THE BOX TORTOISE.

BY C. FEW SEISS.

"Land turtle" is the appellation by which this chelonian is commonly known. Its correct herpetological name is *cistudo clausa* (Gmelin). Dr. Holbrook describes it under the name of "*cistuda Carolina*—Edwards" ("North American Herpetology," 1842, vol. I., page 31), and Professor Agassiz, the *cistudo Virginea*, of Grew ("North American Testudinata," 1857, vol. I. page 445).

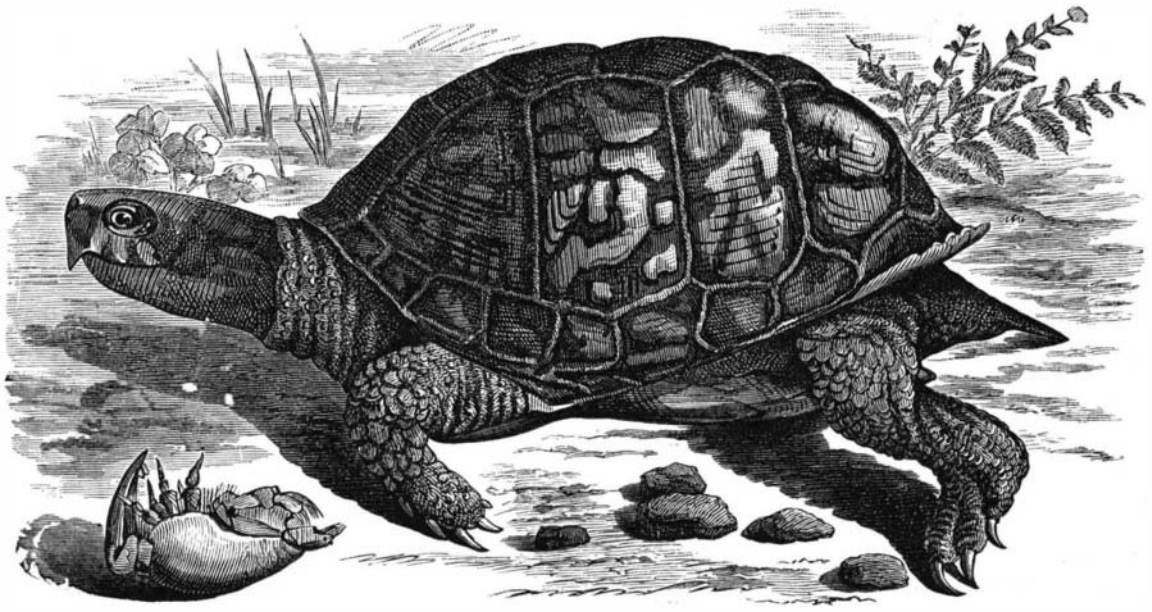
Few reptiles vary in color so greatly. I have examined individuals of this species which were of a uniform blackish-brown color, entirely spotless; others bright yellow, with black blotches and rays; others black, with yellow spots; and still others, reddish yellow, with black and brown spots, lines, and dashes. It is impossible to find two individuals of this species exactly similar in coloration.

The box tortoise is polyphagous. I have known it to eat berries of many kinds, apples, melons, tomatoes, earth worms, and carrion; and, in captivity, green corn. and meat, both raw and cooked. I believe *it* might subsist entirely upon "buns and water crackers." I emphasize the "it," for this reason: A tender-hearted lady, a member of the Society for the Prevention of Cruelty to Animals, having observed the boa constrictors at our Philadelphia Zoölogical Garden were fed with living pigeons and rabbits, suggested "buns and water crackers" be substituted, and thus avoid cruelty to animals! I suppose the old lady thought the very sight of the food named by her would cause the boas to smack their labials in wild delight, and to cause them to exclaim in the ophidian tongue, "Oh buns! yum—yum—yum!"

The female box tortoise, when young, lays one or two eggs; when older, six or more. The eggs are nearly globular in form, and are of a dirty or yellowish white color. Like the eggs of serpents, they are covered with a tough skin, not with a hard shell as in the birds. The eggs are deposited in holes in the ground, which the female tortoise excavates with her hind legs and feet only, using them alternately, throwing out the loose earth with her feet. One or two eggs are laid in each hole, and are carefully covered over before she quits the spot. The whole number of eggs are generally deposited in the immediate vicinity.

This tortoise is irregular in its time for going into hibernation. So long as the weather is warm it remains above ground, but when the weather grows cold and unpleasant it creeps beneath the surface of the soil. A late or early going into hibernation does not foretell the mildness or severity of the winter following. The winter of 1875 was extremely cold, yet our *cistudos* did not go under the ground until November 3, 1874, while they buried themselves about the middle of October in preceding winters which proved to be moderate.

In the female *cistudo* the under shell (*plastron*) is concave, while in the female it is flat. The specimen from which my sketch was made, is an old male, weighing a small fraction less than one pound. The little crustacean in the foreground is common in the ocean about the sandy beach of Atlantic City, N. J.



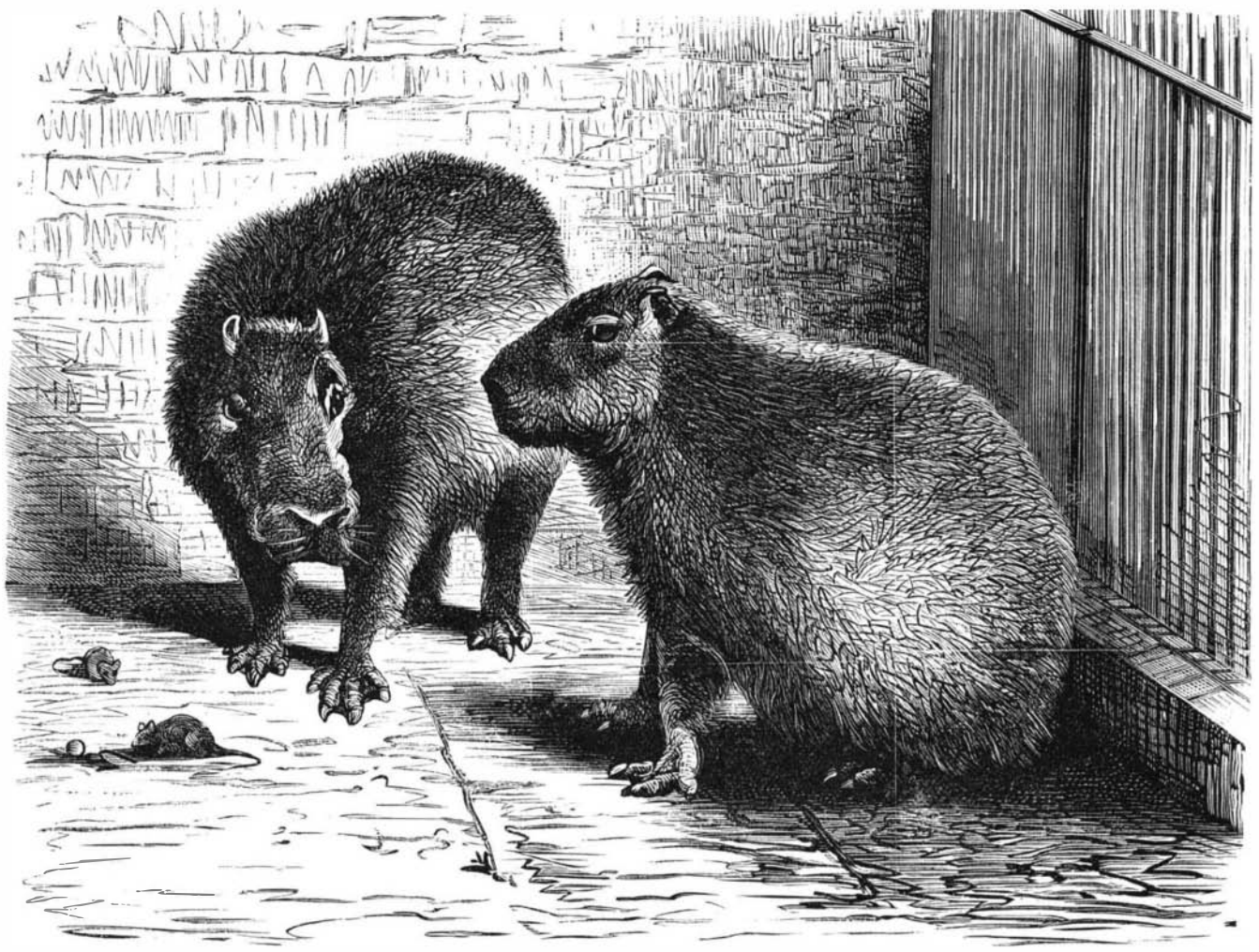
THE BOX TORTOISE.

Compounds of Silicon with the Platinum Metals.

When platinum is fused in a clay crucible lined with charcoal, it becomes crystalline on cooling and may be readily pulverized. Boussingault has shown that when platinum is fused with charcoal that contains silicic or sand, or in a clay crucible lined with charcoal, it takes up 2·2 to 5·9 per cent of silicon. Under the same circumstances the other metals of the platinum group take silicon as follows: Iridium, 3·7 to 7·0 per cent; palladium, 3·4 per cent; ruthenium, 2·1 per cent. Carbon is not taken up by these metals, and further experiments show that by igniting carbon strongly with silicic acid, the latter is partially reduced; at very high temperatures the reduced silicon volatilizes and is absorbed by a slip of platinum foil held over the ignited mass.

WATER HOGS.

The South American capivari or capybâra (hydrochoerus capybara) is called water hog, on account of a superficial resemblance with the hog. It is the giant of the rodents, and for this reason is an interesting subject for the zöologist. The two London specimens are of about the size of half grown hogs. Their color is a dirty grayish, which changes on the back into a reddish or grayish-brown. The bristle-like hair has a length of from one to two inches, and hardly covers the body. It is thickest at the hind portion of the back. The nose is flat, the eyes are expressionless and set back a considerable distance, forming the main features of the head. The neck and body are strongly built; the hind legs have three and the fore legs have four toes that are provided with broad, rounded-off nails and connected by webs. The tail is only indicated by a short, horny protrusion.



THE WATER HOGS IN THE ZOOLOGICAL GARDENS AT LONDON.

According to Burmeister, Rengger, and Darwin, the capybara is found frequently in the rivers and waters of Brazil and Paraguay. It is hunted for its meat and skin. It forms the main prey of the jaguar. The food of the water hog consists of water plants and roots. It lives singly and in herds; takes refuge in case of danger in the water, and swims with ease for a considerable length of time. The largest specimen, obtained by Darwin, had a weight of over one hundred pounds, and the length of the largest water hog measured by Burmeister was about five feet long; but it is not unfrequent that dry skins of the animal are sold by dealers of much greater length.

Substitute for the Tourniquet.

It has been customary to furnish workmen on English railroads with tourniquets for use, in case of accidents involving hœmorrhage, until medical aid could be obtained. On the London and Northwestern Railway, for the past fifteen months, elastic tubes have been substituted for the tourniquets, with such excellent results that large additional supplies have been ordered. The tube terminates in a hook at each end, and is simply applied while stretched, and the hooks fastened to each other. The advantage seems to be that much less skill is required in the use of the tube than in the application of the tourniquet, and that it is more certain in its action.

Japanese Mirrors.

Repairing of mirrors is a process to which the art of Europeans and Americans has not yet arrived. As they make mirrors in Japan, however, the process of repairing is no more difficult than that of mending a stove. The Japanese mirror would seem to be only an improvement on that used by Helen of Troy—a metallic affair burnished and polished. It is a bronze disk, composed of eighty parts of copper, fifteen of tin, and five of lead. It is cast in a mould composed of powdered stone and pulverized crucibles. The casing is polished by hand, as the Japanese alone can polish; and the last process is to rub the surface of the mirror with an amalgam composed of quicksilver, tin, and lead. And this is done by hand and with a piece of wash leather, till the mirror has a bright reflecting surface. This surface solves the problem of repairing *some* mirrors, since it can at any time be readily repolished.

At every stage of the work the choicest materials are employed. The cheaper mirrors have sulphide of lead and antimony instead of tin in their composition.

A curious optical effect can be produced by some of these mirrors—probably the best finished. On the reverse, which is also polished, are words and figures in relief. By throwing in a bright sunlight the reflection of the mirror on a screen, these figures are seen to shine through the reflected surface of the mirror. The fact is noted by an English professor in the University of Tokio, R. W. Atkinson. He has been able to discover no satisfactory solution of the phenomenon, but it is certainly one worth investigation. The body of the mirror is absolutely opaque, and there must be some law of refraction, yet not fully discovered, to account for an appearance so singular.—*Philadelphia Ledger.*

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