

## THE "GILA MONSTER."

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FOR a number of years past the writer has been collecting together anatomical material and alcoholic specimens illustrating several groups of our United States reptilian fauna, with the view of describing and publishing accounts of their morphology. It was not until quite lately, however, that I came into possession of two fine living specimens of the far-famed "Gila monster" (*Heloderma suspectum*), the largest by all odds of our North American lizards.

A soldier, Private Charles Ruby, of the 9th U. S. Infantry, whose company is serving at San Carlos, Arizona, forwarded me my first live *Heloderma*; and the second, a considerably larger one, I purchased from an old hunter of Phoenix, Arizona, who captured it for me at the kind request of Lieut. Edgar A. Mearns, of the Medical Corps of the Army. Both of these reptiles are at the present writing before me, and this article will be devoted to a few remarks about them.

Zoölogists, as a rule, have awarded a separate family,

inches; I have heard that they attain a length of twenty-six inches, but have never seen one anything like as big as that. No two of them are exactly alike in their markings, and the one in the figure is an exceptionally handsome specimen. From tip to tip they are covered by raised and bead-like scales, disposed in rows around the body and tail, being closer together on the latter, while on the head, where they are the largest, they are arranged for the most part upon a definite plan, as in other lizards. In color these scales are of a deep, jetty black, or a bright salmon orange, or, as in some specimens, a pale orange or even a dirty yellow; but both of these of mine are brilliantly colored, especially the one I have figured for you. It, as you will see, has all four of its legs, black, as is the fore part of the head or its face; this contrast with its other markings lends to the reptile an exceedingly elegant appearance. Some of them, as my larger one, have the legs and feet mottled like the body, but not upon any special figure plan. The tail is round, really conical, as it tapers gradually to a pointed tip; and in some specimens the tail is very large and thick, almost a cumbersome appendage.

apparatus for the purpose. This is my belief also, in the premises, and I am inclined to think that the same feature in venomous snakes came about pretty much in the same way.

My *Helodermas* will eat hard-boiled hens' eggs, or even raw ones, but it is difficult to get them to take anything; the one they had in London was, upon one occasion, at least, induced to swallow a small rat. No doubt in nature they feed upon the eggs of ground-nesting birds, and very likely upon the nestlings of the same species. These reptiles can walk quite rapidly, using as they do so, the fore and hind feet of the alternate sides, and keeping the head low down near the ground. When suddenly interrupted one will quickly raise its head, and to some degree its body by its legs, and wheeling rather sharply round, gives vent to a threatening, blowing sound, jerking in and out by rapid movements its broad black tongue, and withal presenting quite a defiant aspect.

Not as yet having had the opportunity to examine into their mode of reproduction, I can add nothing here to this part of my subject, for I am not informed as to whether they lay eggs or bring forth their young alive.



THE GILA MONSTER (*Heloderma suspectum*).—From a drawing by Dr. R. W. Shufeldt.

the *Helodermidae*, to contain this species of lizard, of which it is the only representative genus and species in our fauna; the *Helodermidae* falling in the group DIPLOGLOSSA, which has in it two other families of lizards, besides.

I have been much surprised at the amount of interest that people of all sorts evince in regard to this reptile, not only those living in the Southwest, where its home is, but people passing to and fro through the country. Yet, no less surprising is the wide circulation of erroneous notions in regard to it, both as to its size, and general appearance; while salamanders, and even "horned toads" (*Phrynosoma*), and other reptiles all have at various times been pointed out to me, as Gila monsters.

Now there are but a few good illustrations of this very important form extant, and this, no doubt, has something to do with the fact that so many are unfamiliar with the appearance of a *Heloderma*.

There is a plate of one in the old U. S. Boundary Survey (Pl. XXVI.), and *Nature*, of London, published a small but excellent woodcut of this lizard, two or three years ago; neither of these figures, however, are easily accessible to the vast majority of the good readers of FOREST AND STREAM, so, with the view of presenting to them a faithful representation of the "Gila monster," I made the accompanying pen and ink sketch of the smaller of the two specimens in my possession, or rather from my colored plate of it, which I trust to have figured in another connection, some time in the future.

The smaller of my specimens is eleven inches long, while the larger one measures rather more than sixteen

If we take the orange color as the ground color of the animal, as it seems (being the lighter) to be so, then we find the black on the body to be arranged in some four or five circular rows around it, of the most bizarre pattern imaginable; these variegated bands are sometimes continued clear along the entire length of the tail, but in the figure it will be observed that they are there reduced to simple black ones. *Helodermas* have a broad and deeply-forked, black tongue, which they are constantly thrusting out, and whipping back into their mouths as they move along.

This, however, is not the dangerous part of the animal, as *Helodermas* are very venomous, they having grooved teeth in their jaws and a well-developed poison gland, something like a rattlesnake's. Several years ago, the writer, who was at that time on duty in the Herpetological Department of the Smithsonian Institution, was severely bitten by one there, which had been sent alive from Arizona, and suffered extremely in consequence; while one that they had not long ago in the Zoölogical Gardens in London, bit a guinea pig, which latter animal died in five minutes. Doctor Mitchell of Philadelphia has analyzed this poison and finds it nearly as venomous as the fluid taken from the poison glands of a *Crotalus*. Professor Cope seems to think that this lizard has slowly developed its venomous apparatus from being sluggish in its movements, and consequently ill-adapted to get out of the way of larger animals and not be trodden upon; this constant source of irritation and danger has in long ages gradually rendered its saliva poisonous, and eventually given rise to the development of a special gland and

Among the various species of "horned toads" (*Phrynosoma*) of this region, both ways exist, for these latter lizards lay eggs as well as bring forth their young alive.

Gila monsters do not occur in the country about Fort Wingate, and one to find them in their native haunts must resort to the low river bottoms of southwestern Arizona, more especially the low, sultry banks of the Gila River, which I am told is the most famous locality for them.

FORT WINGATE, New Mex., June 30.

THE WHIP-TAILED SCORPION.—I notice with interest and pleasure the article in the FOREST AND STREAM of July 28 on the whip-tailed scorpion (*Thelyphonus giganteus*). The insect is very common in Florida, where it is called "grampus" and "mule killer," and credited in some sections with deadly powers, though I never knew of a fatal case. I have known of very severe poisoning of a friend from the bite or sting of this scorpion, but he was unable to tell just how the poison was injected, and I notice that Dr. Shufeldt fails to inform on this point, though presumably it is done by the anterior clawed arms. The insect emits a very fetid odor when disturbed, elevating its body and going off stiff-legged or armed in an amusing manner, spreading its anterior claws menacingly. I think I have written before in this paper of this scorpion, but now for the first time am I made acquainted with the proper name and other interesting information which Dr. Shufeldt gives us.—O. O. S.