Protecting Fiji's frog's

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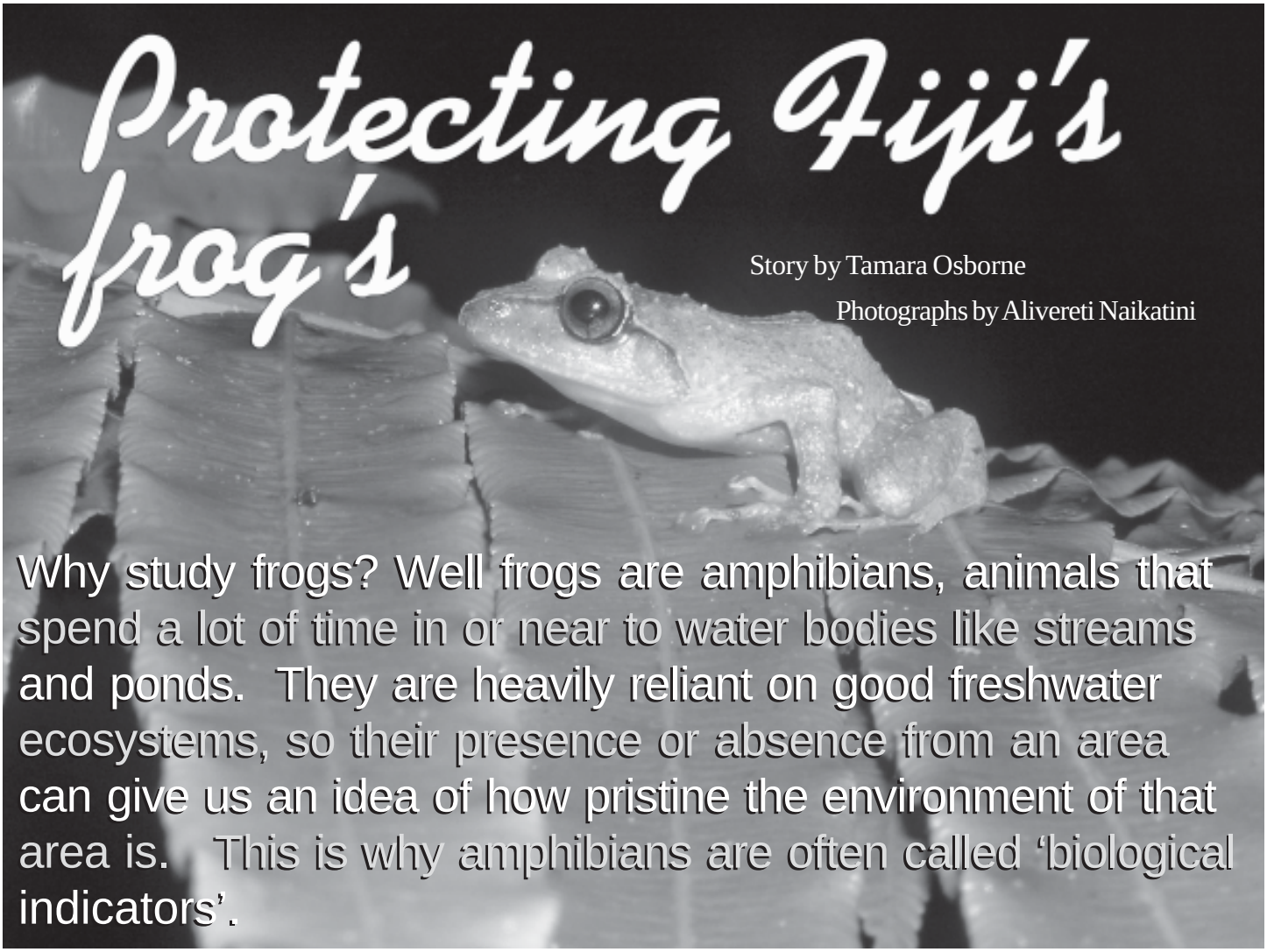

Why study frogs? Well frogs are amphibians, animals that spend a lot of time in or near to water bodies like streams and ponds. They are heavily reliant on good freshwater ecosystems, so their presence or absence from an area can give us an idea of how pristine the environment of that area is. This is why amphibians are often called 'biological indicators'.

FROGS?! Why would anyone want to work with frogs? Well you'd be surprised just how many frog biologists there are in the scientific world today. And even more surprised that right now somewhere in the Fiji bushland there are frog biologists working hard to conserve the Fiji frogs. Fiji frogs? Yes, they exist… in fact they were here before the first humans to land on Fiji. Unfortunately, they haven't done as well as humans have in terms of population expansion. That's because with human population growth and the development of cities and towns, we have cleared much of the forest that once covered our beautiful green islands. And along with the forest went many species of insects, lizards, birds, bats, and the two Fiji frogs.

Fiji's frogs, the ground frog (*Platymantis vitianus*) and the tree frog (*Platymantis vitiensis*) are found only in Fiji and nowhere else in the world. They are our heritage, our very own frogs. Its disheartening to know that most urban Fijians do not know that these frogs exist. In fact, a lot of people call the introduced cane toad (*Bufo marinus*) a frog! The cane toad was first introduced into Fiji form South America in 1936 as a biological control for the cane beetle. The idea was that the cane toads would sit in the cane fields catching all the cane beetles, and thereby reducing the loss that the cane industry was incurring as a result of these insect pests.

Unfortunately, it didn't quiet work that way. The cane toad didn't really take to cane beetles but expanded its diet to just about everything else, as it has done on all the other sugar-cane growing countries it was introduced into (Australia, Mauritius, the Carribean Islands). Why are the cane toads such a pest? Well they are such hardy creatures and with no predators in Fiji they can now be found everywhere you look. Except in places like Gau, one of the islands these toads were never introduced to and where the toads have not naturally dispersed to.

On Gau Island, the ground frog is locally common. Much of the interior of the island is still heavily forested with good forest habitat for frogs. And there are no cane toads, so there is no competition for resources like space and food. All very important for a healthy population of frogs. Interestingly, the Gau ground frogs are the largest of the five known populations. So the lack of competition may be a key factor in the greater average size of individuals. We found frogs that were over a 100g in weight.

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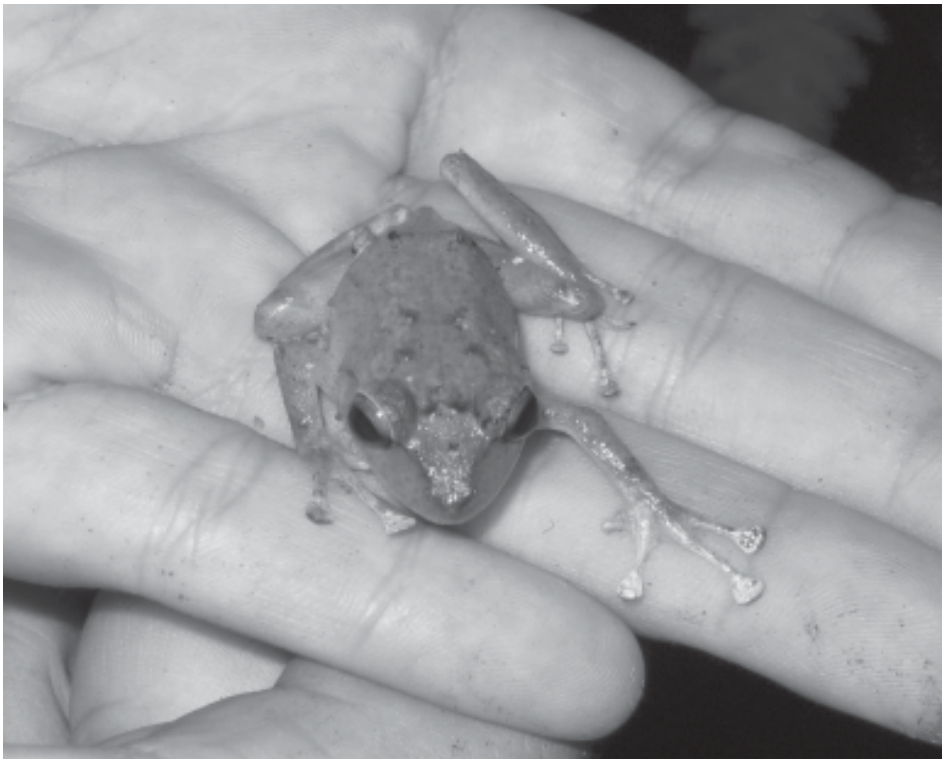
ecosystems, so their presence or absence from an area can give us an idea of how pristine the environment of that area is. This is why amphibians are often called 'biological indicators'. If an area of forest is affected by human activity then the chances are that stream or riparian ecosystem is affected as a result. Take an area of primary rainforest that has been logged or undergone severe clear-cutting. What usually happens is that heavy rain (as commonly occurs in Fiji and much of the tropical parts of the South Pacific) washes topsoil off into the streams in the area. This causes silting and water-breeding insects are badly affected. These insects may be part of the food chain for animals like lizards and frogs. As a result of the decline in their food resources there may be a drop in the numbers of lizards and frogs.

I admit that this is an over-simplified picture. There are many factors that influence population declines in a degraded habitat, and we don't always understand how these factors work. However, there have been many reviews of articles documenting frog population declines and most reviews agree that habitat loss and degradation is the most common cause of extinctions of frog species and populations. Frogs are generally reliant on good habitat as their skins are permeable and many species breathe through their skin as well as through their mouths. Polluted air (as you would find near roads) has a negative effect on frogs. In addition, many smaller frogs dry out rapidly during the day and prefer denser forests where the closed canopy blocks out most of the sun's rays.

So you can see how they are such good indicators of a healthier more pristine forest environment. Why else do we study frogs? Well they are part of the land that we have inherited from our ancestors. They are, in a sense, our 'heritage'. We need to conserve them because they belong to us and can be found nowhere else in the world (this applies to the endemic frog species). We also need to conserve them because in order to do so we have to conserve pristine or intact forest as the habitat in which these frogs are likely to survive. And by conserving the forest habitat we indirectly save other fragile forest species that also rely on good forest for a home.■



ABOVE & BELOW: Fiji tree frog (*Platymantis vitiensis*).

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