

THE BROWN DESMOGNATH.

BY C. FEW SEISS.

The brown desmognath (*Desmognathus fusca*, Rafinesque) is not described by Dr. Holbrook in his work on "American Herpetology." He seems to have considered it a variety of the black desmognath, for he gives Harlan's painted salamander (*Salamandra picta*) as a synonym, and this is certainly Rafinesque's brown desmognath. De Kay, in the "New York Fauna," calls it the painted salamander (*S. picta*). He does not say he ever saw a specimen taken in New York State, but says it has been found in Massachusetts and Pennsylvania. Professor Allen states it is very rarely met with in Massachusetts, yet Professor Verrill says it is found in Maine. In portions of Pennsylvania it is quite common. We have forty or more specimens captured by my brother and myself in the eastern part of the State. Thus far I have found but one specimen in New Jersey. They inhabit shallow and stony spring brooks of hillsides and springs. I never have found them far away from spring water. They are rarely seen swimming, but must be looked for beneath the stones. When a stone, beneath which one is hiding, is first lifted up the desmognath is generally surprised and dazed, and remains quiet for a few seconds. It must then be quickly seized or it darts off into the water and escapes.

The metamorphoses of this species do not differ materially, so far as I have observed, from our other *batrachia urodela*. The young are furnished with gill tufts, and are entirely aquatic in habits. When young they are lighter in color than the adult, and often assume the color of the mud or sand of the stream they inhabit, and are thus not easily detected.

The brown desmognath feeds upon earthworms and insects. I found in the stomach of an individual three and a half inches in length an earthworm over two inches long.

The generic name, *desmognathus*, means band, or ligature jaw, so called on account of the tendinous ligament (one on each side) passing from the atlas over the parietal and prootic bones to the jaw. This, like a *ligamentum nucha*, supports or rather, in this case, gives great power to the head, which is necessary in pushing up stones when in search of the worms upon which it feeds.

The stagnant water of the aquarium seems ill fitted for the life of this lover of spring brooks, for we could never succeed in keeping them alive for more than a few weeks.

The species of salamanders cannot well be identified without study of their anatomy. Thus in the genus *desmognathus* the premaxillaries are united, with a pit or fontanelle in the center; the occipital condyles are long and cylindrical; there are both vomerine and spheroidal teeth. In our present species (*fusca*) there are fourteen costal plies or folds from the shoulder to groin; the tail is compressed and keeled. Color above (in thirty specimens) dusky purplish brown to rusty brown; sides marbled, or "salt and pepper" marked; beneath, dull yellowish white, dotted with pale brown dots. Length of adult three and a half to a little over four inches. Some of the medium sized specimens (in life) were marked on the back with two series of subquadrate brownish-red spots, and the tail with a red mesial line. Alcohol causes these markings to fade and almost disappear in the ground color. Holbrook, it appears, has described this immature variety under the name of *Salamandra quadrimaculata*. Our red marked specimens were captured with, or in the immediate neighborhood of, the brown animals. The black species (*D. nigra*, Green) has only twelve costal folds, and is generally over six inches in length.

A Long Bridge.

The bridge across the Volga, in the government of Samaria, Russia, on the line of the Siberian railroad, is described as the largest in Europe. It will be completed next year. At that point the Volga is about four miles wide in the spring season, and in autumn is 4,792 feet. The bridge will be supported by 12 piers, 85 feet high, with ice cutters, 35 feet high, at a distance of every 364 feet. The ice cutters are covered with granite. A temporary colony is established for working-men employed on the bridge; it occupies about 55 acres, and has 60 different buildings, insured at 100,000 rubles. Two

thousand men are employed, and among them are 100 Italian masons. Three steamers and seventy barks are used constantly for forwarding wood, stone, iron, and other materials. The bridge will cost 4,630,000 rubles, or about \$3,500,000.

A RICH CHAIR.

The accompanying engraving represents a rich chair in carved ebony, copied from a sixteenth century pattern. It

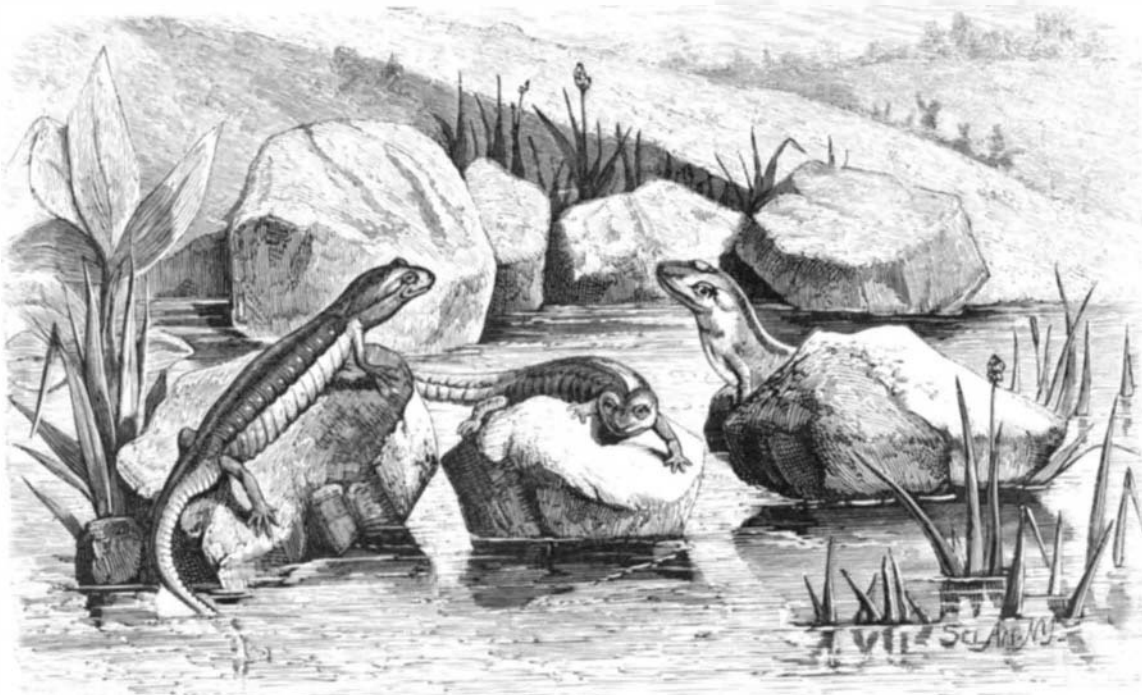


EBONY CHAIR.—SIXTEENTH CENTURY PATTERN.

contains many details of ornament which have been frequently copied. The covering is in perfect keeping with the chair, being in rich violet colored cut velvet relieved with gold thread embroidery.

The Electric Light in Cleveland.

The regular lighting of Monumental Park, Cleveland, O



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with the Brush electric light, began at eight o'clock the evening of April 29. This was the first public lighting with the electric light of any city in the United States. Twelve electric lights were used in the place of one hundred and ten gas burners, and gave a much more effective illumination. The electric lights are furnished the city, under contract, for \$100 a year less than the cost of the gas formerly used.

Vegetable Cows.

Since the reading of a paper by the chemist, Bousingault, before the French Academy, a few months ago, on the subject of the "cow tree," or *Palo de Vacca*, considerable attention has been attracted to the subject. This tree, which was discovered and made known by Humboldt, belongs to the same natural order (*Artocarpaceae*) as the poisonous upas tree of Java. But there are other trees known (perhaps not so well known to the general reader), the milky juice of which possesses similar properties to a greater or less extent. For instance, the "cow tree of Demerara," which was first observed by a traveler named Smith, in an excursion up that river. It is described as a tree from 30 to 40 feet high, with a diameter at the base of nearly 18 inches. The tree is known to botanists as *Tabernaemontana utilis*, and to the natives as "Hyahya." It belongs to the same natural order (*Apocynaceae*) as the Penang India rubber tree and the poison tree of Madagascar (*Cerbera manghin*), and our common American dog's bane. It occurs in great abundance in the forests of British Guiana, and its bark and pith are so rich in milk that a moderately sized stem which was felled on the bank of a forest stream colored the water, in the course of an hour, quite white and milky. The milk is said to be much thicker and richer than cow's milk, and is perfectly innocuous and of a pleasant flavor, the natives using it as a refreshing beverage, and in all respects as animal milk.

The Cingalese also have a tree, called by them the "kiriaghuma," but belonging to a different natural order of plants, the *Asclepiadaceae*, which also includes our common milkweeds or silkweeds. This tree is the *Gymnema lactiferum* of botanists, and yields a very pleasant tasted milk, which is employed for domestic purposes in Ceylon.

There appears to be also a milk tree common in the forests about Para, and called by the natives the "massenodendron," but of which we have little definite knowledge, except that it was for a long time used on board of one of the vessels of the British navy cruising in Brazilian waters. It was said to suffer no chemical change by keeping, nor to show any tendency to sour.

Another milk tree is the "tabaya dulce" (*Euphorbia balsamifera*), of the Canaries. This plant again belongs to a different natural order from any of the foregoing, namely, the *Euphorbiaceae*, and one containing a large number of plants with acrid, purgative, and poisonous juices. Leopold von Buch states that the juice of this plant is similar to sweet milk, and thickened into a jelly, is eaten as a delicacy.

A species of cactus (*C. Mammillaris*) also yields a milky juice equally sweet and wholesome. The milk is stated, however, to be much inferior in quality to the majority of the above. The caoutchouc, or India rubber of commerce, as it exudes from the tree, greatly resembles milk in color and density.

Large Powder Blasts.

Some time since a blast of 12,000 lb. of powder was exploded in the quarry of the Glendon Iron Company, near Easton, Pa., displacing 60,000 tons of rock. The discharge was described in some of the newspapers as probably the heaviest charge not subaqueous ever fired in the country. To this a California mining journal takes exception, and says that much larger charges are frequently exploded in the gravel mines of that State. Very recently the Reservoir Ditch Company put off in their mine, at Sucker Flat, Yuba county, a blast of 50,000 lb. of Judson powder, a very powerful explosive, and by which between 200,000 and 300,000 cubic yards of gravel, some of it indurated into a hard cement, were so shattered that the most of it can be piped off under the heavy head of waters there used. Occasionally even a greater amount of powder than this is exploded by the larger hydraulic mining companies, who find it economical to employ such heavy charges, as doing more proportionate execution than small ones.

MARINE GLUE, MUCH USED IN BATTERIES.—Dissolve 1 part of India-rubber in 12 parts of benzole, and to the solution add 20 parts of powdered shellac, heating the mixture cautiously over a fire. Apply with a brush.