

Happyface Spiders

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I am a forensic entomologist. Every forensic scientist's basic mantra is: *Everything is possible*. My professional experience leads me to believe that there is one place on earth where more than just everything is possible—that place is Hawai'i. On this remote part of the U.S. lives a bug that directly contradicts all assumptions modern people might hold concerning eight-legged critters: that spiders are hairy, ugly and frightening. This kind of spider is anything but.

The bright yellow, red, and black patterned Happyface Spider (a.k.a. Happy Faced Spider, a.k.a. Happy Spider, a.k.a. *Theridion grallator*) is delightful.

(By the way: most spiders don't deserve their sour reputation. It

is estimated that there as many as 170,000 species of spiders out there in the wild. Most of them basically do, in the words of a colleague of mine at Hawai'i's Bishop Museum, nothing but "finding food, seeking a mate, producing offspring, finding adequate shelter and fending off danger."*)

The happyface spiders are, to me, more interesting than their brethren because there is a striking—and easily observed—genetic basis to the pattern on their bodies. Most *T. grallator* individuals are unpatterned, and therefore mutants—those with unusual patterns on them—they are literally easy to spot. What is weird, scientifically speaking, is that on the island of Maui, the happy types seem to follow simple Mendelian inheritance rules, while on other Hawai'ian islands the body inheritance patterns seem to be sex-limited.

Theridion grallator females are a good role model for humans, in a sense, in that they guard their eggs till the eggs hatch, and thereafter catch food for the spiderlings.

Should you ever wish to quit surfing on the Hawai'ian shores and check for the better sides of the islands, go to the rainforests on O'ahu and the Big Island. This is may be your only chance to see happy face spiders. They have never been found in other parts of the world. ▲

The photos here were taken by William P. Mull/Hawai'i Biological Survey/Bishop Museum Hawai'i.

You can see more happyface spiders by going to the (non-spider) web and looking at <<http://biology.swau.edu/faculty/petr/ftphotos/hawaii/postcards/spiders/>>

