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Abstract

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Extinct species of feather mite from the last two native Crested Ibises, *Nipponia nippon* (Temminck) (Pelecaniformes: Threskiornithidae) in Japan*

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Currently, in the Red List of the Ministry of the Environment, Japan (Hereinafter referred to as RL-MOE) (version 2020), the only terrestrial arthropod other than insects that are classified as Extinct (EX) is the feather mite, *Compressalges nipponiae* Dubinin (Caudiferidae) (Waki & Shimano, 2022). The feather mite *C. nipponiae* is a monoxenous ectoparasite of the Crested Ibis *Nipponia nippon* (Temminck) (original Japanese pronunciation is "Nippon"). The mite species was originally sampled from the Crested Ibis collected at Lake Khanka (Russia) in the 1950s and was described as new species in the papers by Dubinin (1950). The species is not found on birds other than the Crested Ibis, suggesting that it is highly host specific.

The native population of the Crested Ibis in Japan became extinct and was classified as "Extinct in the Wild (EW)" on the RL-MOE (version 2002). The last two captive-bred individuals at the Sado Ibis Conservation Center died in 1995 and 2003, respectively, and that meant that the Japanese population had become completely extinct (Yamagishi, 2009). However, since 1999, seven individuals were transported from Shaanxi Province, China (the only remaining wild population on earth; the Russian population was extinct) to reintroduce the Crested Ibis to Japan, and have been bred since 2008. A total of 327 Crested Ibis, offspring of Chinese individuals, have been released into natural surroundings in Sado, establishing and maintaining the population.

Waki & Shimano (2020) reported that *C. nipponiae* and *Freyanopterolichus nipponiae* were collected from old feather specimens of Japanese-native Crested Ibis that had died in cages. However, no *C. nipponiae* were found in all 17,800 feather mites collected from 621 feathers of the Crested Ibises introduced to Sado from China, indicating that this mite had indeed become extinct from Japan. In addition, the fact that this feather mite did not infest the introduced Crested Ibis originating from their last natural population in Shaanxi Province, China, suggests that *C. nipponiae* may have become extinct worldwide.

Keywords: feather mite, host-specific, infection, Japanese Crested Ibis, morphology

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