WHALES AND SEALS

Naturgeschichte der nordatlantischen Wale und Robben. By E. HENTSCHEL. Handbuch der Seefischerei Nord-Europas, Vol. 3, Part 1, (6) + 54 pages, 60 figs., including 10 plates, 8vo. Stuttgart: E. Schweizerbart'sche Verlagsbuchhandlung, 1937. Price, 11.25 RM.

HENTSCHEL'S "Natural History of the North Atlantic Whales and Seals" forms the first part of Volume 3 of the "Handbuch der Seefischerei Nord-Europas," a volume which is planned to include accounts of animals other than fishes that are of economic importance. The paper is intended to be a convenient guide for the identification of the species of commercial value, and to this end it includes first a short general account of their structural adaptations, followed by a systematic section in which for each species are given the Latin name adopted by the author, the vernacular names in several north-European languages, then the more obvious characters of use in the determination of the species, concluding with brief paragraphs on the distribution, habits, food, reproduction and commercial importance. Nineteen species of whales and porpoises and seven of seals are included. The author purposely omits some of the less common species or genera of cetaceans on the ground that they are of little or no economic interest, yet in a tabular view of this sort it would have been valuable to have included them for the sake of completeness. The genera omitted include Kogia, Mesoplodon, Ziphius, Pseudorca and Prodelphinus, all of which are fairly well known in the North Atlantic. The figures in the text or plates are for the most part reproduced from familiar illustrations and, whether in outline or halftone, should prove helpful in the identification of cetaceans cast ashore or captured, while the seals are well illustrated by figures taken from Wollebaek's account of 1907. A short list of works referred to in the text is given at the close of each of the two sections, and a brief index concludes what should prove a useful résumé.

It is, therefore, a pity that the author did not take equal pains to bring up to date the nomenclature of the cetaceans but persists in the use of many specific names that have long been discarded as untenable by those who have endeavored to establish a correct and stable usage. For nearly a half of the cetaceans listed the specific names are those no longer in use, but one may overlook the occasional failure to follow the current mode in the use of such genera as Sibbaldus for the blue whale or Eubalaena for the southern right whale. The matter may seem of little moment to those primarily interested in other aspects of zoology, but greater care in this respect would go far to establishing a better and more uniform usage where, as in this case, a treatise is intended as a guide for those less familiar with the subject.

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SPECIAL ARTICLES

INTERCEPTION OF RAINFALL BY HERBACEOUS VEGETATION

INTERCEPTION of rainfall by trees, particularly forest trees, has been studied by a number of investigators. Very little is known about rainfall interception by herbaceous vegetation. Such study is of importance for two major reasons. Plants by preventing raindrops from striking the soil directly have a marked effect upon decreasing runoff and erosion. By holding a portion of the rainfall upon the surface of the leaves and stems until it evaporates, a considerable amount of water is prevented from reaching the soil where part of it would eventually be available to the roots of the plants. Thus, there results a very important loss to the vegetation.

In order to determine the magnitude of this loss of water, a series of experiments has been carried on in connection with other ecological work at the University of Nebraska. Numerous methods have been devised, and two have been found which lend themselves readily to field studies with prairie vegetation, crop plants and weeds. A meter quadrat is marked out on the surface of the soil beneath the plants. In it there are placed five pans, each 1 m long, 4 cm wide and 5 cm deep. The surface covered by the pans represents one fifth of the total surface of the quadrat. By means of conveniently spaced, permanent crosswires and a wire mesh in the bottom of each pan, it is possible to place cut plants in the pans in their normal position. When necessary for proper placing of the pans, plants are cut off at the soil surface and inserted in the pans in the same position that they previously occupied. Water is then applied by means of large bottles equipped with sprinkler tops, the amount being expressed as an inch per hour, one-half inch in 30 minutes or in smaller amounts. Such factors as light, air temperature, humidity and wind movement are measured during the progress of the experiment. The amount of water caught in the pans represents one-fifth of the water not held by the plants, and from this it is possible to express the amount of water intercepted in per cent. of the total amount applied.

When working with such mat-forming plants as prostrate pigweed, knotweed, etc., they are cut off at the soil surface and placed in their natural position upon a quarter-inch mesh wire screen one square