

WANTED



Brown Tree Snake

WHO? There's an invasive alien that threatens Hawai'i's environment. It is usually two - three feet (.6 - 1 m) long, but can grow up to 10 feet (3 m). It is olive brown to yellow brown with faint banding. It comes out at night.

This silent invader has been found both dead and alive in the Hawaiian Islands on at least seven different occasions. It arrived in aircraft from the island of Guam where it is a major pest. This ominous invader is the *Brown Tree Snake (Boiga irregularis)*.

WHY? Why is the brown tree snake wanted? It is a very real threat to Hawai'i's economy, human health and life-styles and to our native species. Brown tree snakes reached Guam in the 1940s, probably from Manus Island, a province of Papua, New Guinea. They arrived in Guam on military aircraft after World War II. Military cargo had been sitting out on the airstrip in Manus, where the snakes stowed away. In the 1980s, the population of brown tree snakes on Guam had multiplied to as many as 12,000 snakes per square mile in some areas, the highest terrestrial snake density in the world!

On Guam, brown tree snakes have wiped out nine of the 11 native land bird species. These snakes also prey on poultry, eggs, and other small animals. Over 200 snake bites to humans have been recorded on Guam; most occurring while people slept at night. In addition, these long, thin snakes climb utility poles where they search for prey. This shorts out key power grids and causes major power outages, on average, once a week. This results in the loss of millions of dollars to island businesses.

The threat to native bird populations is particularly critical since one-half of Hawai'i's bird species are endangered. If the brown tree snake becomes established in the Hawaiian Islands, it will be extremely difficult to protect our native birds. According to Mike Buck of the Hawai'i Department of Land and Natural Resources, *"At risk is our safety and peace of mind, a dependable electrical power delivery system, the allure of our tourist industry, our poultry industry and last, but not least, our unique natural heritage."*



BE AWARE!

- This snake is armed with venom that it transmits through its enlarged rear teeth. Although the brown tree snake is only slightly venomous, its bites cause painful swelling and could possibly be fatal to infants and people who have allergic reactions to the venom.
- Of the 200+ recorded snake bites, half of the victims were children, many of them infants who were bitten in their cribs.
- These aggressive snakes will attempt to eat prey that are much larger than themselves. They have been reported to attack puppies, kittens and chickens.
- If the brown tree snake invades Hawaiji, it will spread quickly since the Islands do not have the natural predators that live in its home range, such as hawks, other snakes and insects that eat their eggs. The brown tree snake's home range is the Solomon Islands, New Guinea, East Indonesia and the North and East coast of Australia.
- The successful invasion of one pregnant female snake would be enough to establish a population in the Islands. Female brown tree snakes lay approximately eight eggs each year.

HELP! Recognizing the damage that the brown tree snake has done on Guam, it was declared as *Injurious Wildlife* by the U.S. Government in 1990. It is illegal to transport the brown tree snake or its eggs without a permit. To help prevent this snake from invading Hawaiji, people need to learn to recognize it and report sightings to the State.

If you spot this *wanted* species, try to contain the snake by throwing a heavy object behind its head, or kill it by hitting it with a blunt object behind the head. If you are unable to do this, try to keep track of the snake until help arrives. To report the brown tree snake, call the Hawaiji Department of Agriculture at (808) ASK-2000 (808-275-2000). If you do not reach someone, call 911. In response to your call, inspectors will visit the site. If they don't find a snake, but believe one may be present, a multi-agency team led by the Hawaiji Department of Land and Natural Resources, Division of Forestry and Wildlife will inspect the site and lay traps for the snake and its prey. This eradication program will continue for a minimum of 30 days or until inspectors believe all snakes have been captured.

Help spread the word about invasive alien species. Share this notice with family and friends.



WANTED



Miconia

WHO? There's an invasive alien loose in Hawai'i's environment. It is large and attractive and it doesn't make a sound. It likes wet habitat, either sun or shade, between sea level and 6,000' (1,830 m) where it shades out native understory plants.

This silent invader arrived in the Hawaiian Islands in the 1960s without the natural enemies that control it at home in Central and South America. It grows fast and is now spreading in the Islands. Infestations occur in Wailua on Kaua'i; Wahiawā, Mānoa, Kalihi, and Nu'uuanu on O'ahu; ūlao, Huelo, Hāna on Maui; and Kona, Onomea and Puna on the Big Island. This invasive alien is *Miconia* (*Miconia calvescens*). You can identify this invader by its large, three-foot long, oval leaves with purple undersides. It can grow up to 50 feet (15 m) tall. Don't be fooled by its *keiki* that look like a small bush.

WHY? Why is *Miconia* wanted? It is a very real threat to Hawai'i's native forests and many farmlands. According to Dr. Ray Fosberg of the Smithsonian Institution, "*It is the one plant that could really destroy the native Hawaiian forest.*"

Miconia has the reputation of being the most invasive and damaging of alien plant species to Pacific islands' wet forests. On the island of Tahiti, *Miconia* has already destroyed 65-70 percent of the forest growth! Vast areas where native forests once flourished are now covered with solid stands of *Miconia*.

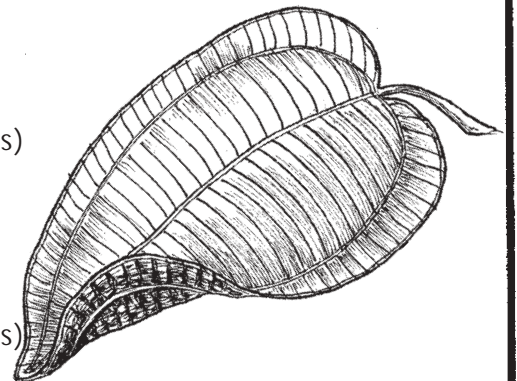
Since two-thirds of Hawai'i's forest has already been lost due to land clearing and damage from other alien species, stopping the *Miconia* invasion is critical if we want to conserve remaining native forest and protect our watersheds.

BE AWARE!

- This is a very aggressive plant. Full-sized trees (26-50 feet [8 -15 m] tall) are armed with dark purple, 1/4 inch (.6 cm) fruits with approximately 100 seeds in each tiny fruit. One tree can produce ***approximately three million seeds two or three times each year!*** This results in a huge reserve of seeds in the soil. Use caution near these plants. Clean your shoes and backpacks so you don't spread *Miconia* to other areas.
- *Miconia* is on the loose without its natural enemies. In its native habitat it does not spread all over the forest because there are insects, fungi and other natural enemies to control it. Although the Chinese rose beetle has been found to feed on its leaves in Hawai'i and the Society Islands, without *Miconia's* other natural controls, this plant can take over an area.
- This invader is getting help from other alien species. Non-native birds such as Japanese white eyes, bulbuls and cardinals eat the fruits and spread the seeds to new areas.

HELP! Recognizing the danger that this plant posed to native forests and to agricultural sites, in 1992 State officials listed *Miconia* as a noxious weed that is prohibited in Hawai'i. To help control this plant in Hawai'i, people need to learn to recognize it and report sightings to the State. Have you seen this *wanted* species? If so, please call your island hot line:

Big Island: ☎ 961-3299
Maui: ☎ 984-8100 (984-8107 after hours)
Molokai: ☎ 553-5236
Lāna'i: ☎ 565-7430
O'ahu: ☎ 973-9541 or 973-9538
Kauai: ☎ 241-3411 (241-3736 after hours)



You can also volunteer to help remove plants from infested areas. Call your *Miconia* hotline number to volunteer.

Spread the word about invasive alien species. Share this notice with family and friends. Hawai'i's forests need your HELP!