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Feeding of one brood by two species of woodpeckers: middle spotted *Dendrocoptes medius* (Linnaeus, 1758) and great spotted *Dendrocopos major* (Linnaeus, 1758)

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Short communication

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Abstract. An unusual behaviour by two woodpeckers was observed in Niepołomice Forest (SE Poland). A female middle spotted woodpecker and male great spotted woodpecker were feeding a brood in one nest hole. This was likely not a case of a hybridising pair, but rather an example of interspecific feeding.

Key words: Picidae, interspecific feeding.

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Interspecific nesting is an infrequent phenomenon among birds, if hybridisation is excluded (Cockburn 2006). It has been reported in some groups including ducks and colonial species. A special case is nest parasitism, which is observed in e.g. cuckoos (Winfree 1999). More often, cases of interspecific feeding have been reported among numerous species, which are also not congeneric (so are not related phylogenetically) (Harmáčková 2021). In some bird species, so-called 'helpers' are observed, but this usually concerns related individuals (such as offspring from previous broods helping in feeding the chicks of their parents) (Griesser & Suzuki 2016). However, such behaviour has rarely been reported among the members of various bird species.

Among woodpeckers (Picidae), many species are known to be able to hybridise (mostly American genera). In Europe, there are known hybrids between green and grey-headed woodpeckers (*Picus viridis x canus*) (Ławicki et al. 2015), as well as green and Iberian green woodpeckers (*Picus viridis x sharpei*) (Pons et al. 2019) and between Syrian and great spotted woodpeckers (*Dendrocopos syriacus x major*) (Gorman 1997; Michalczuk et al. 2014). There is also a single report on the hybrid of great spotted and a white-backed woodpecker (*D. major x leucotos*) (Short 1982). Nonetheless, hybrids among the members of different genera are not known. The hybrid record between great spotted and middle spotted (*Dendrocoptes medius*) woodpeckers is unreliable (Ottenburghs & Nicolaï (2024). Intraspecific 'helpers' are known among American Acorn woodpeckers (*Melanerpes formicivorus* (Koenig & Walters 2014)), but have rarely been reported in European woodpeckers. There are two reports of adult female 'helpers' operating at the nest of the middle spotted

woodpecker (*Dendrocoptes medius*) from Germany and Switzerland (GUENTHER & PASINELLI 2023). There is also the report of a great spotted woodpecker female helping to feed the brood of a Syrian woodpecker pair in Russia (MELNIKOV 2015). However, this is likely the only case to date of interspecific cooperation among different woodpecker species in feeding one brood. Intraspecific feeding is more likely, as there are polyandrous pairs of great spotted woodpeckers (KOTAKA 1998).

On 30 May 2024, an unusual observation was recored concerning nesting woodpeckers in Niepołomice Forest (south-eastern Poland) (Fig. 1). This is a large (110 km^2), mostly commercial forest consisting of pines *Pinus sylvestris* and oaks *Quercus* spp., which is an important breeding site for middle spotted woodpeckers in Poland (protected as a Natura 2000 site; WILK et al. 2010). In the centre of the forest (50°01′15.4″N, 20°21′48.6″E), two adult woodpeckers were observed visiting the same nest hole with calling young birds. The cavity was situated in an oak in a c. 150-year patch of mixed pine-oak forest, approx. 2 m above the ground. The cavity was visited by a female middle spotted and a male great spotted woodpecker that provided food to the chicks (the observation lasted several minutes and a few feeding attempts were observed). The brood had to be at a late stage, as the juvenile woodpeckers took food from the adults at the mouth of the nest hole. The entrance hole corresponded more to the size typical for a middle spotted woodpecker (KOSIŃSKI & KSIT 2007), and the calls of the young also corresponded to that species. The situation was confirmed on 1 June 2024 (ŁK). When approaching the cavity, a middle spotted woodpecker female escaped from the hole and started to call loudly. A great spotted woodpecker male then came and started to be aggressive toward the observer. This observation lasted for approx. 10 minutes and at that time, as the birds were constantly anxious, the observer resigned from continuation. On both dates, no other woodpeckers were observed at the site (no male middle spotted woodpecker appeared).

There could be two explanations for this unusual pair. Hybridisation is unlikely, as these two woodpeckers are not closely related – according to the newest phylogenetic studies they belong to different genera (formerly, both were classified as *Dendrocopos*)

Fig. 1. Middle spotted woodpecker female (rear) and great spotted woodpecker male (front) observed in Niepołomice Forest feeding a brood in the same nest hole (photo Piotr SKUCHA).

(Fuchs & Pons 2015). There are no proven records of hybrids between middle and great spotted woodpeckers (Ottenburghs & Nicolaï 2024). The great spotted woodpecker helping in the feeding of the middle spotted woodpecker chicks is the more likely scenario, although unusual is that a male has helped, because the examples listed above suggest that it is a behaviour more commonly present among females. The explanation could be the polyandrous breeding of some great spotted woodpeckers, and that the male (if polyandrous) could be prone to such a behaviour (see Shy 1982 for more examples among birds). One possible explanation is that the great spotted woodpecker male lost its mate (or its mate with a brood) and decided to provide food to the other cavity with woodpeckers in its territory. This bird could be forced into such a behaviour by physiological stress (high hormone secretion) (Eisner 1960). The possibility of such a behaviour is confirmed by a reported observation of a middle spotted woodpecker male feeding a begging fledgling house sparrow (*Passer domesticus*) (Nicolai 2003). The absence of the middle spotted woodpecker male could have been simply caused by predation. Another less likely reason is that the attraction of the great spotted male to the nest forced the smaller male to abandon this brood. It is known that great spotted woodpeckers are aggressive toward other woodpeckers (Paclík et al. 2022), including middle spotted woodpeckers breeding in the same forests (Kosiński & Winiecki 2004). On the other hand, the importance of mutual care for the offspring in the event of the loss of one partner during the breeding season has been reported for both of these woodpecker species (Michalek & Winkler 2001). Many of the above are speculations, which cannot be supported by just a simple observation in the field. However, the record of two adult woodpeckers of different species feeding one brood is novel among woodpecker studies.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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