

Twenty new freshwater fish species uncovered in Australia

January 6 2016



Researchers have discovered 20 new species of freshwater fish during field work in the remote Kimberley region of Western Australia. Credit: The University of Melbourne

Researchers have discovered a record 20 new fish species while conducting fieldwork in the remote Kimberley, unveiling it as Australia's most biodiverse region for freshwater fish.

It is the single greatest addition to the country's freshwater fish inventory since records began and boosts the total number of known species in Australia by almost ten per cent.

The research team included Associate Professor Tim Dempster, Professor Stephen Swearer, James Shelley, Matthew Le Feuvre (University of Melbourne), Dr Martin Gomon (Museum Victoria) and Dr Michael Hammer (NT Museum).

Team leader Dr Tim Dempster, from the University of Melbourne's School of BioSciences, says the discovery highlights the hidden wealth of biodiversity within the Kimberley.

"The freshwater ecosystems of the Kimberley are among the poorest known and least researched areas of Australia," Dr Dempster said.

"If we can double the number of known [fish species](#) unique to the Kimberley in just three years, it can only mean the entire biodiversity of life in Kimberley rivers is underestimated.

"Certainly, it is a treasure trove for freshwater fish—and the amazing thing is that we weren't even looking for it."

Dr Dempster's researchers were in the Kimberley to study the extinction risks for the region's existing [freshwater fish](#), results of which have just been published in the journal *Global Ecology and Biogeography*.



Researcher James Shelley managed to escape being bitten on the head by a crocodile during the field work. Credit: The University of Melbourne

Lead author of the paper, Matthew Le Feuvre said "many of the 18 known and 20 newly discovered species unique to the Kimberley share similar characteristics with fish species elsewhere in Australia that are conservation listed as vulnerable, threatened or endangered.

"However, currently no fish species in the Kimberley are conservation-listed, despite their potential vulnerability."

The new species were discovered during nine months of fieldwork across 17 Kimberley rivers between 2012 and 2014.

Twelve of the 20 species were discovered within a three-week period in 2013 by James Shelley and Matthew Le Feuvre when they accessed some of the most remote rivers in Australia by helicopter.

Sampling was challenging, with Mr Shelley attacked by a freshwater crocodile while snorkeling in the Glenelg river on the Kimberley plateau.

The new species fall within three categories:

- *Terapontidae* (grunters) 16 new species
- *Eleotridae* (gudgeons) three new species
- *Atherinidae* (hardy heads) one new species.

One of the new species—a 25cm-long grunter found in the remote and spectacular Prince Regent River—is set to be named after writer and

novelist Tim Winton.

"It's in recognition of his contribution to Australia's cultural life, his love of fish which shines through in many of his novels, and his staunch advocacy for conservation in the Kimberley," Mr Shelley said.

Mr Winton said it was "surprisingly gratifying" to have his name attached to a new species of fish.

"The Kimberley is a treasure that clearly requires more study and greater protection and groundbreaking discoveries like these underline just how much there is still to learn about this special region," Mr Winton said.

All the remaining [new species](#) will receive a common name reflecting the aboriginal name for the area it was collected from or words describing its features, as well as a Latin scientific name.

The research team hopes the discovery strengthens conservation efforts in the Kimberley.

"Fish are just the tip of the iceberg," he said.

"This discovery has major implications for conservation, particularly in light of the Federal Government's moves to modify water resources in northern Australia," he said.

"A lot of these new fish species are unique to just one catchment, so they're particularly vulnerable if there is a change to their limited habitat."

Provided by University of Melbourne

Citation: Twenty new freshwater fish species uncovered in Australia (2016, January 6) retrieved 20 April 2024 from

<https://phys.org/news/2016-01-twenty-freshwater-fish-species-uncovered.html>

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