

# Praying mantis eating the feathers of a passerine caught in a mist-net

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While ringing in October 2016 in Cap de Creus Natural Park (NE Iberia), a large female praying mantis *Mantis religiosa* attacked an Eurasian Robin *Erithacus rubecula* caught in one of the mist-nets, and ate some of its flight feathers and wing coverts. Although praying mantis attacks on trapped birds have previously been reported, in this case the attack was focused on the bird's feathers. We suggest that a female mantis close to oviposition could want to consume keratin-like proteins in feathers to help subsequent silk production during egg-laying. We strongly recommend removing gravid mantises observed close to mist-nets to prevent attacks on trapped birds.

Key words: predation, attack, Praying mantis, mist-net, feathers, trapped birds.

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Predation on birds caught in mist-nets while ringing is generally infrequent and only increases in certain situations when predators learn where nets are and how to attack captured birds. Several species have been reported as possible predators of trapped birds and so should be taken into account by ringers. One of the most surprising such predators is the praying mantis *Mantis religiosa* – ‘mantis’ hereafter – that has been observed on occasions to kill small passerines trapped in nets (Bigas *et al.* 2006). Here we describe a case in which a mantis, rather than kill a bird, ate some of its feathers.

On 16–17 October 2016 during the Cap de Creus October Weekend (CCOW) ringing campaign in a valley just north of Cala Jóncols (42°15'N, 3°15'E) in Parc Natural del Cap de Creus (NE Iberia), we found mid-morning on the first day a mantis eating the feathers of an Eurasian Robin *Erithacus rubecula* – ‘Robin’ hereafter – that had been trapped in one of our nets (see Figure 1). The mantis was a large female with an especially broad abdomen, indicating it

was close to oviposition. The same features have been described by Bigas *et al.* 2006. The mantis was quickly removed from the bird; it moved away easily through the net and it was thus assumed that it had reached the bird by climbing up the net. We were surprised by its voracity as it continued to feed on the bird's feathers even whilst we were trying to remove it and made no attempt to flee or to defend itself.

The Robin lost three secondaries, the innermost primary, and half of all primary coverts and most of the greater coverts (see Figure 2), a considerable amount of food for a mantis to consume in less than one hour (the time elapsing between each round of net checks), a further indication of its voracity. The Robin was a recapture, having been ringed four hours earlier and then released safely. After the attack, it flew off when released but imperfectly due to its missing feathers.

None of the 147 reports in Nyffeler *et al.* (2017) of predation (or attempts) by mantises from all over the world on birds report the con-



**Figure 1.** Praying mantis *Mantis religiosa* eating the feathers of a mist-netted Eurasian Robin *Erithacus rubecula*. Photo: Roger Jutglà.  
*Pregadeu menjant-se les plomes d'un Pit-roig atrapat a la xarxa.* Foto : Roger Jutglà.

sumption of feathers. All reports refer to meat eating, especially soft tissues such as the brain, described in the literature on several occasions. Feathers are large structures composed basically of fibrous keratin-like proteins (Proctor & Lynch 1993). Since this kind of protein is involved in the production of arthropod silk (Rudall & Kenchington 1971), we suggest that a large female mantis close to oviposition could be interested in consuming a protein of this type for use in silk production during egg-laying. Mantis feeding behaviour consists of visual searching for potential food items and then an approach until capture. When hungry, they may attack larger prey from longer distances (Gelperin 1968).

When close to oviposition in autumn, large female mantises are potential predators of birds captured in mist-nets during ringing activities.

Given the observed voracity, which is also commented on in the literature (e.g. Bigas *et al.* 2006), we strongly recommend capturing mantises that fit this description found on the ground or in the surrounding vegetation at mist-netting sites. They should be released some hundreds of meters away and special attention should be paid in the following net-rounds to ensure that they do not return. Although mantis attacks are not frequent and are hard to prevent, we recommend following these guidelines to prevent possible incidents.

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### Resum

#### **Pregadeu alimentant-se de les plomes d'un passeriforme capturat en una xarxa**

Durant una jornada d'anellament l'octubre del 2016 al Parc Natural del Cap de Creus, una femella de mida gran de pregadeu *Mantis religiosa* va atacar un Pit-roig *Erithacus rubecula*, que estava atrapat en una de les xarxes japoneses, i es va menjar algunes plomes de vol i cobertores alars. Els atacs de pregadeus a ocells atrapats per a l'anellament ja estan descrits, però aquest és un cas nou en què l'atac es va centrar en les plomes de l'ocell. Suggestim que una femella de pregadeu propera al moment de la posta podria estar interessada en consumir proteïnes del tipus queratina com les que formen les plomes per a la producció posterior de seda durant la posta. Recomanem que es capturi i traslladi les femelles gràvides de pregadeu que s'observin prop de les xarxes per evitar atacs potencials sobre els ocells atrapats.

### Resumen

#### **Mantis religiosa alimentándose de las plumas de un passeriforme atrapado en una red**

Durante una jornada de anillamiento en octubre del 2016 en el Parque Natural del Cap de Creus (Cataluña), una hembra de gran tamaño de mantis *Mantis*



**Figure 2.** Missing feathers on the attacked Eurasian Robin *Erithacus rubecula*. One primary, three secondaries, and the tips of all primary coverts and most of greater coverts were eaten. Photo: Marc Illa.  
*Plomes menjades en el Pit-roig atacat. El pregadeu es va menjar una primària, tres secundàries, les puntes de totes les cobertores primàries i la majoria de les cobertores grans. Foto: Marc Illa.*

*religiosa* atacó a un Petirrojo *Erithacus rubecula* que estava atrapado en una de las redes japonesas, y se comió algunas plumas de vuelo y cobertoras alares. Los ataques de mantis a pájaros atrapados durante el anillamiento ya se habían descrito previamente, pero este es un caso nuevo en el que el ataque se centró en las plumas del individuo. Sugerimos que una hembra de mantis cercana al momento de puesta podría estar interesada en consumir proteínas de tipo queratina como las que forman las plumas para la producción posterior de seda durante la puesta. Recomendamos que se capturen y trasloquen las hembras grávidas de mantis que se observen cerca de las redes para evitar potenciales ataques en las aves atrapadas.

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