



## Native languages hold key to saving species

By Steve Connor

Many animals and plants threatened with extinction could be saved if scientists spent more time talking with the native people whose knowledge of local species is dying out as fast as their languages are being lost.

Potentially vital information about many endangered species is locked in the vocabulary and expressions of local people, yet biologists are failing to tap into this huge source of knowledge before it is lost for good, scientists said.

"It seems logical that the biologists should go and talk to the indigenous people who know more about the local environment than anyone else," said David Harrison, an assistant professor of linguistics at Swarthmore College in Pennsylvania.

"Most of what humans know about ecosystems and species is not found in databases or libraries or written down anywhere. It's in people's heads. It's in purely oral traditions," Dr Harrison told the American Association for the Advancement of Science in San Francisco.

"About 80 per cent of the animals and plants visible to the naked eye have not yet been classified by science. It doesn't mean they are unknown; it just means we have a knowledge gap".

An estimated 7 000 languages are spoken in the world but more than half of them are dying out so fast that they will be lost completely by the end of the century as children learn more common languages, such as English or Spanish.

He cited the example of a South American skipper butterfly, *Astrartes fulgera-tor*, which scientists thought was just one species until a DNA study three years ago revealed that it was in fact 10 different species whose camouflaged colouration made the adult forms appear identical to one another.

Yet if the scientists had spoken to the Tzeltal-speaking people of Mexico - descendants of the Maya - they might have learnt this information much sooner because Tzeltal has several descriptions of the butterflies based on the different kinds of caterpillar.

"These people live on the territory of that butterfly habitat and in fact care very little about the adult butterfly but they have a very-fine grained classification for the larvae because the caterpillars affect their crops and their agriculture," Dr Harrison said.

"It's crucial for them to know which larva is eating which crop and at what time of year. Their survival literally depends on knowing that, whereas the adult butterfly has no impact on their crops," he said.

"There was a knowledge gap on both sides and if they had been talking to each other they might have figured out sooner that they were dealing with a species complex," he said.

"Indigenous people often have classification systems that are often more fine-grained and more precise than what Western science knows about species and their territories."

Another example of local knowledge was shown by the Musqueam people of British Columbia in Canada, who have fished the local rivers for generations and describe the trout and the salmon as belonging to the same group.

In 2003 they were vindicated when a genetic study revealed that the "trout" did in fact belong to the same group as Pacific salmon, Dr Harrison said. "It seems obvious that knowing more about species and ecosystems would put us in a better position to sustain those species and ecosystems," he said.

That's my argument, that the knowledge gap is vastly to the detriment of Western science. We know much less than we think we do.

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