feeding ground is less than ten miles from shore and is less than a mile in area.

Copulation occurs most frequently during August. At times during the breeding season the male whales can be seen in pursuit of the females. Copulation itself lasts from two to three minutes and during the process the tails of the two can be seen together above the water. A young whale is usually about ten to fifteen feet long at birth and is quite able to take care of itself in a general way. The nursing period lasts from twelve to eighteen months and so reduces the mother in weight and quality of the flesh that such an animal is valueless to the whaling industry.

The age of the whale is calculated roughly by means of the quantity of the oil secured from the bone —the larger the amount the older the whale. Life is from thirty to forty years, and the breeding season begins at about the twentieth year.

At Toshimoe, on the eastern coast of Etorofu, the Oriental Whaling Company has established a cutting-in station. As a rule, this station secures a whale a day during the breeding season. Reducing the whale to canable size is accomplished in less than an hour, an amazing speed when one remembers that an ordinary whale weighs something over 30,000 pounds! The blubber oil is used for machine oil. The best grade is secured by means of steam pressure upon the bones. Such oil is best for fine lubrication, clock and watch oil. All parts of the whale are used, including the small intestines as food and the large intestines as fertilizer!

On the eastern coast of Etorofu the Sei whale is the most common. This whale is spotted with white, otherwise little different from the Arctic. Second in frequency is the Arctic, and rarest is the Sperm. On the west coast at Shana, where another breeding locality is found, the exact reverse is true, the Sperm whale being the most frequent, followed by the Arctic and Sei. This may be accounted for on the theory of warm waters, the east coast being in the cold stream and west coast being in the warm Japanese current. Since the establishment of the station at Toshimoe some twelve years ago, over 650 whales have been secured. Of these only twelve were Sperm, a hundred Arctic and the remainder Sei whales. Only once during the operation of the company has ambergris been found—that was off the coast of the main island of Japan, near Sendai. The profit resulting was something like $250,000. The cause, as is well known, is due to an irritation caused by the lodging in the small intestine of a small devil fish. Such infected whales have large raw sores over the body and produce an extremely bad odor.

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SCIENTIFIC BOOKS

Flora of the Prairies and Plains of Central North America. By P. A. RYDBERG. New York Botanical Garden, Fordham Station, Bronx Park, New York, N. Y. 1932. $5.50 postpaid.

HERE in the plains and prairies we have labored with many manuals, claimed by none, divided by many. Now we come into our own with a manual of ferns and seed plants devoting itself exclusively to us. The region covered includes "the states of Kansas, Nebraska, Iowa, Minnesota, South Dakota, North Dakota and of southern Manitoba and southeastern Saskatchewan," together with most of the species in the prairie regions to the east and west across the plains to the Rocky Mountains.

Dr. Rydberg spent many of his earlier and some of his later years in studying the plants of this region. A few years ago he set out to embody this study in a manual that would cover this region exclusively. Although death unfortunately overtook him in the midst of proof sheets, the essential part of the manuscript was complete.

I like to think that the complete purpose of a taxonomic manual is to give names to plants, to show the relationship between plants and to furnish practicable or useful methods of identifying the plants that may be collected in the region covered by the manual.

The first of these purposes is thoroughly handled by this book, in accordance with the international code of nomenclature. The principal objection lies in the occasional "splitting" of certain well-known genera and less frequently of families. As it is a matter of opinion, therefore, of interminable argument, I can only say that the same systematic results could be obtained by using sections for the large genera and if the subrelationship is particularly necessary, the scientific name can then be written, to give but one example, *Astragalus* (*Geoprumnon*) *crassicarpus*. This would give the name, show the relationship and not take it quite so far from closely related plants that only the professional systematist would be able to keep track of it. This side of systematic botany, namely, practical utility, is not infrequently overlooked by the professional botanist, and yet it is

the side which is often likely to give encouragement and support to his studies. Perhaps if the elimination of the name of the person who made a change of genus were made, the tendency to split genera would be greatly reduced.

From a genetical standpoint, the arrangement of the manual is based on the Engler system, a system which is based on a preponderance of untenable propositions. To many the arrangement is of little importance, but a natural arrangement is of considerable assistance in establishing a comprehensive viewpoint in teaching taxonomy.

These points do not alter the fact that now we have concise descriptions of the 3,988 ferns and seed plants of the prairie-plains region in one book. The plants are well keyed in a standard manner. The time of blossoming or of fruiting is given and the ranges include the complete range of the plant. In addition there is a glossary and 600 pen sketches, illustrating at least one species each of about two thirds of the genera.

Although the book is quite complete systematically, one regrets that Rydberg did not live to add the phytogeographic discussion that was planned.

A list of abbreviations of authors' names by J. H. Barnhart completes the 969-page book. This book thus fills a long-felt want and will prove indispensable for work in the region covered.

To Dr. Marshall A. Howe, of the New York Botanical Garden, goes a great deal of credit for seeing the work through publication. Particularly is this credit to be acknowledged for the great care he has taken to have the work come out as nearly perfect as possible in a field quite outside of his own.

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SOCIETIES AND ACADEMIES

THE OHIO ACADEMY OF SCIENCE, 1932

THE Ohio Academy of Science held its annual meeting for 1932 at Ohio Wesleyan University, Delaware, Ohio, from April 28 to 30, with about 200 members and visitors present, the program taking the usual form of business meetings (two), a general scientific session (one), and section meetings (eleven). An outstanding feature of the general scientific session was a motion-picture film showing the treatment of osteomyelitis with blowfly larvae by Drs. D. F. Miller, C. A. Doan and E. H. Wilson, of Ohio State University. In the sectional meetings some 141 papers were presented as follows: *Zoology,* Dwight M. DeLong, vice-president, 32; *Botany,* Arthur T. Evans, vice-president, 15; *Geology,* E. M. Spieker, vice-president, 19; *Medical Sciences,* Shiro Tashiro, vice-president, 25; *Psychology,* Horace B. English, vice-president, 15; *Physical Sciences,* Forrest G. Tucker, vice-president, 21; *Geography,* Eugene Van Cleef, vice-president, 14. A few of these papers will be published in full and abstracts of many others in the July, 1932, issue of the *Ohio Journal of Science,* which issue will be devoted almost entirely to the Proceedings of the annual meeting.

The annual banquet on Friday evening was a notable event, as it was on this occasion that President Smith delivered his scholarly presidential address on "Physics and Human Experience"; the banquet was notable also in the matter of attendance and various and delightful social features.

The academy put itself on record as unanimously in favor of a water conservation survey in Ohio (H. R. Bill 6478, Senate substitute 1704), the extension of a water conservation program, the conservation and preservation of wild flowers as outlined by the Wild Flower Preservation Society and the Central Ohio Anglers' and Hunters' Club, the setting apart of suitable areas in state parks as wild life sanctuaries to be free from disturbance of natural conditions and not open to picnic or camping parties or to provision of roadways or paths, legislation to protect hawks and owls and making the use of the pole trap illegal.

Some sixty new members were elected and the following members were elected to fellowship in the Academy: S. Prentiss Baldwin, Homer G. Bishop, Albert F. Burgess, Harry F. Dietz, Winston E. Dunham, Harold A. Edgerton, Linden F. Edwards, Ray Lee Edwards, Robert M. Geist, Louis D. Hartson, Robert A. Hefner, Neale F. Howard, Ralph A. Knouff, Chester O. Mathews, Francis N. Maxfield, Zeno Payne Metcalf, Claude R. Neiswander, James Ruey Patrick, Sidney L. Pressey, John W. Price, J. P. Sleesman, Isabel S. Smith, Guy Harold Smith, Laurence H. Snyder, Augustus W. Trettien, Richard S. Uhrbrock, Willard L. Valentine, Eugene Van Cleef and George W. White.

The following officers were elected for the ensuing year:

President: R. A. Budington.

Vice-Presidents: Zoology, W. C. Kraatz; *Botany,* Bernard S. Meyer; *Geology,* Carl Ver Steeg; *Medical Sciences,* F. A. Hitchcock; *Psychology,* L. D. Harston; *Physical Sciences,* A. A. Atkinson; *Geography,* Geo. D. Hubbard.

Secretary: William H. Alexander.

Treasurer: A. E. Waller.

To Executive Committee: Alpheus W. Smith and M. E. Stickney.