

Two new hillstream suck-loach species discovered in southwest China

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Lateral (top), dorsal (middle), and ventral (bottom) views of *Beaufortia granulopinna* from Lizhou River, a stream tributary of Bo'ai River of the Pearl River basin, at Tianlin County, Guangxi Province, China. Credit: Chen et al.

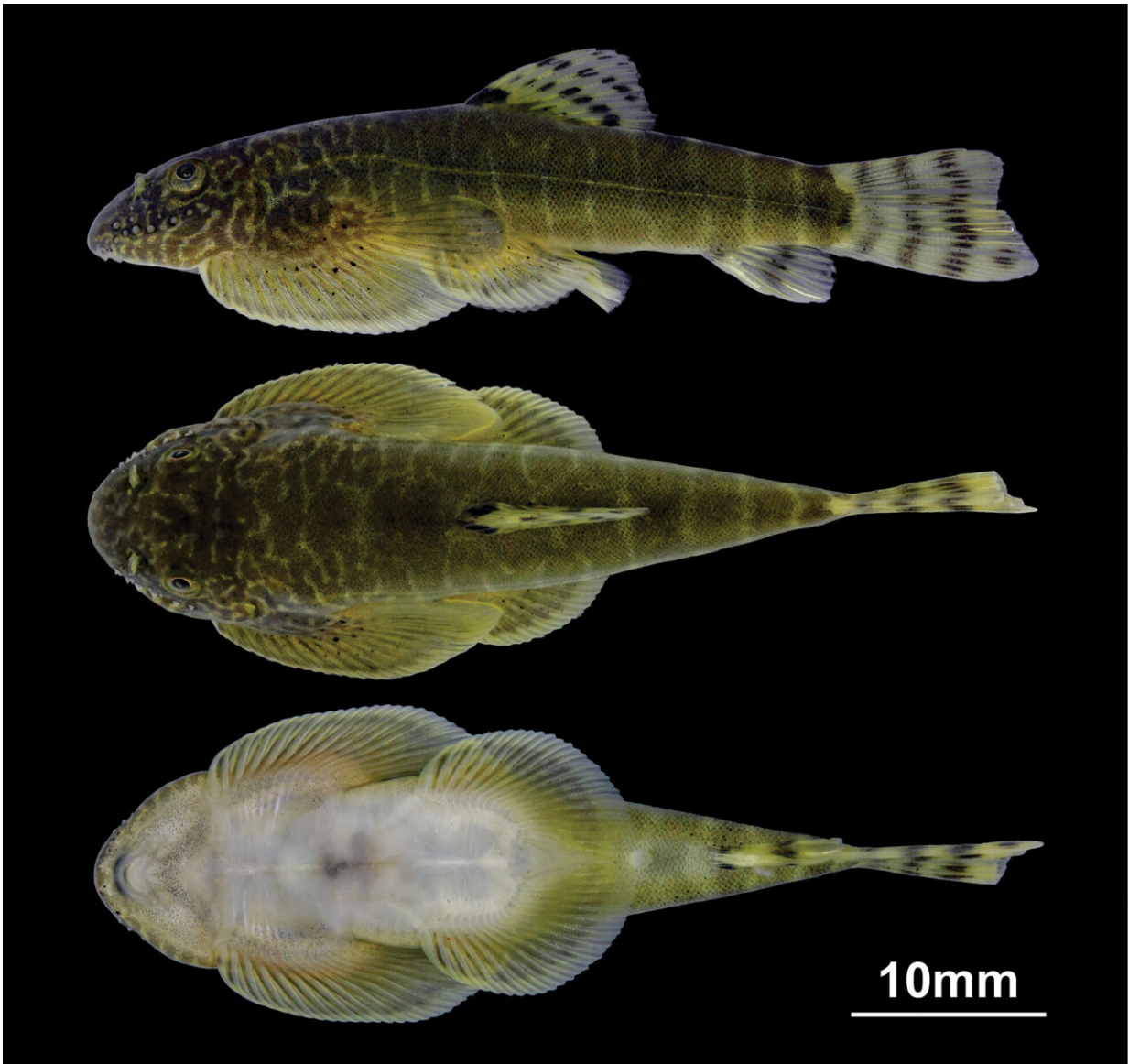
Researchers from Shanghai Ocean University and Yunnan Agricultural University have identified two new species of hillstream suck-loach, *Beaufortia granulopinna* and *Beaufortia viridis*, from the upper Pearl River system in southwest China.

The study, [published](#) in the journal *Zoosystematics and Evolution* and led by Jing-Chen Chen, offers new insights into the taxonomy and molecular phylogeny of the *Beaufortia pingi* [species](#) group.

Beaufortia granulopinna is distinguished by its prominent tubercles, or round bumps, on the first 6-9 pectoral fin rays in adults, and a unique pattern of blurriness or absence of vertical stripes in the mid-section of the lateral body upon reaching adulthood. The species name "granulopinna" is derived from the Latin words "granulo" (grainy) and "pinna" (fin), reflecting the bumps on its fins.

Beaufortia viridis is characterized by consistent vertical stripes of uniform length, width, and spacing across all growth stages, and a striking dark cyan to green body coloration. The species name "viridis" comes from the Latin word for "green."

These species exhibit significant morphological specializations, including a compressed body, a flattened ventral surface, and greatly expanded paired fins forming a suction cup-like structure. These adaptations enable them to adhere to rocky substrates, resisting currents while feeding on algae and invertebrates.



Lateral (top), dorsal (middle), and ventral (bottom) views of *Beaufortia viridis* from Wuming River, a stream tributary to the You River of the Pearl River basin, at Wuming District, Nanning City, Guangxi Province, China. Credit: Chen et al.



Collection site of *Beaufortia granulopinna* from Lizhou River, a stream tributary of Bo'ai River of the Pearl River basin, Tianlin County, Guangxi Province, China. Credit: Qian-Yu Liang

The discoveries were made during surveys studying [aquatic life](#) in various waterways in Yunnan and Guangxi between 2022 and 2024. During these surveys, some fish exhibited strong territorial behavior, flaring their fins and headbutting rivals to drive them away.

The discovery highlights the rich biodiversity of the upper Pearl River system and underscores the importance of continued taxonomic and molecular research to understand and preserve these species. Species of the *Beaufortia pingi* group are popular ornamental fish in China, contributing to substantial profits in the aquarium trade. However,

unsustainable harvesting practices threaten their populations. Their sensitivity to pollution and changes in [water quality](#) further exacerbates their decline.

In the type locality of *B. viridis* sp. nov., Wuming District, Nanning City, many small tributaries have been modified into reservoirs for [water storage](#), and those near agricultural areas are polluted, making them unsuitable for their survival. Interestingly, a stable population was found inside a commercial eco-camping site, where some river sections have been left undeveloped, providing a refuge for this species.

The researchers emphasize the need for increased attention to these species, further research, and habitat conservation. Sustainable planning and development are crucial to ensure the harmonious coexistence of humans and nature.

More information: Jing-Chen Chen et al, Taxonomic resolution of the hillstream suck-loach *Beaufortia pingi* species group (Cypriniformes, Gastromyzontidae) and two new species from Southwest China—*Beaufortia granulopinna* and *Beaufortia viridis*, *Zoosystematics and Evolution* (2024). [DOI: 10.3897/zse.100.124370](https://doi.org/10.3897/zse.100.124370)

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