

## The outlier: new data on a free-ranging marsh deer push the upper limit of the species' body size

Javier A. Pereira<sup>1,2</sup>, Emiliano Donadio<sup>3</sup>, Ana C. Rosas<sup>3</sup>, Juan F. Tellarini<sup>2</sup>, Mauro Toledo<sup>4</sup> and B. Manuel Vázquez<sup>5</sup>

<sup>1</sup> Consejo Nacional de Investigaciones Científicas y Técnicas – Museo Argentino de Ciencias Naturales “Bernardino Rivadavia”, Ciudad de Buenos Aires, Argentina. [jpereira@conicet.gov.ar](mailto:jpereira@conicet.gov.ar)

<sup>2</sup> Proyecto Pantano

<sup>3</sup> Fundación Rewilding Argentina, Corrientes, Argentina

<sup>4</sup> Reserva de Biósfera Delta del Paraná – Dirección de Áreas Protegidas, San Fernando Municipio, Provincia de Buenos Aires, Argentina

<sup>5</sup> Ministerio de Ambiente, Provincia de Buenos Aires, Argentina

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The marsh deer (*Blastocerus dichotomus*) occurs in wetlands and marshy habitats from southern Amazonia to Argentina (Pinder & Grosse 1991). It is the largest deer in South America, with reported adult head and body lengths of 153-191 cm and body weight of 80-150 kg (Pinder & Grosse 1991, Piovezan et al. 2010, Galindo et al. in press). Most of the information available on body measurements of the marsh deer has been obtained in Brazil, where field research and captive programs provided opportunities to collect such data (e.g., Duarte 2008, Galindo et al. in press).

The southernmost population of the marsh deer inhabits the Paraná River Delta, Argentina (Varela 2003) and differs genetically from other populations (Márquez et al. 2006, Wolfenson 2021). Furthermore, the Paraná River Delta population has been recently categorized as Endangered because of poaching, habitat loss, and dog predation (Pereira et al. 2019). Since 2015, as a part of an initiative aimed at studying and conserving this population ("Pantano Project", [www.proyectopantano.org](http://www.proyectopantano.org), see Pereira et al. 2018), marsh deer individuals have been captured and fitted with satellite collars to evaluate habitat use and movement patterns. On August 19, 2022, an adult male was captured and anesthetized (Fig. 1) on a property of the

forestry company Arauco Argentina S.A. (33°59' S and 58°54' W) in the province of Buenos Aires, Argentina. Head plus body length (excluding tail) of this individual was 209 cm, whereas body weight was 154.8 kg. These figures were larger than those recorded for another 13 males previously captured in this population (range head and body length = 146-194 cm; range body weight = 87-126 kg). The male presented light tooth wear and robust antlers in the hard stage, with 5- and 4-points on the right and left sides, respectively.



**Figure 1.** Adult male marsh deer (*Blastocerus dichotomus*) captured on August 19, 2022, in the Paraná River Delta. Photo credits: Juan F. Tellarini.

Although tooth wear patterns suggested that the individual was a young adult, tooth wear rates can vary based on diet, habitat, and tooth characteristics (e.g., Hewison et al. 1999), preventing us from accurately estimating its age. To the best of our knowledge, body measurements documented for this male represent World records for the species, exceeding the upper limits of head and body length and body weight previously reported in the literature. Since very-large marsh deer individuals are often observed in the Paraná River Delta (Fig. 2), future data collection on this population might push even further the upper limits of body measurements of this species.



**Figure 2.** Two large marsh deer (*Blastocerus dichotomus*) individuals observed in the Paraná River Delta. Photo credits: Javier A. Pereira (left) and Silvia Usatorre (right).

These data, in turn, would help to clarify patterns of intra-specific body size variation (e.g., Bergmann's rule; Mayr 1956) in the largest deer of South America.

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