



**DISTRIBUTION UPDATE AND MORPHOMETRIC
VARIATION OF RED TAIL LICORICE GOURAMI
Parosphromenus ornaticauda FROM WEST KALIMANTAN**

WINDA EKA PUTRI



**ANIMAL BIOSCIENCE STUDY PROGRAM
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
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Winda Eka Putri
G3502241002

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SUMMARY

WINDA EKA PUTRI. Distribution Update and Morphometric Variation of Red Tail Licorice Gourami *Parosphromenus ornaticauda* From West Kalimantan. Supervised by PUJI RIANTI and DANIEL FRIKLI MOKODONGAN.

Parosphromenus ornaticauda is a critically endangered dwarf labyrinth fish restricted to peat swamp waters in West Kalimantan, Indonesia. Previous records were limited to the type locality, and morphological variation across its geographic range remained poorly understood. This study aims to update the distribution records and assess morphometric variation between sexes and populations. Field surveys were conducted at 20 locations across six rivers in West Kalimantan. Morphometric analysis was performed on 40 specimens (21 males and 19 females) from two populations using 13 body measurements. Statistical analyses included Mann-Whitney U test and Principal Component Analysis. The species was recorded at seven locations, including five sites outside its IUCN Red List distribution range, thereby extending its known occurrence to the Mempawah, Tempayan, and Ambawang rivers. Notably, only one location occurred inside protected forest areas. Significant sexual dimorphism was detected in anal-fin base length, with males exhibiting shorter fins than females. Population-level differences were identified in five morphometric characters, with specimens from lentic peat-swamp habitats exhibiting smaller body depth from lotic canal habitats. These results demonstrate that *P. ornaticauda* has a broader distribution than previously recognized and exhibits phenotypic plasticity related to habitat type. Immediate conservation measures are recommended, given that the species occur predominantly in unprotected, fragmented habitats.

Key words: blackwater habitat, endemic fish, Osphronemidae, population variation, sexual dimorphism.



RINGKASAN

WINDA EKA PUTRI. Pembaruan Distribusi dan Variasi Morfometri Ikan Gurami Ekor Merah *Parosphromenus ornaticauda* dari Kalimantan Barat. Dibimbing oleh PUJI RIANTI dan DANIEL FRIKLI MOKODONGAN.

Parosphromenus ornaticauda adalah ikan labirin yang terancam punah dan terbatas pada perairan rawa gambut di Kalimantan Barat, Indonesia. Catatan sebelumnya terbatas pada lokasi tipe, dan variasi morfologi di seluruh wilayah geografisnya masih kurang dipahami. Studi ini bertujuan untuk memperbarui catatan distribusi dan menilai variasi morfometrik antara jenis kelamin dan populasi. Survei lapangan dilakukan di 20 lokasi di enam sungai di Kalimantan Barat. Analisis morfometrik dilakukan dengan mengukur 13 karakter pada 40 spesimen (21 jantan dan 19 betina) dari dua populasi. Analisis statistik meliputi uji Mann-Whitney U dan analisis komponen utama. Spesies ini tercatat di tujuh lokasi, dengan lima lokasinya di luar jangkauan distribusi IUCN, memperluas keberadaannya yang diketahui ke sungai Mempawah, Tempayan, dan Ambawang. Hasil menunjukkan hanya satu lokasi yang berada di dalam kawasan hutan lindung. Dimorfisme seksual yang signifikan terdeteksi pada panjang dasar sirip dubur, dengan jantan memiliki sirip yang lebih pendek daripada betina. Perbedaan tingkat populasi diidentifikasi pada lima karakter morfometrik, dengan spesimen dari habitat rawa gambut lentik menunjukkan kedalaman tubuh yang lebih kecil dari habitat kanal lotik. Hasil ini menunjukkan bahwa *P. ornaticauda* memiliki distribusi yang lebih luas daripada yang sebelumnya diketahui dan menunjukkan plastisitas fenotipik yang terkait dengan tipe habitat. Tindakan konservasi segera direkomendasikan, mengingat keberadaan spesies ini sebagian besar di habitat yang tidak terlindungi dan terfragmentasi.

Kata kunci: air hitam, dimorfisme seksual, ikan endemik, Osphronemidae, variasi populasi



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Thesis examination committee:
Dr. Heok Hui Tan

Title of Thesis : Distribution Update and Morphometric Variation of Red
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West Kalimantan
Name : Winda Eka Putri
Student ID Number : G3502241002

Approved by
Advisory Committee

Chairman:
Dr. Puji Rianti, S.Si., M.Si



Member
Daniel Frikli Mokodongan, S.Pi., M.Sc. D.Sc



Acknowledged by

Head of Animal Bioscience Study Program
Prof. Dr. Drs. Tri Atmowidi, M.Si
NIP 196708271993031003



Dean of Faculty of Mathematics and Natural Sciences
Dr. Berry Juliandi, S.Si., M.Si
NIP 197807232007011001



Date of Examination:
July, 2nd 2026

Date of Graduation:



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