The Rediscovery Of Joiceya Praeclarus Talbot 1928 (Lepidoptera: Riodinidae), More Than 80 Years after Its Description

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Additional key words: Atlantic Forest, Brazil, cerrado, endangered species, Nymphidiini, Parque Nacional do Iguaçu

The family Riodinidae is the third most speciose butterfly group in the Neotropics, with more than 1,300 described species in this region (Callaghan & Lamas 2004), and shows an extraordinary diversity of morphological, ecological and life history traits (reviewed in Brown 1993a; DeVries 1997). Although in the past 30 years there have been advances in riodinid taxonomy (see comments in Hall 2005: 3–5), there have been few studies on the ecology and natural history of most riodinid species. Our poor understanding of riodinid biology is partly a result of the apparent rarity of many species, which may be a consequence of them occurring in small, localized populations and/or that some inhabits the forest canopy, are rarely attracted to baits, making them difficult to sample (Callaghan 1978; Brown 1993a; DeVries et al. 1994; Hall & Willmott 2010). Some highly endemic species may therefore be vulnerable to habitat destruction, but the difficulty in observing or sampling them complicates assessing their natural population densities. Consequently, any biological observations of rare riodinid species are potentially important.

Joiceya praeclarus Talbot, 1928 (Fig. 1) is a good example of the above situation. This monotypic genus was described from two males collected in two cerrado areas in Tombador and Cuiabá, in Mato Grosso, central Brazil (Talbot 1928), and despite intensive efforts, it has not been observed for more than 80 years following its description, and its biology and natural history remain unknown (Brown 1993b). Because of its apparent rarity and restricted geographical distribution, *J. praeclarus* was the first Riodinidae to appear on a red list of endangered species (Bernardes et al. 1989), and has been evaluated as "Endangered" by the IUCN (IUCN 2011).

On 9 September 2011, at 11:20 hs, a single male of *J. praeclarus* was observed and collected at Foz do Iguaçu, Paraná, Brazil (25°33'S 54°31'W, 205 m a.s.l.), about 1,200 km from its type locality in Mato Grosso. The site consisted of a small patch of secondary riparian forest along the Köhlenberger stream, inside a matrix of old abandoned pastures and country houses, about 8.4 km from Iguaçu National Park. The male was flying about 1 m high, and landing upside down beneath leaves with wings closed over the body. The individual has been collected for photographs (Fig. 1) and was deposited at the Museu de Zoologia "Adão José Cardoso" (ZUEC), Universidade Estadual de Campinas, Campinas, São Paulo, Brazil. Despite intensive subsequent searches, no other individuals were observed on following days at the site. The observation of *J. praeclarus* in Foz do Iguaçu is of obvious importance for its conservation assessment, given the paucity of data previously available for the species. Since the conservation status of the species is based on the assumption of its occurrence at a single locality, this status should be revised from "Endangered" to "Data deficient". It now seems possible that *J. praeclarus* may occur in similar habitats from Mato Grosso to Paraná, and obviously more observations are needed to assess its habitat requirements and true distribution. The fact that the individual *J. praeclarus* was observed in a small, secondary forest fragment suggests it may be a much more tolerant species than formerly assumed, with populations potentially

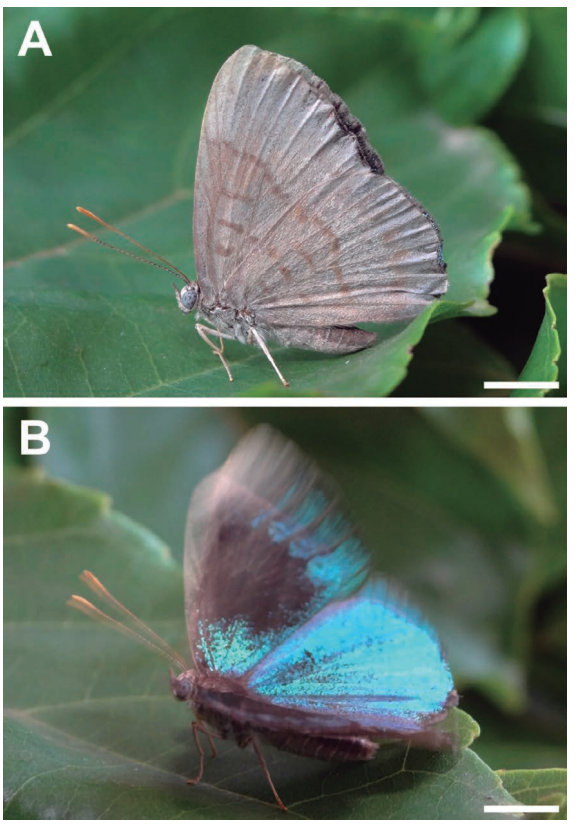

FIG. 1. Adult male of *Joiceya praeclarus*. **A,** perched above leaves; **B,** about to take off—note the dorsal blue metallic coloration. Scale bars = 0.5 mm.

persisting in a variety of different habitats in the region of Foz do Iguaçu. In this case the rarity of this species might be explained by its persistence in small localized populations, making adults seldom observed (additionally, adults can fly in restricted periods of the day or of the year, as known for several riodinids), or it is simply a canopy species which is very rarely collected in the understory, as is the case with several rare riodinids which usually fly very high in the forest (DeVries 1997; Hall & Willmott 2010).

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