

A Science Service Feature

Released upon receipt
but intended for use
May 9, 1931

? WHY THE WEATHER ? Mailed May 2, 1931

By Charles Fitzhugh Talman,
Authority on Meteorology.

RED RAINBOWS

Rainbows all-red in color are uncommon, if we may judge from the fact that only about a score of cases have been recorded in scientific literature. They have been known, however, for ages, and in former times the appearance of one was regarded as a portent of war.

A red rainbow is seen only when the sun is close to the horizon, and its occurrence indicates that there is more than the usual amount of dust in the air. The dust acts as a filter which removes, by a process of scattering, all of the visible sunlight traversing a long stretch of such air, except the red, which is of longest wave-length and least subject to scattering. Thus only red light reaches the sheet of falling raindrops opposite the sun, and only the red portion of the rainbow is formed.

In a case recorded some years ago in Germany by Wilhelm Krebs, primary, secondary and two supernumerary rainbows of normal coloration were seen a little before sunset. As the sun reached the horizon, however, the bows faded away with the exception of the red portion of the primary and that of one of the supernumeraries. These two all-red bows remained visible for about a minute.

In a case reported in 1922 by an English meteorologist, the late Henry Harries, portions of a bright red primary and faint red secondary were seen near Brighton. D. M. Barringer, of the family identified with the exploration of Meteor Crater, saw a fine red rainbow last summer in Arizona.

(All rights reserved by Science Service, Inc.)

SCIENCE SERVICE
21st and Constitution Ave.
Washington, D. C.