In 1878 he received the silver medal of the Acclimatization Society of Melbourne, in 1879 the gold medal of the Société d'Acclimation of France, and in 1880 the first honor prize of the International Fish Exhibition, held in Berlin, it being the special gift of the Emperor of Germany. He also received, in 1875, the decoration of Knight of the Royal Norwegian Order of Saint Olaf, from the King of Norway and Sweden.

Professor Baird received the degree of Doctor of Physical Science in 1856 from Dickinson College, and that of Doctor of Laws in 1875 from Columbian University, being for many years a trustee of the latter institution. Since 1878 he was a trustee of the Corcoran Gallery of Art, and was the president of the Cosmos Club.

He was one of the government Board of Commissioners to the Word's Fair held in Philadelphia in 1876, and member of the international jury on Fish and Fish Products.

He was permanent secretary of the American Association for the Advancement of Science in 1850–51, editing the proceedings of the fourth, fifth, and sixth meetings, and was one of the early members of the National Academy of Sciences, serving as a member of its council almost since its organization.

Besides being a member of the leading scientific societies in the United States, he held foreign or honorary membership in many of the prominent scientific societies in Europe and in the British colonies.

The nomenclature of zoology contains many memorials of his connection with its history. Professor Theodore N. Gill has given his name to one genus of fish and over twenty-five species of mammals, birds, fishes, mollusks, and other forms of life bear his name, together with several fossil or extinct forms of life.

Professor Baird's literary work was something enormous. It included down to January 1, 1882, 1,063 titles.* Of this number, 775 are brief notices and critical reviews contributed to the "American Record of Science and Industry" while under his editorial charge, 31 are reports relating to the work of the Smithsonian Institution, 7 are reports upon the American fisheries, 25 are schedules and circulars officially issued, 25 are volumes or papers edited, while of the remaining 200, the majority are formal contributions to scientific literature.

Dr. Goode states further that, "of the total number of papers enumerated in the list, 73 relate to mammals, 43 to reptiles, 431 to fishes, 61 to invertebrates, 16 to plants, 88 to geographical distribution, 46 to geology, mineralogy, and paleontology, 45 to anthropology, 31 to industry and art, and 109 to exploration and travel."

From 1870 till 1878 he was the scientific editor of Harper & Brothers' periodicals, and likewise the annual volumes of the "Record of Science and Industry" from 1871 till 1879 were edited by him, "with the assistance of eminent men of science." The various reports and annual volumes of the United States Commission of Fish and Fisheries were prepared by him, and also the annual "Reports of the Board of Regents of the Smithsonian Institution."

His other works include the translating and editing of the "Iconographic Encyclopedia" (4 vols., New York, 1852); "Catalogue of North American Reptiles" (Washington, 1853); "Mammals of North America" (Philadelphia, 1859); "The Birds of North America," with John Cassin (Philadelphia, 1860); "Review of American Birds in the Museum of the Smithsonian Institution" (Washington, 1864–66); and "The Distribution and Migrations of North American Birds" (1866). More recently he has been engaged upon a "History of North American Birds," in collaboration with Thomas M. Brewer and Robert Ridgeway (5 vols., Boston, 1874–84). The results of his latest ornithological studies were recently placed by him in the hands of Dr. Ridgeway, and they are now in course of preparation for publication.

In June last, Professor Baird went to Wood's Holl, Mass., the summer headquarters of the U. S. Fish Commission, in greatly impaired health, the result of overwork and anxiety, but it was hoped that, with rest, he would soon be restored to health. For some time he grew better, but early in August he had a serious relapse, from which he rallied with sudden rapidity, and was able to spend part of his time in the laboratory, and even go out of doors. This continued until the day before his death, but on August 19, after a restless night, he became unconscious, and died.

His body was at once taken to Washington and deposited in the receiving vault of the Oak Hill Cemetery, where it will remain until the public funeral, which will occur during the autumn.

It is an unfortunate comment upon the present administration that a partisan clerk was permitted to so "investigate" the office of the U. S. Coast and Geodetic Survey that its superintendent, who had devoted forty years of his lifetime to its work, resigned from his place under threat of exposure of charges, never proved and generally believed incapable of being sustained. Likewise the life of the late secretary of the Smithsonian Institution was "perceptibly shortened," after thirty-seven years of faithful duty, by the careless imputation of the same officer. Although these charges were shown to be without foundation by a Congressional committee, still Professor Baird, "who was extremely sensitive, and who never before heard any imputation against the integrity of his administration, never recovered in spirit from the shock the charges gave him." *

Professor Baird's successor will undoubtedly be the present senior assistant secretary of the Smithsonian Institution, Professor Samuel P. Langley, a sketch of whom appeared in the SCIENTIFIC AMERICAN of August 20, as the president of the American Association for the Advancement of Science during its recent meeting held in New York. The present appointment of Professor Langley was made in January, 1887, at the request of the late secretary, who thus virtually designated him as his successor, and the regents of the Smithsonian Institution, of whom Chief-Justice Waite is chancellor, appointed Professor Langley with that understanding.

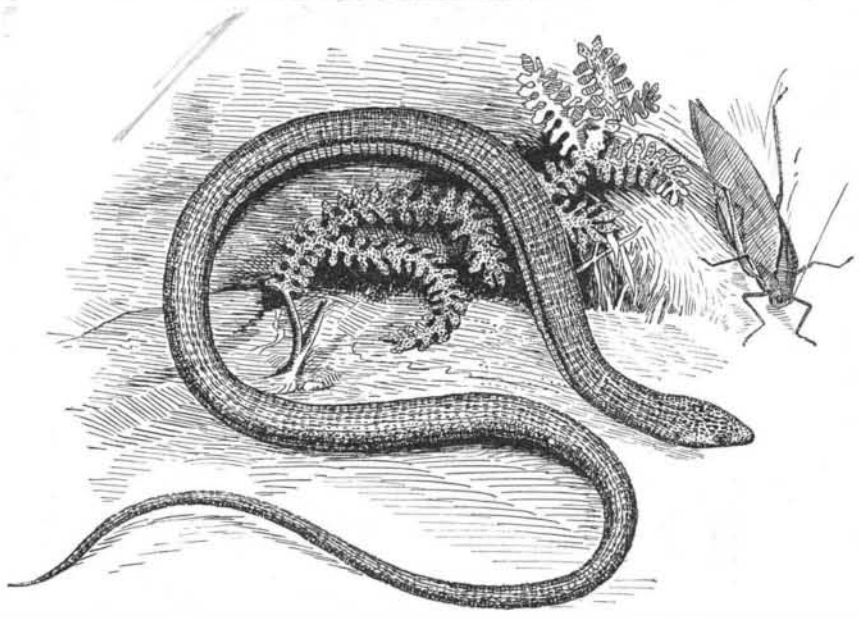
*Evening Post, August 22, 1887.

THE SNAKE LIZARD, GLASS SNAKE, OR JOINT SNAKE.

(*Ophisaurus ventralis.*)

BY C. FEW SEISS.

A subscriber residing at Davenport, Iowa, writes to the SCIENTIFIC AMERICAN: "I wish you could give us some information through your paper upon the so-called 'joint snake.' I have been permitted to see and kill several of them. They were about two to two and a half feet in length, and were quite pretty, being striped in brown and silver. I once threw a small loamy clod of earth upon one of them, which broke it into eight or ten pieces. Each piece was comparatively square at the ends, and the pieces were all about the same size. I have heard that the broken portions will reunite if left alone, should the head be uninjured. Have I been misinformed?"



THE SNAKE LIZARD, GLASS SNAKE, OR JOINT SNAKE.

The snake lizard, or "joint snake" as it is called in some localities, is a peculiar reptile, and has seemingly puzzled the earlier naturalists as to its proper classification, some placing it among the serpents (*ophidia*), and others with the lizards (*lacertilia*). It is serpent-like in form, being destitute of limbs, but a mere glance at its anatomy proves it to be a true lizard. The lower jaw bone is not disjointed as in the snakes, and the eyes of the snake lizard have movable lids, and its ears are visible externally—characters which never appear in serpents. Its tongue is not slender, forked and sheathed as in the serpents, but is somewhat arrow-shaped, notched in front and covered before with granular, and posteriorily with filiform papillæ. The scales are quadrangular in shape, arranged in transverse rows, and a fold of skin runs along each side of the body, separating the upper from the lower parts.

The tail of a snake or lizard is always considered that portion posterior to the anal opening or vent. The portion anterior to the vent is the body proper, as it contains all of the vital organs, while the tail contains nothing important. In the snake lizard the vent is situated far forward, and the tail is often twice the length of the head and body together. When the reptile is struck lightly, the portion which seemingly is voluntarily broken to pieces is *always the tail*, never the body or that portion anterior to the anal opening. "In many of the lizards the caudal vertebræ have a very singular structure, the middle of each being traversed by a thin, unossified transverse septum. The vertebra naturally breaks with great readiness through the plane of the septum, and when such lizards are seized by the tail, that appendage is pretty certain to part at one of these weak points." The muscles of the tail do not pass over these joints, so that the parting of the tail does not cause a tearing apart of the muscular fibers, but simply a separation of one muscular plate from another.

It has been asked, "Why is the tail of certain lizards so brittle?"—a question that cannot be answered satisfactorily, inasmuch as the vertebræ of the tails of some species of lizards are as strongly bound together as in the serpents. To the snake lizard the fragile tail is a benefit rather than a misfortune, for when the defenseless reptile is seized by a rapacious animal it snaps off its tail into several writhing pieces, which it leaves in the possession of its astonished enemy, while the head and body, the vital parts, wriggle away into the grass and escape. But the snake lizard is not doomed after such a misfortune to pass the remainder of its life without a tail, for it has the power to replace the lost member, not by pasting or cementing together the old broken portions, but by rapidly growing a new one.

When the tail has once been broken, it is hardly necessary to say that it is impossible for the reptile to collect and reunite the pieces.

A certain man declares that he beat a "joint snake" into a dozen or more pieces, and left it for over an hour, and when he returned to the spot he found that "the parts of the snake had come together again and crawled away." He would not be convinced that some animal had carried away or devoured it during his absence, which certainly must have been the case.

A traveler who frequently met with the "glass snake" during his botanical rambles, says: "It is as innocent and harmless as an earthworm. When full grown it is about two and a half feet in length, and three-fourths of an inch in thickness. The abdomen or body part is remarkably short, and it seems to be all tail, which, though long, gradually attenuates to its extremity. The color and texture of the whole animal is much like bluish-green glass, which, together with its fragility, almost persuades a stranger that it is in reality that brittle substance. Though quick and nimble in twisting about, yet it cannot run with much rapidity, but quickly secretes itself in the grass or under leaves." He of course contradicts the "vulgar fable" that it is able to repair itself after being broken into pieces.

In life, the head of the snake lizard is mottled black and green, yellowish about the jaws. The body and tail above are marked with lines of black, green, and yellow, corresponding to the position of the scales. The under surface of the whole animal is yellow, most brilliant along the abdomen. Several color varieties have been described from discolored alcoholic specimens, but in the living animal the color is always as given above, varying only in depth and brilliancy.

It has been found in all of the Southern States from Southern Virginia to Texas inclusive; and in the West its range extends as far north as Wisconsin and Iowa. It seems to prefer open fields and dry or sandy localities, and is frequently met with in sweet potato fields in the South. It is said to feed mainly upon insects.

To Color Copper and Nickel Plated Objects.

The *Journal des Applications Electriques* says that eleven different colors may be communicated to well cleaned copper, and eight to nickel plated objects, by means of the following bath:

Acetate of lead	300 grains.
Hyposulphite of soda	600 "
Water	1 quart.

After the salts are dissolved, the solution is heated to ebullition, and the metal is afterward immersed therein. At first, a gray color is obtained, and this, on the immersions being continued, passes to violet, and successively to maroon, red, etc., and finally to blue, which is the last color.

As the substances that enter into the composition of the solution cost but a few cents, the process is a cheap one. It is especially applicable in the manufacture of buttons.

Home-made Ice.

Take a cylindrical earthen vessel and pour 3½ ounces of commercial sulphuric acid and 1¾ ounces of water into it and then add 1 ounce of powdered sulphate of soda. In the center of this mixture, place a smaller vessel containing the water to be frozen; then cover the vessel, and, if possible, revolve the whole with a gentle motion. In a few minutes, the water in the small vessel will be converted into ice. The same mixture can be used a second or third time for making a block of ice. The operation should, if possible, be performed in a cool place, in a cellar, for example.—*La Science en Famille.*

*See "The Published Writings of Spencer Fullerton Baird, 1843-1882," by George Brown Goode, "Bulletin of the U. S. National Museum, No. 20."