

SNAKES—HARMLESS AND POISONOUS

By DR. A. I. ORTENBURGER

THE SUGGESTION that many snakes are harmless will perhaps be received with some doubt by many readers, yet it is a fact well-known to herpetologists—those specialists who make a study of reptiles and amphibians—that relatively few of the snakes in the United States are poisonous. In spite of the many stories appearing in the newspapers every summer, there are relatively few deaths each year in the United States as a result of bites of poisonous snakes.* Most of the deaths in the world from this cause occur in India, Brazil, and Australia. In Europe, the number is relatively somewhat larger, probably owing to the fact that much of the work of reaping and binding of grain crops is done by hand.

Of the approximately 2,300 known species of snakes occurring in the world, only about 250 species have a poison apparatus well enough developed to render them at all dangerous. This does not include the sea snakes (really water cobras), or "sea serpents," as they may be rightly called. It may be disquieting to learn that we have with us in this world even so small a number of potentially poisonous species as 250 but as a matter of fact, many of these—perhaps a third—can be disregarded, either because of their very small size or because of their extreme rarity. This leads then to the interesting fact that of all the known species of snakes, less than 7.5 per cent need be considered as dangerously venomous to human beings.

Of the 193 species of snakes found in North America, only twenty-five are poisonous. These are the two species of coral-snake, the copperhead, the cotton-mouth moccasin, the two forms of the massasauga, the pigmy rattler, and eighteen species of large rattlesnakes. However, nine poisonous species of the large rattlesnake (genus *Crotalus*) can be disregarded; three of them occur only on certain isolated islands off the coast of Lower California and Mexico, three occur only near the southern end of the peninsula of Lower California, and the remaining three have extremely local distribution areas. This leaves but sixteen poisonous species that are at all common in North America. Of these, the two massasaugas, the pigmy rattler and three species of the true rattlesnakes are of such small size relatively that they need not be considered. This leaves, then, but ten poisonous snakes that are really impor-

*In 1928 there were recorded 607 case reports of snake-bite poisoning in the Continental United States. Of these specific Antivenin serum treatment was used in a total of 433 cases. In this group there were 13 deaths, giving a death rate of 3 per cent. (Hutchison, R. H., Bull. Antivenin Inst. Amer. Vol. III, No. 2, pp. 43-57).

tant for our consideration. In other words, only five per cent of the North American snakes are to be feared as poisonous.

Technically, our poisonous snakes are of two kinds—the *pit vipers*, represented by the copperheads, the cotton-mouth moccasins and rattlesnakes, and the *coral-snakes*, which really are miniature "cobras." The pit vipers always can be distinguished by the presence of a distinct pit between the eye and nostrils. Our harmless snakes always lack this pit. The snakes of the group including the cobras, on the other hand, generally have no external features that make their easy identification possible. Fortunately for those of us who live in the United States, the coral-snakes can very easily be recognized by the bright coloration of black, yellow and red rings extending around the body. However, not all snakes with black, yellow and red rings are coral-snakes. Certain harmless snakes, such as the scarlet-snake (*Cemophora*) and at least one of the king snakes exhibit the same colors. But in the arrangement of the colors, the coral snakes are unique: the black rings are *always* bordered on either side by yellow and the colors *never* occur in any other arrangement. Perhaps enough has been said to substantiate the statement that many of the common ideas regarding the appearance of poisonous snakes do not hold. It is a popular misconception that a snake is necessarily poisonous if it has a triangular-shaped head, or a short and thick body.

There are probably more untrue stories about snakes than about any other single subject in the whole field of knowledge. Of the stories of popular origin which one hears, only an extremely small num-

ber are authentic. One hears many weird stories about the hoop snake, yet such a snake does not exist. The blue racer is said to be the fastest serpent but this is untrue. The spreading viper, or puff-adder (correctly called the Hog-nose snake, because of the shape of his "nose"), although he hisses and blows when disturbed, does not have a poisonous breath; he does not even have halitosis.

A rattlesnake does not possess a rattle for every year of his life, nor is he rendered harmless by removing the particular pair of fangs that happen to be functioning at any one time. He does not always rattle when disturbed or approached, as is popularly supposed, and he usually does not even strike. Incidentally a rattlesnake cannot strike any great distance—specifically, not over one-half his length under ordinary circumstances and never over two-thirds of his length.

Nor should all snakes be exterminated. Rather it should be emphasized that a large proportion of both our harmless and poisonous snakes are distinctly beneficial. The blue racer, supposedly possessed of unbelievable speed and agility, and indeed thought by many to be poisonous, is entirely harmless and has a distinct economic value to the farmer, and thus to all of us. A large percentage of his food consists of grasshoppers, field mice and other animals that are injurious to man. And so with the bull snake, the so-called chicken-snake, the whip snakes and many other entirely harmless varieties; their food habits make them deserving of the protection of man. Even the much-hated rattlesnake has much in his favor, for he lives largely on the very destructive small rodents.

Wilson and Lodge A great intellectual duel

An address by JOSEPH DANIELS

A COMPARISON of Woodrow Wilson and Henry Cabot Lodge as statesmen and scholars was the subject of the address which Josephus Daniels, former secretary of the navy, made to a large audience of students and faculty members on October 23.

"Woodrow Wilson was the first president to go almost direct from the school room to the White House," said Mr Daniels. "In the years before and during the war the Democratic party of our country was led by a school master, Wilson, and the Republican party was led by a scholar, Henry Cabot Lodge.

"The friction and controversy between these two furnished the most famous duel between intellectuals in the history of our

nation. They were directly opposed in their convictions and theories of government.

"Lodge was the most illustrious student in Harvard university during his student years there and before he was thirty was conceded to be the most successful Harvard graduate. At this age he had served both as professor and editor of the *International Quarterly* and the *North American Review*.

"At Princeton Wilson was doing the same thing that Lodge was doing at Harvard. Both were preparing to become in 1914 the chief debaters in the most important question of the hour. Both were intellectual aristocrats.

"Lodge was a disciple of Hamilton. He believed that some men were born to