

SHORT NOTE

Consumption of stamens of buds and flowers by the Hoatzin, *Opisthocomus hoazin*, in the Brazilian Amazon, based on citizen science data

Consumo de estambres de botones florales y flores por el Hoatzin, *Opisthocomus hoazin*, en la amazonía brasileña, basado em datos de ciencia ciudadana

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ABSTRACT

The Hoatzin, *Opisthocomus hoazin*, is an arboreal bird species considered to be primarily folivore, with the eventual consumption of other vegetal parts, such as shoots and flowers. I report here the consumption of floral resources by the Hoatzin in Brazil, using citizen science data. I present four records of Hoatzins feeding on stamens of flowers and buds of *Pseudobombax munguba* (Malvaceae) during the dry season. These are new items in the Hoatzin's diet. Further studies are necessary to investigate how Hoatzins rely on this tree species and to quantify their role in causing damage to its reproductive parts.

Keywords: floral resources, Malvaceae, Opisthocomidae, Pseudobombax.

RESUMEN

El Hoatzin, *Opisthocomus hoazin*, es una especie de ave arbórea considerada principalmente folívora, con el eventual consumo de otras materias vegetales, como brotes y flores. Se reporta el consumo de recursos florales por Hoatzin en Brasil, utilizando datos de ciencia ciudadana. Presento cuatro registros de Hoatzins alimentándose de estambres de flores y botones de *Pseudobombax munguba* (Malvaceae) durante la estación seca. Estos son elementos nuevos en la dieta del Hoatzin. Se necesitan más estudios para investigar cómo los Hoatzins dependen de esta especie de árbol, y para cuantificar su papel al causar daños a las partes reproductivas de esta planta.

Palabras clave: recursos florales, Malvaceae, Opisthocomidae, Pseudobombax.

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The Hoatzin, *Opisthocomus hoazin* (Statius Muller, 1776), is the only species in the Order Opisthocomiformes (Winkler *et al.* 2020). It is widely distributed throughout most of the Amazon, and adjacent Cerrado regions (Billerman 2020). These birds live in pairs or flocks in forests associated with water courses, such as mangroves and *várzea* forests (Sick 1997). They usually perch or stay lying on branches, and are able to fly short distances (Sick 1997). Hoatzins are active during the day and night, and feed almost exclusively on leaves (Billerman 2020, Winkler *et al.* 2020). For Brazil, Sick (1997) reports the consumption of young leaves of trees commonly found in mangroves, but also grasses and aquatic macrophytes. In Venezuela, Hoatzins feed on young leaves and twigs of some of the most abundant trees in its habitat (Domínguez-Bello *et al.* 1994). Billerman (2020) cited the study by Torres (1987) in Peru, that recorded the consumption of leaves of 51 plant species. Billerman (2020) mentions that Hoatzins eventually feed on buds, shoots and flowers that are rich in water and nutrients. This study reports on the consumption of floral resources by Hoatzins in Brazil, using citizen science data.

The records involved in this study were obtained through searches in the WikiAves (<https://wikiaves.com.br>) and eBird Brasil (<https://ebird.org/brasil/home>) databases. These searches were done in mid-August 2021 by typing “*Opisthocomus hoazin*” in the Species field. All resulting photographs were examined to identify those showing feeding events. I also included in this study additional photographs provided by citizens who had produced records.

Nine records with evidence of feeding activities by Hoatzins were found after examining 1369 and 116 photographs in the WikiAves and eBird databases, respectively. Seven of them showed birds eating non-identified leaves, while other two records had Hoatzins feeding on floral resources of munguba trees (*Pseudobombax munguba* (Mart.) Dugand, Malvaceae) in Amazonas state, northern Brazil. One of these records (WA-1397371) was obtained by A. Marinelli on 18 July 2014 in Uarini, and shows a Hoatzin feeding on stamens of a broken floral bud (Fig. 1a). Two additional photographs made by her on 26 May 2015, and not published in the WikiAves database, showed a bird feeding on stamens of a totally open flower (Fig. 1b), and other Hoatzin



Fig. 1. Records documenting Hoatzins (*Opisthocomus hoazin*) feeding on floral parts of munguba trees (*Pseudobombax munguba*, Malvaceae) during the dry season in Amazonas state, Brazilian Amazon **a.** a Hoatzin feeding on stamens of a broken floral bud; **b.** a Hoatzin feeding on stamens of an open flower; **c.** a Hoatzin with parts of stamens on its bill; **d.** a Hoatzin with its head reaching the deepest parts of a floral bud. Photos by Aline Marinelli (a, b, c) and Leilanne Cavalcante (d).

tin with stamens on its bill (Fig. 1c). These two photographs were sent to me by her when I requested the first one. The other record found in databases (WA-4377945) was obtained by L. Cavalcante on 03 July 2021 in Itacoatiara. In this case, a Hoatzin has its head within a semi-open floral bud with scarce stamens (Fig. 1d). A 11s long video provided by her showed the bird eating numerous stamens, and also damaging the lateral structure of the floral bud.

This is the first report of the consumption of *P. munguba* resources by Hoatzins. Previous records in Brazil belong to plants of the genera *Montrichardia*, *Avicennia*, *Cecropia*, and *Cassia* (Sick 1997). The genus *Pseudobombax* is not listed among those trees whose leaves are consumed by Hoatzins (Billerman 2020). Domínguez-Bello *et al.* (1994) reported the consumption of buds of *Guazuma ulmifolia* Lam., trees in Venezuela. It occurred in the dry season, when trees have few leaves and no shoots, as recorded for *P. munguba* in Amazonas state.

Munguba trees occur in *várzea* forests, and open their flowers at night, being pollinated by bats (Gribel and Gibbs 2002). However, the records of this study were obtained during the day, as shown by the photographs, and informed by their authors. Although pollen might stick to the bills and plumage, the interaction between Hoatzins and *P. munguba* appears to not favor pollination. Instead, it appears that Hoatzins are important predators of their buds and flowers. This is because the photographs and video show the consumption of numerous stamens, and some damage to the buds. As Hoatzins can reach deep portions of buds, they might even destroy the gynoecium of buds and flowers. As Hoatzins form flocks with 10-20 individuals (Sick 1997), future studies could examine the impact of their visits on reproductive aspects of munguba trees.

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CONFLICT OF INTEREST

The author declares that there is no conflict of interest

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