

Breaking the mold: a new genus of Coenagrionidae (Odonata: Zygoptera) from a Brazilian Amazon protected area, with preliminary phylogenetic insights

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Research Article



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All relevant data are
within the paper and its
[Supporting Information files](#).

Abstract. A new genus and species of Coenagrionidae (Zygoptera: Odonata) is described from a remote and protected area in the Brazilian Amazon. The new taxon, *Kuigrion hamadae* gen. n. et sp. n., displays a unique combination of morphological features, including a caudally projected pronotum in both sexes, fused ventrobasal and dorsal branches of the cerci, a genital ligula with distinctive lateral lobes, and reduced paraprocts. Diagnostic features, illustrations of both sexes, and molecular data based on COI sequences are provided. Phylogenetic analyses using Maximum Likelihood and Bayesian Inference place this new taxon within the core Coenagrionidae, although its morphological traits suggest affinities with the ‘ridged frons’ clade. This incongruence between molecular and morphological data raises new questions regarding character interpretation and phylogenetic signal within the family. This discovery highlights the importance of systematic surveys in understudied Amazonian ecosystems. Moreover, it underscores the relevance of long-term research and monitoring programs, such as ICMBio’s Monitora Aquático, in advancing biodiversity knowledge and reducing existing knowledge gaps.

Keywords. Amazon rainforest, damselfly, description, ICMBio, Neotropics, phylogenetics, ridged-frons, taxonomy

<https://www.zoobank.org/urn:lsid:zoobank.org:act:571B1D64-54A2-423C-8936-609200198075>

<https://www.zoobank.org/urn:lsid:zoobank.org:act:D84EAF58-3FCC-47D9-BA3A-CC20C9570162>

Resumo. Um novo gênero e espécie de Coenagrionidae (Zygoptera: Odonata) é descrito a partir de uma área remota e protegida na Amazônia brasileira. O novo táxon, *Kuigrion hamadae* gen. n. et sp. n., apresenta uma combinação única de características morfológicas, incluindo um pronoto projetado caudalmente em ambos os sexos, fusão entre os ramos ventrobasal e dorsal dos cercos, uma lígula genital com lobos laterais distintivos e os paraproctos reduzidos. São fornecidas características diagnósticas, ilustrações de ambos os sexos e dados moleculares baseados em sequências do gene COI. Análises filogenéticas com Máxima Verossimilhança e Inferência Bayesiana posicionam o novo táxon dentro do núcleo de Coenagrionidae, embora seus traços morfológicos sugiram afinidades com o clado ‘ridged frons’. Essa incongruência entre dados moleculares e morfológicos levanta novas questões sobre a interpretação de caracteres e o sinal filogenético dentro da fa-