BOTANY

NATURE RAMBLINGS

A Successful Family

➤ SUMMER, ESPECIALLY late summer, is the high burgeoning time for that great family of flowering plants that face the sun with myriad small images of himself, the Compositae.

Sunflowers—half a hundred species of them—daisies, asters, goldenrods, compass-plants, coneflowers, blazing-stars, thistles, dandelions and scores of other bright flower-heads shine boldly back at the summer sky's own colors, gold and blue.

If numbers of species and variety of forms are criteria of success in the plant world, this is the most successful of all plant families. There are well over 13,000 described species, distributed among a couple of hundred genera. Members of the family flourish from the polar regions to the tropics, from swamps to deserts, from sea level to high alpine meadows.

Most of them are of non-woody, herbaceous habit; a moderate number are shrubs. Very few of the composites can be classified as trees, and these are only small trees, growing in restricted and mostly out-of-the-way parts of the earth. This predominance of the herbaceous habit of growth is again evidence of a high degree of evolution, in the opinion of many botanists.

The flower structure of a composite is baffling to all beginning students of plant life. Equipped with the basal knowledge of the "typical" flower's parts—sepals, petals, stamens and pistil—they are left floundering the first time they dissect a dandelion or a daisy.

The secret is that a flower of a member of the composite family is exactly what the name implies: a composite structure. It isn't a single, simple flower, but a whole society of flowers, quite small ones, crowded closely side by side. The Compositae are among plants what bees, ants and termites are among insects—societies rather than individuals.

If you will split up one of these flower heads, you will find that the unit of floral structure is a small seed-forming body or pistil, made angular through crowding, that sits tight on a flat or convex base, the receptacle. It is very likely to have five stamens packed into a close ring. There may be no petals at all, but if petals are present they form a one-sided, strap-like affair, as in dandelions or thistles. A trace of the original five-petaled structure may be seen in five points at the outer ends of this strap.

In many composite flower heads, most of the tiny flowers (florets, to be learned about it) have lost the strap-like corolla and are crowded together in a central disk. A row of florets around the margin produce much-enlarged petaloid structures, usually called rays. This arrangement is typical of such plants as sunflowers, coneflowers and daisies.

Often the ray-florets are sterile, producing no seed; their job is to entice insects to their unpetaled but fertile sister florets of the disk—a division of labor again suggesting the cooperative life of the beehive or the anthill.

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PHYSIOLOGY

Brain Wave Records Aided in Treatment

➤ BRAIN WAVE records, or EEG's, short for electroencephalograms, helped Naval medical officers treat men who got acute head injuries during the Korean fighting, four doctors reported at the Third International Congress of Electroencephalography and Clinical Neurophysiology in Boston.

The four doctors are Dr. William F. Caveness, now at the Neurological Institute of New York City, Dr. James C. Luce, Medford, Ore., Dr. Wilford A. Risteen, University of Georgia at Athens, and Capt. George N. Raines, now executive officer at the Naval Hospital at Portsmouth, Va.

In treating combat head injuries, the doctors had to consider both the structural damage to skull and brain and the damage to brain functioning. Brain functioning could be measured objectively with the EEG's. Taken shortly after the man was wounded, in some cases within an hour and a half, and at later periods during his hospital stay, the EEG helped doctors estimate the extent of injury, the effectiveness of treatment and forecast the rate of recovery.

Because the machine for taking electroencephalograms is very sensitive, the Navy has special buildings for them at its medical installations. There was some fear that they could not be used aboard ship. Fortunately, it turned out that this fear was groundless, and EEG's could be taken of wounded sailors and marines on the Navy's hospital ships as well as ashore.

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GENERAL SCIENCE

Research on Sex Aided

➤ GRANTS FROM the National Research Council's committee for research in problems of sex have gone to more than a hundred scientists besides Dr. Alfred C. Kinsey of Indiana University, noted for his studies of sexual behavior in human males and females.

Some of the research supported by the committee in the first 25 years of its existence led, among other things, to isolation of the arthritis remedy, ACTH. The use of sex hormones for treatment of cancer of the prostate gland developed from studies by Dr. Charles Huggins of the University of Chicago which were supported for years, in part, by this committee.

The committee was organized in 1921 "because a group of responsible American philanthropists, physicians and scientists felt an urgent demand for study of human sex behavior with all the resources of modern science. Faced with growing national concern about sex problems in the community, they realized that the need for social, educational and medical information was greater than current science could supply."

At the time, the taboo on discussion of sex was so extensive that even physicians and other scientists, many of them, felt it was not a subject for research. Nevertheless, the committee was formed and supported research on sex. During its first 25 years, up to 1947, 104 cooperating scientists have received about 470 grants under which 585 individuals took part in the researches. Some of the research, such as Dr. Kinsey's, has continued to receive support from the committee since 1947.

The history of the committee's founding and work accomplished by its grantees and by others stimulated by their findings is told by Dr. George W. Corner of the Carnegie Institution of Washington, present chairman of the committee, and Dr. Sophie D. Aberle, member of the National Science Board of the National Science Foundation, in a new book, "Twenty-five Years of Sex Research" (see p. 140).

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The green copper corrosion product, *verdigris,* is poisonous.