the young larva does not hinder multiplication of the virus. Sawflies that become infected with the virus too soon are doomed to die before they reach the temporary relief of the prepupal stage.

Dr. F. T. Bird of the Laboratory of Insect Pathology, Sault Ste. Marie, Ontario, made these findings known to scientists in the *Canadian Journal of Zoology* (June).

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HORTICULTURE

Nutgrass Controlled With CBP Herbicide

➤ THE GARDENER'S headache, nutgrass, can be controlled by fumigating soil with the herbicide CBP, or chlorobromopropene, plant physiologist Boysie E. Day of the University of California Citrus Experiment Station has discovered.

Preliminary field trials showed that 80 gallons of 55% CBP formulation per acre, injected eight inches deep with a weed gun, will give effective nutgrass control on well-tilled soils of moderate moisture.

CBP promises to provide a good means of spot treatment of small infestations of nutgrass, Mr. Day reports. It gives an immediate kill of vegetative parts of the nutgrass, and does not require tarpaulins and other special equipment for applying.

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