

## Nectar robbing behavior of the Horned Sungem Hummingbird (*Heliactin bilophus*) (Birds: Trochilidae) in two species plant the genus *Amphilophium* Kunth (Bignoniaceae) and *Sinningia* Nees (Gesneriaceae)

Breno Dias Vitorino<sup>1</sup>, Angélica Vilas Boas da Frota<sup>2</sup>, Aldes Lamounier Pereira Andrade<sup>3</sup>

1. Biólogo (Faculdade de Filosofia, Ciências e Letras do Alto São Francisco). Mestrando em Ciências Ambientais (Universidade do Estado de Mato Grosso, Brasil).

2. Bióloga (Universidade de Cuiabá). Mestrando em Ciências Ambientais (Universidade do Estado de Mato Grosso, Brasil).

3. Bióloga (Faculdade de Filosofia, Ciências e Letras do Alto São Francisco).

\*Autor para correspondência: [vitorinodbreno@ymail.com](mailto:vitorinodbreno@ymail.com)

**ABSTRACT.** The Horned Sungem Hummingbird (*Heliactin bilophus*) is a typical savannah hummingbird inhabiting opened phytophysiognomies in areas of Cerrado, Caatinga, highlands and plains with low vegetation. There are few studies about its feeding habits and little known about its behavior patterns. Here we report the bird feed behavior on two plant species *Amphilophium elongatum* and *Sinningia* sp. Through illegitimate visits to the floral nectary, *H. bilophus* obtained food acting as a nectar robber. This foraging strategy included new sources of food for the hummingbird and could represent negative effects to the related plant species.

**Keywords:** bird-flower interactions; food resources; floral visitor

### Comportamento pilhador do beija-flor chifre-de-ouro (*Heliactin bilophus*) (Aves: Trochilidae) em duas espécies de plantas dos gêneros *Amphilophium* Kunth (Bignoniaceae) e *Sinningia* Nees (Gesneriaceae)

**RESUMO.** O beija-flor chifre-de-ouro (*Heliactin bilophus*) é uma espécie tipicamente savânica que habita fitofisionomias abertas em áreas de Cerrado, Caatinga, regiões serranas e chapadas com vegetação baixa. Existem poucos estudos sobre sua alimentação e pouco se sabe sobre seus padrões comportamentais. Aqui relatamos o comportamento alimentar da ave em duas espécies vegetais *Amphilophium elongatum* e *Sinningia* sp. Através de visitas ilegítimas ao nectário floral, *H. bilophus* obteve alimento atuando como pilhador. Esta estratégia de forrageamento inclui novas fontes alimentares para *H. bilophus* e pode representar efeitos negativos para as espécies vegetais relacionadas.

**Palavras-chave:** interação ave-flor; recurso alimentar; visitante floral.

Foraging strategies by Trochilidae enables the breeding success of plants and can guarantee higher genetic variability besides providing food for the floral visitor (ARAÚJO; OLIVEIRA, 2007; MACHADO, 2009). However, there are cases where the visitors do not act in the pollination, accessing only the nectar of the plant through holes made at the base of the external part of the flower going directly to the floral nectar. This usually happens when the hummingbird size and morphology are not compatible with the flower. This interaction to obtain food is known as nectar robbery (MACHADO; ROCCA, 2010).

Plants that uses hummingbirds for its own pollination often present specific characteristics, as flowers in the shape of tubes and pending, suitable to the capacity of hoover and long and thin bill, making a natural visit. While plants with long corolla prevents that visitors with short bills have accesses to the nectar (MACHADO, 2014), those been more robbed over the ones that presents small flowers (LARA; ORNELAS, 2011).

The species *Amphilophium elongatum* (Vahl) L.G. Lohmann is a plant from the Bignoniaceae family which occurs in *stricto sensu* Cerrado areas, riparian forest, rupestrian field, and secondary growth vegetation *capoeira* from north, west-center and southeast Brazil. It has an aroma strongly sweetish, with a colored cream corolla, internally yellowish and curved pipe down, attracting mainly bees as pollinators (SILVA et al., 2012; MACHADO; ROMERO, 2014).

With neotropical occurrence, the genus *Sinningia* Nees includes about 70 species of shrubs, subshrubs or tuberous herbs. In Brazil, its distribution is concentrated in the

Southeast. The flowers are pollinated by bats, bees and predominantly by birds. Among those pollinated by hummingbirds, the species that stand out are the ones with reddish and odorless flowers. They consist 67% of species of the genus (BARROSO et al., 1991; PERRET et al., 2001).

The Horned Sungem (*Heliactin bilophus*) (TEMINK, 1820) is a typical savannah species, inhabits open phytophysiognomies in areas of Cerrado, Caatinga, highlands and plains with low vegetation. They occur in the Southeast, Midwest, Northeast and Northern Brazil, Bolivia and Suriname. The species presents sexual dimorphism, male with a crest forming a red-gold horn format and black throat. Female without horn, with brown throat and smaller tail (SICK, 1997).

Research on bird-flower interaction represents a rich field in Ecology, regarding both ecological and evolutionary aspects. The understanding such relationships is becomes indispensable to species conservation (MENDONÇA; ANJOS, 2003). However, few studies addressed the feeding habits of *H. bilophus* and little knows about their behavioral patterns. Therefore, the present work has the aim to report de nectar robbery behavior of *H. bilophus* at *A. elongatum* and *Sinningia* sp..

The visits records to the species *A. elongatum* made on 5th February 2014, in a *stricto sensu* Cerrado area, at the municipality of Rondonópolis, Southeast of Mato Grosso state. A *H. bilophus* female was observed visiting the flower three times (Figure 1). On each one of the visits the bird invested sequentially from three to four times at a hole located just after the receptacle, accessing the plants nectar (Figure 2).