Nota Lepi. **48** 2025: 269–275 | DOI 10.3897/nl.48.171025 Short Communication

Lack of evidence that the false head of male *Callophrys xami* (Reakirt, 1867) (Lepidoptera, Lycaenidae) is a sexually selected trait

Centeotl Cruz-Avendaño[1], Camilo Medina[2], Carlos Cordero[3], Ornela de Gasperin[4]

1 *Departamento de Biología, Facultad de Ciencias, Universidad Nacional Autónoma de México, Ciudad de México, Mexico; madai@ciencias.unam.mx*

2 *Posgrado en Ciencias Biológicas, Universidad Nacional Autónoma de México, Ciudad de México, Mexico; camilo@ciencias.unam.mx*

3 *Departamento de Ecología Evolutiva, Instituto de Ecología, Universidad Nacional Autónoma de México, Ciudad de México, Mexico; cordero@ecologia.unam.mx (corresponding author)*

4 *Red de Ecoetología, Instituto de Ecología A.C., Xalapa, Veracruz, Mexico; ornela.degasperin@inecol.mx (corresponding author)*

https://zoobank.org/0403EDF0-C310-4727-ACCB-30DD9796DE49

Received 9 September 2025; accepted 14 October 2025; published: 13 November 2025
Subject Editor: Zdenek Fric.

Abstract. Colourful and morphologically complex traits can be used to deflect predators' attacks to a part of a prey's body that is less vulnerable. This is the case of the so-called false head (FH) of some butterfly species, in which the posterior end of the hindwings of individuals perching with closed wings resembles a butterfly's head. Recently, it was shown that the FH of *Callophrys xami* (Reakirt, 1867) females also plays a role in sexual selection. Specifically, females with an experimentally ablated FH received larger ejaculates, suggesting that males exert postcopulatory (cryptic) choice in favour of these females, perhaps because they have shown to be able to deflect predator attacks. Here, we tested experimentally whether *C. xami* females also show a preference for males with ablated FH. In our paired experiment, we presented virgin females either with a male with the FH ablated or with a male with the FH intact. We compared the probability of mating, copula duration and the number of eggs laid by the females two days after mating. We did not find evidence of female choice in relation to the presence/absence of FH in the males. Males with ablated FH were as likely to mate as control males. Copula duration and number of eggs laid were also very similar in females mated with either males with the FH ablated or intact. We suggest that the structure of the courtship behaviour of this butterfly could explain why males use the FH in their choice of mate, while females apparently do not.

Introduction

Darwinian adaptations of prey animals in response to predation are widespread in nature (Ruxton et al. 2004). Sometimes, these adaptations adopt additional functions related to other aspects of an organism's social life. For example, in the poison frog *Oophaga pumilio* (Schmidt 1857), the aposematic coloration deters predators (Saporito et al. 2007) and is also used by females in mate choice (Maan and Cummings 2009). In several butterflies, mainly within the Lycaenidae family, the posterior end of the hindwing of individuals perching with their wings closed resembles the head of a resting butterfly