



Bison M Species Booklet: Brandon Kempton

GILA MONSTER

(*Heloderma suspectum*)

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The Gila monster, (pronounced HEE-la), is the largest lizard native to the U.S. and is one of very few poisonous lizards in the world. The scientific name is *Heloderma suspectum*. *Helo* is Greek for a nail head or stud; *derma* means skin. *Suspectum* comes from early suspicions that the lizard was venomous.

RANGE

Gila monsters are named for the Gila River Basin in Arizona, but also occur in southeastern California, southern Nevada, Utah, far southwest New Mexico and northwestern Mexico. Observations near Deming in Luna county and in Doña Ana County are questionable. Their known range is in Grant and Hidalgo counties. Recent observations near the Little Hatchet Mountains have expanded the known range in Hidalgo

County.

HABITAT

Gila monster distribution is spotty, clustered around mountain ranges. They are found in desert mountain foothills and brushy arroyos or canyon bottoms that extend down into valleys.

DESCRIPTION

These heavy-bodied lizards are easily recognized by distinct banding or mottled patterns of black with red, orange, pink or yellow. These colors may be a warning to predators that they are poisonous, yet the pattern also provides camouflage among the light and shadows common to shrubby deserts. The skin surface is bead-like, comprising small bony plates rather than obvious

scales.

These desert lizards are no monsters, but typically grow to a foot or more in length when adult. They can weigh up to 3 pounds.

The animal most commonly mistaken for a Gila monster is the harmless black and yellow tiger salamander. Salamanders are moist to the touch, have no scales and rarely exceed 7 inches.

BEHAVIOR

Heloderma suspectum is a reluctant monster, shy and retiring unless provoked. One of the reasons Gila monsters are so poorly understood is the fact that they spend 80-95% of their lives underground and are seldom seen.

Gila monsters prefer relatively cool temperatures compared to other desert lizards. They are most active in spring, exiting their burrows in the morning, avoiding hot afternoons and perhaps hunting again in the evenings. During the hotter months, Gila monsters may be active near dawn and dusk and at night after rains.

Gila monsters, like other reptiles, are ectothermic. This means they must use behavior rather than internal metabolism to control body temperature. “Cold-blooded” is really a misnomer. They may exit their burrows within an hour of sunlight hitting the entrance. By basking in clever alignment to the sun’s rays and by flattening their bodies to gain surface heat, they can maintain body temperatures of 83 degrees Fahrenheit despite considerably lower environmental temperatures.

Gila monsters hide under rocks or live in burrows dug by other animals or may dig their own with their sharp claws. They may occupy two burrows over the course of a year: one during the warm months and another for hiberna-

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tion. When they are threatened, they may use the burrows for escape.

Because they spend the majority of life underground, Gila monsters are not commonly encountered by man. Their size and venom restrict natural predators. The usual first response to being molested is to turn and move away. If cornered however, the lizards will face the antagonist, inflate their bodies for intimidation, rise up on their legs, lift their heads, open their mouths wide, hiss, lunge and sometimes bite the adversary. The lizards can move with surprising quickness when in defensive mode. Gila monsters have tenacious, venomous bites.

REPRODUCTION

Males apparently establish dominance through ritual combat; the loser leaves the area and the winner has access to females. Gila monsters mate throughout the summer months. Several weeks later, the females lay 3 to 12 leathery eggs in sand or burrows or under rocks.

Eggs may hatch in the fall, or may over-winter and hatch the following spring. There is no other known lizard in north America whose eggs can over-winter and hatch the following year.

Gila monsters can live more than 20 years.

FEEDING/DIET

There is nothing very monstrous about the Gila monster — unless you're a young mouse or baby bird. The Gila monster's main activity period in the spring coincides with the nesting season of birds and birth periods of rabbits and rodents. Eggs from birds or lizards are favored items. Other items in their diet might include lizards, frogs, snakes and young tortoises.

A Gila monster is slow-moving and tends to hunt slow prey or rely on the element of surprise. Its claws are great for digging into rodent burrows or uncovering reptile eggs. Using its powerful jaws, a Gila monster will seize mov-

ing prey such as baby rabbits, rodents or young birds. Most prey is probably killed by jaw power alone. However, there are venom glands in the lower jaw and venom flows along grooved teeth and into the bite wound.

Gila monsters are adapted for eating large meals infrequently. They consume most of their annual caloric intake during the brief spring activity period, sometimes eating 30-50% of their body weight in one meal. Several large meals may satisfy their entire year's needs. Excess energy is stored as fat in the tail.

Gila monsters will drink standing water when they can find it, but most of their water intake is from their food.

BITES

The Gila monster is not normally aggressive toward humans and will usually react in a hostile way only to defend itself. Despite its slow and lumbering appearance, it can move with lightning speed when hassled.

The Gila monster produces only small quantities of venom. However, by chewing, it can put significant venomous saliva into the bloodstream of its victim. The venom is as toxic as that of a diamondback rattlesnake. The lizard can bite quickly with a sideways snap and holds on like a vise-grip, so removal of the lizard is necessary to limit the amount of venom received. The bite of a Gila monster won't kill you, but might make you wish you were dead! The bite can go 1/2 inch deep, the venom is potent, the animal is difficult to detach and the experience is very painful.

There are no reports of anyone dying as a direct result of a Gila monster bite. As with snakebites, the victim of a Gila monster bite usually does something foolish to get bitten. A doctor at the turn of the century said, "I have never been called to attend a case of Gila monster bite, and I don't want to be. ...The creature is so sluggish and slow of movement that the victim of its bite is compelled to help largely in order to get bitten." The best way to avoid Gila monster bites is to NEVER pick one up.

LIZARD SPIT TO THE RESCUE

If we needed another reason to stop the extinction of animals and plants around the world, the new medication to control blood glucose derived from the saliva of the Gila monster may be one. A protein in Gila monster venom is the source for a new medication that helps those with diabetes to control blood sugars. Fortunately, we don't need to kill any Gila monsters or squeeze out their venom in order to get this drug since it can now be mimicked in the lab.

CONSERVATION

Perhaps the general calm nature of adult Gila monsters is related to the fact that they have few predators in the wild. However, shrublands in the Southwest have been steadily cleared for agriculture and roads, canals and cities fragment the Gila monster's range or destroy the habitat entirely. This habitat destruction, coupled with animals being taken for the pet trade, has threatened the existence of Gila monsters in the wild.

Despite the fact that reptiles, especially venomous ones, are poorly understood and greatly feared, in 1952, the Gila monster became the first venomous animal in North America to be afforded legal status. Gila monsters are protected in all their home states. New Mexico laws protect these fascinating animals from being killed, captured or held in any manner. Unfortunately, the laws don't save them from habitat destruction. Gila monsters are state-listed as threatened due to limited range in the state and collection concerns. They are considered a Species of Greatest Conservation Need, susceptible criteria.

If you come across a Gila monster, enjoy watching it from a distance. We don't know how many of these lizards are left, but there can't be many. These creatures are a normal and desired part of the ecosystem. Seeing one should be considered a real treat — not an opportunity to disturb it or kill it.

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