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The Light of Love

In the animal world, there are many kinds of signals that pass between the sexes when it comes to choosing a mate, like the colors of plumage in birds. Naturally, humans have tended to concentrate on what they can see. In recent years, however, scientists have been studying the ultraviolet spectrum.

In some bird species, females assess potential mates by gauging the reflection of ultraviolet light off the males' plumage.

If UV signals work in seduction, might they also work in battle? A study by Jessica Stapley and Martin J. Whiting at the University of Witwatersrand in South Africa shows that they do.

The researchers studied *Platysaurus broadleyi*, an African flat lizard. In males of this species, the throat is highly reflective in the ultraviolet range, which is invisible to humans. When a male encounters another male, it makes a display by expanding its throat. The other male may challenge it and make a display of its own, in which case a fight can ensue, or it may back off.

The researchers tested this signaling mechanism by applying UV-absorbing sunscreen to the throats of some males. (As a control, other lizards had plain moisturizing lotion applied.) The researchers found that when males had their UV reflectance reduced, they were more likely to be challenged by other males and the encounter was more likely to escalate into a fight.

The study, published in the journal *Biology Letters*, shows that males use UV reflectance, and not other factors like body size, as an initial gauge of aggressiveness and fighting ability. Reducing UV reflectance had no effect on fighting ability, however, so some of the lizards got more than they bargained for when they picked a fight with a low-UV opponent.

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