



Spruce and Fir

PEOPLÉ who complain that they "can't tell one evergreen from another" often have special difficulty distinguishing between spruces and firs. This is the more embarrassing, since the two genera are often found together on the same mountainside or in the same city park.

However, there are a number of comparison-characters that make them easy to tell apart.

In the first place, firs and spruces are alike, and are distinguished from pines and larches, by having only one needle in a given place, instead of bearing their needles in clumps. They are also alike, and set off from the pines, in having short needles. Pines have long ones.

But the needles of the spruces are stiff and sharp-pointed, so that if you grab a spruce branch you get a handful of prickles. Fir needles are soft, curved, and never have sharp points.

Again, the needles of spruces are borne up on little raised pedestals that stick out a millimeter or two on the twigs, while fir needles have their bases flush with the twig. A twig of spruce that has lost its needles is rough and prickly; a naked fir tree is smooth.

Perhaps the surest way of telling the two trees apart is to find the cones. Spruces usually have small cones (though not always), and the cones invariably hang *down*. Firs usually have large, round-ended cones, that quite as invariably stand *up*. When a spruce cone "sheds," it falls off in one piece, but when a fir cone ripens it "sheds" by letting go of its scales separately, leaving the central axis or cone-stem standing up bare and alone, like the spike on an old-fashioned candlestick.

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The Daniel Guggenheim gold medal for notable achievement in aeronautics was awarded to Dr. Ludwig Prandtl, professor at the University of Göttingen, Germany, for "pioneer and creative work in the theory of aerodynamics."

The distinguished flying cross of the Navy was given to all members of the Alaskan Aerial Survey expedition which mapped nearly 13,000 square miles of wild country during 1926.

The Collier trophy for the outstanding contribution to aviation was given to the National Advisory Committee for Aeronautics for its cowling for radial air-cooled engines.

Dr. George H. Whipple of the University of Rochester and Dr. George R. Minot of Harvard University Medical School shared the first \$10,000 Popular Science annual award given in recognition of their discovery of a successful treatment of pernicious anemia by the liver diet.

The Harmon Trophy for the outstanding achievement in aeronautics was awarded to Carl B. Eielson who piloted Sir George Hubert Wilkins across the Arctic.

The National Academy of Sciences' public welfare medal was given posthumously to Stephen T. Mather, organizer of the U. S. National Park Service.

The National Academy of Sciences' Daniel Giraud Elliot Gold Medal was awarded to Dr. Henry Fairfield Osborn of the American Museum of Natural History in recognition of his scientific monograph describing the ancient titanotherium, a prehistoric creature somewhat resembling the rhinoceros.

The William H. Nichols Medal for 1930 was presented by the New York Section of the American Chemical Society to Samuel E. Sheppard of the Eastman Kodak Company for his "outstanding achievement in the chemistry of photography."

The Willard Gibbs medal was awarded to Dr. Irving Langmuir, of the General Electric Co., for "fundamental work on atomic hydrogen and on surface relations and also on electrical discharge phenomena; also for his contributions of great importance to nearly all branches of physical chemistry, including high vacuum technique, electronics, ther-

mochemistry and catalysis, and lastly for his presentation of a theory of atomic structure."

The John Fitz Medal was awarded Rear Admiral Watson Taylor, U. S. N., retired, for his engineering achievements, the most notable of which is his utilization of the bow wave in ship propulsion.

The Franklin Medal, awarded by the Franklin Institute, was given this year to Sir William Bragg, director of the Royal Institution of Great Britain.

In recognition of his demonstration that protons act like waves, Prof. Arthur J. Dempster, of the University of Chicago, was awarded the \$1,000 prize given annually by the American Association for the Advancement of Science, for an outstanding paper presented at its meeting.

The Hoover Medal was awarded for the first time, the first recipient being President Herbert Hoover.

The American Pharmaceutical Association gave its Ebert Prize for 1930 to Marvin R. Thompson of the University of Maryland for his work on the pharmacology of ergot.

Dr. R. R. Spencer of the U. S. Public Health Service was awarded the American Medical Association's gold medal for original work in preparation of a vaccine for Rocky Mountain spotted fever.

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