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**RESEARCH NOTES**

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**FIRST RECORD OF *MELANITTA FUSCA* IN THE REPUBLIC OF KOREA  
AND UPDATE ON NORTHEAST ASIAN RECORDS****Amaël Borzée<sup>1</sup> , Nial Moores<sup>2</sup>**<sup>1</sup>*Laboratory of Animal Behaviour and Conservation, College of Biology  
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We report the first confirmed sighting of the globally Vulnerable *Melanitta fusca* (Anatidae, Anseriformes) from Yeongil Bay in Pohang in the Republic of Korea. Based on the review of the literature and published checklists of two separate databases (Birds Korea and eBird), we consider this to be the first record of *M. fusca* on the Korean Peninsula and only the third or fourth record of this species in coastal East Asia.

**Key words:** first record, *Melanitta*, northeast Asia, Korean Peninsula, vagrancy, Velvet Scoter

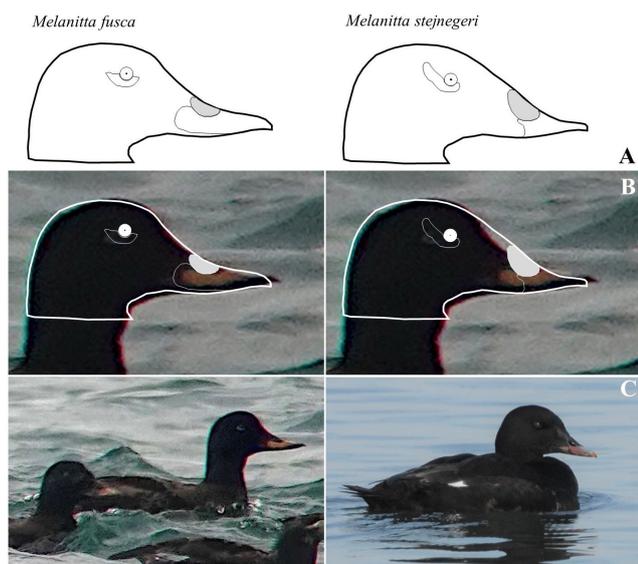
Following a complicated taxonomic history (e.g. Garner et al., 2004; Collinson et al., 2006), the genus *Melanitta* currently includes six species of scoter (Gill et al., 2021), a group of dark-plumaged seaducks. All inhabit the Holarctic and rely on freshwater or brackish water bodies for nesting and on marine waters for wintering. Three of the *Melanitta* species are characterised by white feathering on the inner wing (the so-called «white-winged scoters»): *Melanitta stejnegeri* (Ridgway, 1887), *M. deglandi* (Bonaparte, 1850) and *M. fusca* (Linnaeus, 1758). The three species do not overlap in their overwintering ranges, despite cases of vagrancy regularly reported, and declines have been reported in all populations that have been the focus of specific research (Electronic Supplement).

The identification of these species is challenging, especially as *Melanitta* species are often distant from the shore and in rolling seas, seldom allowing proper scrutiny of plumage and structure. Identification to the species level needs to be based on a combination of head and bill shape, including differences in feathering at the base of the bill for males and females, bill pattern in males, and some subtle plumage features mostly in males (Garner, 2014). Here we report the first confirmed sighting of *Melanitta fusca* in the Republic of Korea.

On 25.01.2020, we identified a bird observed in Yeongil Bay (35.994° N, 129.447° E) in the Republic of Korea as a second calendar-year male *Melanitta fusca* within a flock of *M. stejnegeri* (Fig. 1S) based on the species plates in Garner (2014). The bird's large size, pale feathering around the eye, and bill colour easily

excluded identification as *Melanitta nigra* (Linnaeus, 1758), *M. americana* (Swainson, 1832), and *M. perspicillata* (Linnaeus, 1758). Features used for the identification as *M. fusca* include the steep, slightly concave forehead of *M. fusca* in comparison to the long, sloping forehead of *M. stejnegeri* or the «stepped» forehead of *M. deglandi* (see the Electronic Supplement for additional information). The bill colour and pattern are also different in males of the three «white-winged scoters», at least in their second calendar-year onwards. Like the bird we observed, a male *M. fusca* in their second calendar-year and onward have a largely yellow or orange-yellow bill, with this yellow-orange reaching far back beyond the nostril. The bill of a male *M. stejnegeri* in their second calendar-year and especially from their third calendar-year onwards is deep red-pink with a yellow line and a substantially more extensive black base, with little or no clean colour behind the nostril (Fig. 1). The coloured part of the bill of a second calendar-year male *M. deglandi* is largely reddish, with this colour, as in *M. stejnegeri*, not extending obviously to the rear of the nostril.

No records of the species could be found for the Korean peninsula. By expanding our search to the scale of northeast Asia, we found at least two earlier sightings in the public domain, both from the Shanghai area (People's Republic of China). The first was in 2013 and the second in the winter of 2019/2020 (<https://ebird.org/map/whwsco3>). We also came across at least one putative record in Hokkaido (Japan; personal communication of Y. Muzika, February 2021; Fig. 2).



**Fig. 1.** Comparative identification of the male *Melanitta fusca* observed in Yeongil Bay, Republic of Korea on 25.01.2021. This figure illustrates the difference in the angle of head and bill between *M. fusca* and *M. stejnegeri*. Designations: A: head shapes extracted from Garner (2014); B: head shapes overlaid with the individuals photographed; C: Photos in nature. The *Melanitta fusca* focal individual is closely followed by a *M. stejnegeri* individual (Photo: Nial Moores), and the second calendar-year male *M. stejnegeri* was also photographed in Pohang in late January 2021 (Photo: Shim Kyu-Sik).



**Fig. 2.** Range and instances of vagrancy of *Melanitta fusca*. The observation from the Republic of Korea reported here is from Yeongil Bay (35.994° N, 129.447° E), Republic of Korea on 25.01.2021. The range is based on Birdlife International (2021).

Here we report the first record of a *Melanitta fusca* individual in the Republic of Korea. This case of vagrancy is interesting in that it goes against the declining population dynamic for *M. fusca* at the global scale, and against the population dynamics for *M. stejnegeri* and *M. nigra* in waters of the Republic of Korea, where they have declined substantially during the past several decades (Birdlife International, 2021), even though the species remains common or even locally abundant along parts of the east coast of the Democratic People’s Republic of Korea (Moores, 2017). We are unaware of any detailed research conducted to identify potential differences in the ecological requirements of the two species, and as such we expect that many of the same

potential drivers of decline listed for *M. stejnegeri* (BirdLife International, 2021) will also impact any vagrant *M. fusca* to East Asia.

With so few records in East Asia at this time it is not yet possible to ascertain whether or not *M. fusca* occurs more regularly, being overlooked in among much larger flocks of *M. stejnegeri*; or instead, whether recent records are the result of an eastward range expansion by *M. fusca*, so that post-breeding individuals are more likely to migrate or disperse eastward to the coastal zone of eastern Asia. Either way, it is worth checking and documenting carefully flocks of *Melanitta* individuals in east and northeast Asia in the future, both to identify vagrant individuals and to improve our understanding of the population dynamics of *M. stejnegeri* and *M. americana*, both of which have undergone major declines at least in the Republic of Korea during the current century.

The recent reports of the vagrant *M. fusca* individuals detected for the first time in the East Palearctic are coincident with, though not necessarily caused by, the recent increase in the numbers and skill level of birdwatchers in East Asia, and the spread of online forums dedicated to reporting such observations. As suggested by this paper, data shared through public-access citizen science platforms such as eBird (ebird.org) and iNaturalist (inaturalist.org) will likely play an important role in helping to identify and to understand population dynamics of species across large regions with a paucity of more formal mechanisms for information-sharing.

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### Supporting Information

The species introduction and the detailed methodology of the research (Electronic Supplement. Description of *Melanitta fusca* introduction and the detailed information on material and methods) may be found in the [Supporting Information](#).

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## ПЕРВАЯ НАХОДКА *MELANITTA FUSCA* В РЕСПУБЛИКЕ КОРЕЯ И ОБЗОР НАБЛЮДЕНИЙ ВИДА НА СЕВЕРО-ВОСТОКЕ АЗИИ

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Мы сообщаем первую подтвержденную находку исчезающего (VU) в глобальном масштабе вида *Melanitta fusca* (Anatidae, Anseriformes), сделанную в заливе Йонильман в порту Пхохан (Республика Корея). На основе обзора литературы и опубликованных видовых списков двух различных баз данных (Birds Korea и eBird), мы рассматриваем это наблюдение как первую находку *M. fusca* на Корейском полуострове и лишь третьей или четвертой находкой этого вида на побережье Восточной Азии.

**Ключевые слова:** *Melanitta*, первая находка, полуостров Корея, Северо-Восточная Азия, случайные встречи, турпан