

Case Report

Department of Parasitology, Veterinary Faculty, University of Selcuk, Konya, Turkey

Erosive Stomatitis in a White Pelican (*Pelecanus onocrotalus*) Caused by *Piagetiella titan* (Mallophaga: Menoponidae)

B. DİK

Address of author: Department of Parasitology, Veterinary Faculty, University of Selcuk, 42031, Konya, Turkey; Tel.: +90 332 2232736; fax: +90 332 2410063; E-mail: bdik2004@yahoo.com

With 2 figures

Received for publication December 21, 2005

Summary

Two white pelicans at the garden of a restaurant in Beyşehir, a county of Konya province were examined for the presence of ectoparasites. Nine lice were collected from the oral cavity of one of them. They were identified as *Piagetiella titan*. Diffuse erosions, erosive ulcers covered by dried yellowish-brown exudate and petechial haemorrhages were observed in oral mucosa.

Introduction

Some species of chewing lice of the genera *Piagetiella*, *Colpocephalum* and *Pectinopygus* live on pelicans (Dagleish, 2003). The species of the genus *Piagetiella* occur in oral cavity of pelicans (Pelecanidae) and cormorants (Phalacrocoracidae) (Price, 1970). *Piagetiella titan* lives in throat pouches of white pelicans (*Pelecanus onocrotalus*) (Dagleish, 2003).

The lice belonging to the order Mallophaga are ectoparasites of birds and mammals, called 'chewing lice' or 'biting lice' (Kettle, 1993). Kettle (1993) stated that Mallophaga feed on fragments of feathers, hair or epidermal products. However, Price et al. (2003) stated that they occasionally fed on blood or secretions as well as those mentioned above.

Wobeser et al. (1974) note from the work of Rotschild and Clay that the species in the genus *Piagetiella* occurred in oral cavity of pelicans and cormorants and fed on blood,



Fig. 2. Two adults of *Piagetiella titan* and ulcers, erosions (arrows) and petechial haemorrhages (arrow heads) in the oral cavity of a white pelican.

serum or probably epidermal products of the oral cavity. The authors emphasized that they collected more than 500 *Piagetiella peralis* from the oral cavity of a juvenile white pelican in Canada. They observed haemorrhagic ulcers in oral mucosa.

Piagetiella titan was reported in a white pelican in Turkey for the first time by Dik and Uslu (2006). However, no evidence of stomatitis was observed by the authors.

This study aims to inform practising veterinarians about the fact that *Pi. titan* in the oral cavities of white pelicans may cause stomatitis.

Case

Two white pelicans at the garden of a restaurant in Beyşehir were examined for Mallophaga and nine lice were collected from the oral cavity of one of them (Fig. 1).

The lice were identified as *Pi. titan*. In oral cavity of the pelican, diffuse erosions and ulcers were observed where *Piagetiella titan* attached to the mucosa. Ulcers were covered with a dried yellowish-brown exudate, some partial petechial haemorrhages were also seen in the areas where the lice were found in oral mucosa (Fig. 2).



Fig. 1. Adult lice (arrows) in the oral cavity of a white pelican.

Discussion

Mallophaga species are known to feed on feathers, hairs and epidermal debris (Kettle, 1993; Price, 1970). Kettle (1993) stated that Mallophaga do not suck blood, whereas Price et al. (2003) recorded them to feed on blood occasionally. Wobeser et al. (1974) collected lots of *Pi. peralis* from oral cavity of a white pelican in Canada and observed haemorrhagic ulcers in oral mucosa. No case of stomatitis caused by *Pi. titan* was recorded during the studies made in Turkey and other countries. By comparison with the numbers, although the number of *Pi. titan* collected in our study was much lower than that examined by Wobeser et al. (1974), the same ulcerative lesions were observed. These lesions might have been a result of lice attaching and feeding on the mucosa. Taken together with the observation we conclude that lice infestation in the oral cavity of the white pelican may result in stomatitis. Therefore, *Pi. titan* may cause blood loss and death due to anaemia in severe infestations in white pelicans. In addition, pathogenic micro-organisms may enter from the portal of entry produced by the lice and cause secondary infections.

As a result, *Pi. titan* causes haemorrhagic ulcers in oral cavity and should be considered as a potential pathogen in pelicans.

References

- Dalgleish, R. C., 2003: Birds and their associated Chewing Lice. Pelecanidae – pelicans. Available at: <http://www.phthiraptera.org/Birds/Pelecanidae.html> (accessed June 15, 2005).
- Dik, B., and U. Uslu, 2006: The first record of *Piagetiella titan* (Menoponidae: Mallophaga) from a White Pelican (*Pelecanus onocrotalus*, Linnaeus) in Turkey. *Acta Parasitol. Turcica* (in press).
- Kettle, D. S., 1993: Medical and Veterinary Entomology. CAB International, Wallingford.
- Price, R. D., 1970: The *Piagetiella* (Mallophaga: Menoponidae) of the Pelecaniformes. *Can. Entomol.* **102**, 389–404.
- Price, R. D., R. A. Hellenenthal, R. L. Palma, K. P. Johnson, and D. H. Clayton, 2003. The Chewing Lice: World Checklist and Biological Overview. Illinois Natural History Survey Special Publication, Champaign, IL, USA.
- Wobeser, G., G. R. Johnson, and G. Acompanado, 1974: Stomatitis in a juvenile white pelican due to *Piagetiella peralis* (Mallophaga: Menoponidae). *J. Wildl. Dis.* **10**, 135–138.