

Research article

Extremely rare case of melanistic greater flamingo *Phoenicopterus roseus* documented for the first time in Europe in Lake Kerkini National Park, Northern Greece

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Abstract: The last decade a couple of observations of melanistic greater flamingos have been reported across Southern Mediterranean region. In October 2014 a melanistic greater flamingo was observed and photographed for the first time in Europe in Lake Kerkini National Park in Northern Greece. All the decade's observations could concern the same individual if we considered that melanism is an extremely rare genetic mutation and flamingos are moving across different lakes around the Mediterranean region.

Keywords: flamingo, melanism, plumage aberration

Flamingos are well known due to their remarkable plumage colouration. Red and pink colour on adult flamingos is a result of carotenoids, which are common pigments deposited in feathers (McGraw, 2006) and are obtained through their diet. In contrast, juvenile flamingos have a brownish plumage, lacking the pink colouration found in adults (Johnson et al., 1993). However, melanin that is the prevalent pigment and being responsible for the black and brown colours (McGraw, 2006), is gradually replaced by carotenoids as the flamingos grow older. It takes between four to six years for juvenile flamingos to progressively change their plumage colour from brown to pink. This delay observed in plumage maturation is a common phenomenon in large-bodied avian species (Hawkins et al., 2012) and is believed to assist with thermo-regulation as well as offer protection against potential predators (Johnson et al., 1993).

Plumage abnormality is not a common phenomenon, but it can be found in avian species. Several reasons could result in an aberrant plumage, including, feather staining hybridisation and hormonal imbalances (Guay et al., 2012). Plumage aberration could be due to abnormal deposit of melanin in

feathers, resulting in black colour (melanism), or lack of deposited pigment in feathers (or part of plumage), resulting in white colour (leucism). There are more categories of plumage aberration like albino, dilution, ino, progressive greying and brown, with the last two categories to be considered as the most common (Mahabal et al., 2016). In flamingos, plumage abnormalities are extremely rarely found. Nevertheless, some cases of melanistic greater flamingos have been reported over the last decade in the Mediterranean region. The very first “black” flamingo was observed at the salt pans of Umm Al-Rashrash (Eilat) in March 2013 and once more in the same area in February 2014 (Khalaf-Sakerfalke von Jaffa, 2017). Eight months later, on 5 October 2014, a melanistic greater flamingo was observed by the author at Lake Kerkini National Park (41°14'02.4"N 23°06'58.1"E) in northern Greece, becoming the first documented observation of a melanistic flamingo in Europe. The bird was spotted with binoculars at a significantly long distance and then photographed for further investigation. At first it looked as an oiled-up bird, but careful examination of the photos revealed an extremely rare melanistic flamingo.



Fig. 1. Melanistic greater flamingo *Phoenicopterus roseus* in Lake Kerkini, Greece.

A melanistic flamingo was observed again in April 2015 by a local birdwatcher at the Salt Lake of Akrotiri on the southern coast of Cyprus. Some years later, in October 2018 a melanistic flamingo was spotted again

in Eilat, but this time the bird could be a different individual from the previous observations, as it had a “pinkish” plumage almost to the whole length of its neck, which can be clearly seen from the photo taken

and uploaded in Israel Birding online report (Shalev, 2018). Nevertheless, the observations before 2018 could concern the same individual if we considered that melanism is an extremely rare genetic mutation and flamingos are moving across different lakes around the Mediterranean region. Moreover, as it can be seen in Fig. 1 the individual, observed in Greece, had a uniformly black plumage on body and neck except from a pale patch on the undertail feathers, which shows a plumage pattern identical to the bird seen in Cyprus and Eilat.

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