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A MIXED BROOD OF NUTHATCH *(SITTA EUROPAEA)* AND GREAT TIT *(PARUS MAJOR)* SPECIES

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Mixed clutches occur when two or more species lay their eggs in the same nest. Among passerines, mixed clutches have often been recorded in hole nesting species, especially among the tits *Parus* sp. and the flycatchers *Ficedula* sp. (e.g. LÖHRL, 1964; SHY, 1982; MERILÄ, 1994; ZANG, 1998). In mid-May 2000 I found a mixed nuthatch and great tit clutch. Cases of nuthatch and great tit mixed clutch have been reported less often.

Keywords: mixed brood, nuthatch, great tit

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Miješano se leglo pojavljuje kada dvije ili više vrsta nesu jaja u isto gnijezdo. Među vrapčarkama to se najčešće pojavljuje u sjenica, *Parus* sp. i muharica, *Ficedula* sp. (primjerice LÖHRL, 1964; SHY, 1982; MERILÄ, 1994; ZANG, 1998). Sredinom svibnja 2000. godine zabilježio sam u škrinjici za gniježđenje miješano leglo između brgljeza i velike sjenice. Miješana legla između tih vrsta su rijetka.

Ključne riječi: miješano leglo, brgljez, velika sjenica

The occupation of nest boxes and the competitive relations between hole-nesting passerines were followed in Mokrice (46°00'N, 15°55'E), situated in the Hrvatsko Zagorje area (NW Croatia). All nesting-boxes were made of planks 2–3 cm wide and 25–30 cm high and the inner dimensions of the boxes were 12 × 12 cm. The entrance hole size was 2.9–3.3 cm. The nesting-boxes were situated 3–4 m above the ground and at an average distance of 30–40 m apart (deciduous forests). The dominant two species in this forest are oak (*Quercus robur*) and hornbeam (*Carpinus betulus*). During regular inspections of nesting-boxes, on May 15th 2000 I found a mixed clutch of the nuthatch (*Sitta europaea*) and the great tit (*Parus major*). The brood consisted of 5 young nuthatches and 1 great tit (Fig. 1). This was the result of the eviction of the great tit by the nuthatches. The nuthatch evicted the great tit and

Fig. 1. A mixed nuthatch (*Sitta europaea*) and great tit (*Parus major*) brood. Great tit = ↓

made its own nest, but one great tit egg accidentally remained and hatched. The single great tit left the nest before the nuthatch young and was seen begging food from its nuthatch foster-parents outside the nest-box while the nuthatch young were still in the nest. It stayed close to the nest for two days (its »parents« fed it), but it was no longer observed on day 3 and its fate remains unknown. Other authors also have mentioned mixed clutches, e.g. between the great tit and the pied flycatcher (*Ficedula hypoleuca*) (e.g. SMIDTH, 1956), the blue tit (*Parus caeruleus*) and the robin (*Erithacus rubecula*) (e.g. LACK, 1953), as well as between the great tit and the blue tit (e.g. AMANN, 1949; MACKENZIE, 1950; LÖHRL, 1964), the collared flycatcher (*Ficedula albicollis*) and the blue tit (e.g. MERILÄ, 1994), but a mixed nuthatch and great tit brood has been reported only twice (ARN, 1955; GLUTZ v. BLOTZHEIM & BAUER, 1993). It is interesting that nuthatches do not discriminate between their own and strange eggs (or nestlings). By raising non-related offspring they gain no fitness benefits, but waste resources which could enhance their own lifetime reproductive success or that of their offspring; one possible explanation for this seemingly maladaptive behaviour is that mixed laying and interspecific brood parasitism are too rare to exert any significant selection pressure for discriminatory behaviour to evolve (MERILÄ, 1994).

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SAŽETAK

Miješano leglo između brgljeza *(Sitta europaea)* i velike sjenice *(Parus major)*

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Tijekom redovitog pregleda škrinjica u razdoblju gniježđenja našao sam 15. svibnja 2000. godine miješano leglo između brgljeza i velike sjenice. U gnijezdu je bilo 5 čučavaca brgljeza i 1 velike sjenice. Takvo miješano leglo posljedica je izbacivanja gnijezda velike sjenice iz škrinjice od dominantne vrste brgljeza. Jedno je jaje sjenice ostalo u gnijezdu i bilo inkubirano. Mlada velika sjenica napustila je gnijezdo nešto ranije u odnosu na mlade brgljeze. »Roditelji« su je hranili dva dana u blizini škrinjice. Trećeg dana više je nisam zabilježio u blizini gnijezda i dalja mi je sudbina ostala nepoznata. Zanimljivo je da brgljezi nisu razlikovali tuđe jaje u odnosu na vlastita jaja, a to se odnosi i na tuđeg potomka. Time je tuđa vrsta koristila energetske zalihe namijenjene vlastitim potomcima. Prema MERILI (1994) takvi su slučajevi prerijetki da bi obavljali bilo kakav selekcijski pritisak i time inicirali promjene u ponašanju ptice »staratelja«.