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HeroRATS: Rats Who Save Lives



Written by Gabrielle Fimbres

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Land mines are a serious problem in Mozambique (moh-zam-BEEK), a country on the continent of Africa. These weapons are buried underground and are set to blow up when people step on them. Land mines were used during almost thirty years of wars in Mozambique. The wars ended many years ago, but millions of land mines were left behind. Every year, thousands of people in Africa are hurt or killed by the remaining land mines. Huge areas of land cannot be used because of these dangerous, hidden weapons.



Bart Weetjens founded APOPO, an organization that trains rats to help solve problems people have in many countries.

Some unlikely heroes are helping to solve the problem—rats! Bart Weetjens, an engineer from Belgium, came up with the idea. Since childhood, Bart has loved all kinds of **rodents**—rats, mice, hamsters, gerbils, and squirrels. Rats have a very keen sense of smell. Bart realized that rats could use their powerful noses to find land mines so humans could safely remove them.



A man wearing protective clothing guides a sniffer dog during a search for land mines.

Dogs have been **trained** to sniff out land mines for many years. Bart figured out that rats would be cheaper and easier to train than dogs. At first, people thought his idea was crazy, but Bart didn't give up. He quit his job and began training his favorite animals as part of a **program** he calls HeroRATs.



A HeroRAT enjoys a quick taste of a banana as a reward for its work.

Castro is one HeroRAT who is coming to the rescue in Mozambique. He uses his cute, twitchy nose to find land mines. When he is at work, Castro races across a field, **sniffing** every inch of dirt. When he smells a land mine, Castro scratches at the ground to **alert** his human partner. For his hard work, Castro receives a yummy treat of bananas and peanuts and a scratch on the head.



A worker holds a giant pouched rat at a minefield in southern Mozambique.

Castro is a specially trained African giant pouched rat. These rats are common in many areas in the southern half of Africa. The rats are unusually large—about three feet long from their nose to the tip of their tail. They weigh about three pounds (1.36 kg).



Young rats must be introduced to the sights, sounds, and smells of the human world. Here, a worker prepares to take three rats for a ride in a bicycle basket.

Castro and other HeroRATs are trained in a special school where they learn to use their noses to find land mines. First, trainers get the rats used to the human world. They let them listen to music and run around the office. The rats go for rides in trucks so they can get used to the sounds of engines.



A lab worker watches as a rat smells a sample placed under a hole in the floor of the cage.

During training, HeroRATs are introduced to the smells of dozens of different **explosives** used in land mines. When they smell one of these explosives, they hear a click and get a food reward. This is called *clicker training*.



A rat enjoys a reward of mashed bananas and peanuts during training.

The rats are taught to give a signal when they **detect** the smell of a land mine. They make the signal by freezing in place for several seconds or by scratching the ground. When they correctly signal that they've detected a land mine, they get a special treat. This reward of mashed bananas and peanuts makes them eager to do their work.



Next, the rats are taught to walk on a leash. The leash can be attached to a rope to guide the rats as they move back and forth across a field. The rats are also taught to walk on a leash at the end of a long pole. **Handlers** use the pole when clearing areas with many trees and boulders or on paths that twist and turn.



A rat stops when it finds a land mine during a training lesson.

After a total of nine months of training, the rats have to pass several tests. For each test, the rats must find every mine hidden in a large field. During these tests, even their human partners don't know where the practice land mines are. Once the rats pass the tests, they are ready to start finding real land mines with their handlers.

Rats can safely walk on ground where there are land mines because they weigh much less than humans. They are too light to set off the weapons. No HeroRAT has ever been killed by a land mine.

The rats work quickly, **inspecting** an entire field in an hour. When a HeroRAT finds a land mine, humans carefully remove it.

Once the rats' work is done and the land mines are removed, fields are safe. The land can be used for farming or building. Children can play there without fear.

Do You Know?

Some HeroRATs are trained to smell out disease. Tuberculosis (too-BUR-kyew-LOH-sis) is a deadly disease that affects millions of people around the world.

It takes a scientist with a microscope an entire day to test forty people for tuberculosis. HeroRATs can check forty samples in seven minutes.

If tuberculosis is found early in a patient, it can be cured. These rats are lifesavers!



Workers use metal detectors to search for land mines in Thailand. HeroRATs may help speed up land mine removal in this Asian country.

Mozambique is not the only country working hard to get rid of land mines. These weapons are a problem in many places around the world. Other countries in Africa and Asia are also using HeroRATs to help remove land mines.



The success of the HeroRATs program has made the trainers very proud.

So far, HeroRATs have located more than 1,800 land mines. They have cleared more than 3.3 million square yards (2.8 million square meters) of land. That's an area the size of 628 football fields!

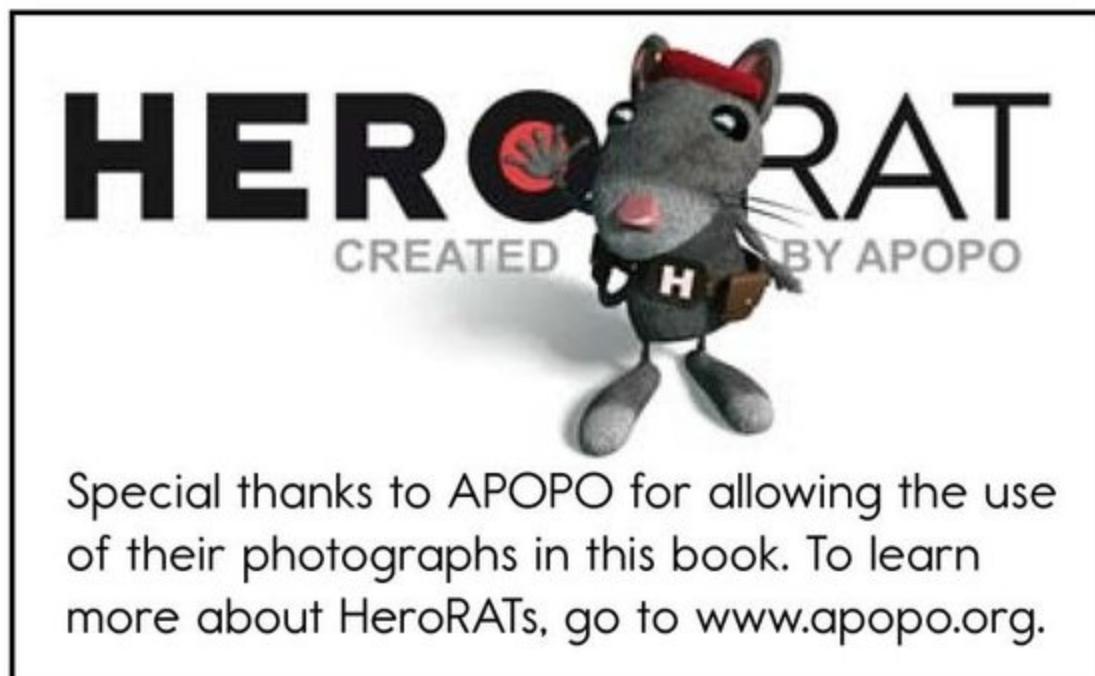
People who work with HeroRATs are proud to help make their countries safe. These special rats are saving lives and are true heroes.

Glossary

alert (v.)	to warn or inform (p. 6)
detect (v.)	to notice or discover the presence of something (p. 10)
explosives (n.)	substances that can blow up with a sudden release of energy (p. 9)
handlers (n.)	people who operate, train, or control animals or things (p. 11)
inspecting (v.)	checking closely (p. 13)
program (n.)	a structured course of activities or training (p. 5)
rodents (n.)	small mammals such as mice or rats that have large front teeth for gnawing (p. 4)
sniffing (v.)	drawing air into the nose, especially for smelling (p. 6)
trained (v.)	taught to do something (p. 5)

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