

From Tim Tetzlaff, Director of Conservation and Communications

News Release **Contact:** Tim L. Tetzlaff, Director of Conservation & Communications
For Immediate Release 239.262.5409 x 122 / tim@napleszoo.org

Monster Whose Spit Helps Diabetics Making Appearances at Naples Zoo

Naples, FL – Although many people have heard the name Gila monster, guests visiting Naples Zoo at Caribbean Gardens will now be able to see Gila monsters in person. The Gila (pronounced hee-la) monster is the largest lizard native to the United States. Along with Mexico's beaded lizard, Gila monsters are one of only two venomous lizards known to occur in the world. Zoo guests will see these rare creatures in the hands of venomous-licensed professional presenters at the zoo's popular Serpents: Fangs & Fiction show.

These thick-bodied lizards reach lengths of 18 to 24 inches and weigh around 3 pounds. Gilas have a black head with pink, orange, or yellow markings across the bead-like scales of their bodies. Their lifespan in the wild is believed to be around 20 years but some Gilas have lived over 30 years in zoos. But what about their spit helps diabetics? Read on.

Defensive Venom Unlike many venomous predators which use their venom to kill prey, the Gila monster's prey is typically small enough to be dispatched by its bite alone. The Gila, therefore, deploys its toxin mainly in self-defense. But even before a predator gets within biting distance, the Gila monster's distinctive colors give a would-be predator a heads up that a Gila's got a toxic bite. Posturing, hissing, and other defensive tactics also give fair warning.

If these warnings fail, the Gila monster is equipped with sharp, grooved teeth that help direct its venomous saliva from glands in the lower jaw into the victim. Their venom is not injected directly through fangs like a rattlesnake so Gilas will hang on tenaciously and chew to increase the envenomation, sometimes securing a hold that may last for several alarming minutes. Although their nerve toxin is as potent as some rattlesnake venom, the lower dosage amount caused by this weaker method of envenomation typically does not produce fatalities in larger predators, but does inflict very severe pain. Thus most creatures foolish enough to disturb a Gila monster will live to remember to never bother these colorful lizards again and pass that along to offspring or members of their group.

Although there is no antivenin readily available for treatment of a bite, no human deaths have been documented in the U.S. Severe pain following a bite may last many hours and generalized weakness can persist for several days.

Gilas and Diabetes But as it turns out, Gila monster venom is not all bad. In 1992, Dr. John Eng discovered a hormone he named *exendin-4* in the saliva of Gila monsters. In 2005, the US Food and Drug Administration approved a drug



www.napleszoo.org
(239) 262-5409 ext 122



derived from this hormone to treat people with type 2 diabetes. Marketed as exenatide or Byetta™, this twice-daily injected drug also had the added benefit of weight loss in a three year study. A once a week injection is currently under review.

Monstrous-Sized Meals A Gila monster tracks down its meal much like a snake – by flicking its forked tongue in and out to detect airborne scent particles. Their diet includes bird and reptile eggs as well as young animals including birds, mice, and rats. Other prey includes frogs, lizards, insects, centipedes, and worms. Like most reptiles, they can go long periods without eating. But then an adult Gila monster can reportedly devour 35% of its own body weight at a single feeding – the equivalent of a 180 lb person eating 45 porterhouse steaks for dinner! Gilas can then store fat in their tails for future energy needs.

Here There Be Monsters This lizard is named for the Gila River Basin of the southwestern United States. Gila monsters mainly live in western and southern Arizona down into southern Sonora, Mexico. They can also be found in extreme southeastern California, southern Nevada, extreme southwestern Utah, and southwestern New Mexico.

Gila Haven Like many other creatures, Gila monster habitat has been cleared for other uses over the years. And even with their defensive threat, Gilas are killed by domestic cats and dogs that are allowed to run loose. Some Gilas are illegally collected for the pet trade. In 1952, the Gila monster became the first venomous animal in North America to be given legal protection. Today, they are legally protected in all states in which they are found and are listed under Appendix II by the Convention on International Trade in Endangered Species (CITES). Appendix II lists species that may become threatened with extinction and include species like hippos, bald eagles, and hummingbirds.

Naples Zoo is a 501(c)(3) nonprofit organization cooperating in conservation programs both in and outside the wild for endangered species. Daily presentations include Alligator Bay Feeding, Meet the Keeper Series, along with two premiere presentations: Planet Predator and Serpents: Fangs & Fiction. Both of these feature shows take place in the Safari Canyon Theater where guests see live animals from feline predators to venomous snakes along with exciting video footage. For those looking for more on the historic botanical garden, the Tropical Plant Trek offers guests a short tour led by University of Florida Master Gardeners. And one of the zoo's most popular activities is the Primate Expedition Cruise where guests embark on a guided cruise through islands inhabited by monkeys, lemurs, and apes.

The all day pay-one-price ticket includes admission to both the nationally accredited zoo and historic garden along with all shows, tours, exhibits, and the boat ride. (\$18.75 adults age 13+/ \$10.50 children 3 to 12, under 3 free. Children under the age of 16 must be accompanied by an adult at least 18 years of age). **Annual memberships and discount tickets are also available online at www.napleszoo.org.** Visitors enjoy healthy meals at the SUBWAY® Cafe and shop for wild gifts at tame prices in The ZOO Gift Shop. Naples Zoo welcomes guests daily from 9:30 to 5:30 with the last ticket sold at 4:30 and is located at 1590 Goodlette-Frank Road across from the Coastland Center mall in the heart of Naples. To learn more, click www.napleszoo.org or call (239) 262-5409.

Print Quality Gila Monster Images available for immediate download at www.napleszoo.org/press

###



www.napleszoo.org
(239) 262-5409 ext 122

