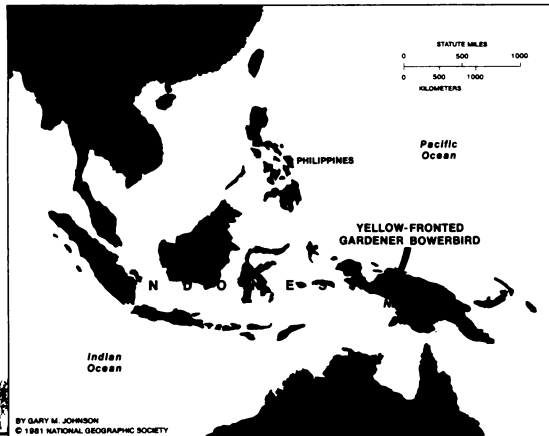


Legendary bowerbird thrives in New Guinea

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As chance and circumstance would have it, the mysterious yellow-fronted gardener bowerbird, sought by bird-lovers and scientists for nearly 90 years, is neither elusive nor extinct. People just had been looking in the wrong place.

The search for the bird ended unexpectedly last January when Jared Diamond, an ornithologist and physiologist at the University of California at Los Angeles, was conducting a general survey of birds in a remote part of the Gaultier Mountains in the Indonesian half of New Guinea. It is the kind of accident ornithologists dream about, he said. In an announcement November 10 at the National Geographic Society, which funded the research, Diamond reported that he sighted both the bird and its bower on the first day of field work and within several minutes of his camp.

He first saw a female bowerbird but thought that perhaps it was one of a well-known species. When he saw a male bowerbird and realized that it sported a brilliant orange crest that came down to its nostrils, he realized what he had found. Still, for Diamond the suspense continued until he examined the only three known pellets of the bird, which were purchased in Britain in 1895 by Lord Walter Rothschild. "When I pulled out the drawer at the New York Museum of Natural History, my first reaction was 'My God! That's it!'" The only difference between the specimen and the live bird was that the aged feathers in the museum had faded to a paler yellow.

The most dramatic confirmation of the find, Diamond says, is a courting scene he witnessed. The male, imitating varied sounds such as gravel rolling downhill or a frog's croak, held a blue fruit in his bill against the bright background of his chest. If the splendor of his plumage was not enough to entice the female bird in question, perhaps she would be impressed with his maypole-style bower. His bower was four feet high, criss-crossed with a bit of sapling or fern and encircled by a moss platform three feet in diameter. Three

piles of fruit—yellow figs, some ripe blue fruit, and some green, unripe samples of the blue—were arranged neatly on the platform.

Alas, like most courtship attempts of the cocky male bowerbirds, this one ended in failure: The female flew off after about 20 minutes. Only one in about 200 attempts is successful, Diamond says. Scientists do not understand why so much effort is wasted.

This species, one of the most spectacu-

lar of the 18 known species, offers one of the simplest bowers constructed. The discovery strengthens a theory that the more brilliantly plumed birds construct simpler bowers, while duller males use artificial adornment to distract the female's attention from his plumage to his structure. Some of the plainer species construct bowers up to seven feet tall, and may build avenues, thatched huts, or even paint the bowers with crushed plant matter, using a stick or leaf for a brush. The bowers are meticulously kept. In the best bachelor-pad tradition, they are used only for seduction and mating. In fact, after the conquest, the male becomes aggressive and kicks the female out. She builds the nest at some distance from the bower, and raises the young herself.

During his two-week stay, his ninth visit to New Guinea, Diamond saw about 30 of the "chunky," blue jay-sized birds, out of an estimated 1,000. He found bowers spaced at quarter-mile intervals along the crests of ridges between altitudes of 5,400 and 5,900 feet. He believes the birds' range is in the Gaultier Mountains at altitudes above 4,000 feet. Bowens are found only in Australia and New Guinea.

The bowerbirds' obsession with display may be an "analog for the human need for adornment," Diamond says, much like the dull fellow who drives a flashy sports car. Or, he says, the bower "could be a nest that got out of hand." —C. Simon

Alternative cancer treatment

Although the major advances in cancer treatment during the 20th century have come from using surgery, radiation, drugs or a combination thereof, other approaches toward treating cancer may also eventually pay dividends. One alternative—the filtering of certain tumor antigen-antibody complexes from the blood with a particular bacterial protein—is reported in the Nov. 12 *NEW ENGLAND JOURNAL OF MEDICINE* by David S. Terman of Baylor College of Medicine in Houston, and his colleagues.

In 1969 Karl and Ingegerd Hellström of the Fred Hutchinson Cancer Research Center in Seattle found that tumor antigen-antibody complexes in the blood could suppress the ability of cancer patients' immune cells to destroy tumors. They named these complexes "blocking factors." In 1974 other investigators reported that these blocking factors could be removed from the blood of a cancer patient by exposing the blood to a specific protein of the bacterium *Staphylococcus aureus* called protein A. Then in 1978 still other scientists exposed the blood of a colon cancer patient to protein A in hopes of removing blocking factors from his blood and thereby bringing about tumor regression. The patient experienced some cancer retreat.

Now Terman and colleagues have at-

tempted to perform a similar feat in four breast cancer patients. The patients had advanced breast cancer that conventional therapy hadn't helped. Their blood plasma was perfused through a chamber containing protein A. Patients one, three and four received such perfusion five or six times over a period of 10 to 42 days. Patient two was perfused only once. Then the patients were examined for signs of tumor regression. As Terman and his colleagues report, patients one, three and four all experienced tumor regression, suggesting that exposing the blood of cancer patients to protein A can indeed bring about cancer withdrawal, and apparently do so by removing blocking factors from the blood. Patient two, in contrast, experienced no change in her cancer.

In an accompanying editorial, the Hellströms say that they find these results "exciting," particularly since the results partially derive from their own studies back in 1969. They caution, however, as do Terman and his co-workers, that a lot more research has to be conducted before blood exposure to protein A can be firmly shown to be an effective cancer treatment. For instance, a lot more patients have to be tested, control subjects have to be used, and the technique's impact on survival will have to be demonstrated.

—J. A. Treichel