

traits may indeed make a species vulnerable: slowly reproducing, long-lived species suffer from remarkably small increases in adult mortality (Mertz 1971, Järvinen & Varvio 1986). Waterfowl, hunted extensively in most parts of the world, could thus be expected to include taxa in which demographic traits correlate with extinction risks. The fact that this is not the case indicates that hunting is by no means the greatest threat to natural waterfowl populations (see also Simberloff 1986). Indeed, it is evident from the literature (Johnsgard 1978, Collar & Andrews 1988) that in many cases indirect human influence, such as habitat alteration or introduced species, with or without direct persecution, has been effective in decimating the waterfowl species that are now threatened.

Acknowledgements. We thank A. Järvinen, H. Pöysä and S. Ulfstrand for useful comments and suggestions, which considerably improved the paper.

Selostus: Onko uhatuilla sorsalintulajeilla yhteisiä piirteitä?

Maailman 149 sorsalinnusta luokitellaan 20 uhatuiksi. Laurilan (1988) kokoamien sorsalintujen lisääntymisbiologien tietojen avulla vertasimme uhattujen lajien tietoja niiden lähisukulaisten keskiarvoihin.

Uhatut lajit eivät edustaneet selvästi mitään ryhmää (esim. pitkäikäisimpiä sukuja). Uhattujen lajien koko ja elintavat vaihtelivat yhtä paljon kuin sorsalintujen yleensä (taul. 1). Lähisukulaisiinsa verrattuna uhattujen lajien lisääntymisominaisuudet olivat yhtä usein parempia kuin huonompia (taul. 2–3).

Ainoa uhattujen lajien selvästi yhteinen piirre oli suppea maantieteellinen levinneisyys. Tämä on hyvin ymmärrettävää, sillä suorat tai epäsuorat ihmisvaikutukset ovat tehokkaimpia (ja tuhoisimpia) silloin, kun lajin levinneisyysalue on suppea.

References

- Collar, N. J. & Andrew, P. 1988: Birds to watch. The ICBP world checklist of threatened birds. — ICBP Tech. Publ. 8, Cambridge, 320 pp.
- Järvinen, O. & Ulfstrand, S. 1980: Species turnover of a continental bird fauna: Northern Europe, 1850–1970. — *Oecologia* (Berl.) 46:186–195.
- Järvinen, O. & Varvio, S.-L. 1986: Proneness to extinction of small populations of seals: demographic and genetic stochasticity vs. environmental stress. — *Finnish Game Res.* 44:6–18.
- Johnsgard, P. 1978: Ducks, geese and swans of the world. — Univ. Nebraska Press, Lincoln, 404 pp.
- Laurila, T. 1988: Reproductive strategies in waterfowl: the effect of ultimate environmental factors, size and phylogeny. — *Ornis Fennica* 65:49–64.
- Mertz, D. B. 1971: The mathematical demography of the California Condor population. — *Amer. Nat.* 105:437–454.
- Simberloff, D. 1986: The proximate causes of extinction. — In: Raup, D. M. & Jablonski, D. (eds.), *Patterns and processes in the history of life*, pp. 259–276. Springer, Berlin.
- Terborgh, J. & Winter, B. 1980: Some causes of extinction. — In: Soulé, M. E. & Wilcox, B. A. (eds.), *Conservation biology. An evolutionary-ecological perspective*, pp. 119–133. Sinauer, Sunderland, Mass.

Authors' address: Terhi Laurila and Olli Järvinen, Department of Zoology, University of Helsinki, P. Rautatiekatu 13, SF-00100 Helsinki, Finland.

Blue Tit *Parus caeruleus* and Pied Flycatcher *Ficedula hypoleuca* breeding simultaneously in a nest box

Aarno Magnusson

An unusual drama took place in one of the nest boxes belonging to Tiirankari Bird Station (60°15'N, 23°57'E) in 1989. The area is a mixed forest along the northern shore of Lake Lohjanjärvi in SW Finland.

During a routine check on 1 June 1989 I found that the nest box contained a finished nest of the Blue Tit, but no eggs. The Blue Tit fought hard with a male Pied Flycatcher. The female Pied Flycatcher was also present.

On 3 June there was one Blue Tit egg and one of the Pied Flycatcher. The eggs were not covered by nest material as normally with tits. All inspections took place between 1000 and 1300 hours. The following day there were two uncovered eggs of both species. On 6 June there were three eggs of the Pied Flycatcher and four of the Blue Tit. The eggs were covered. On 7 June there were still three Flycatcher eggs, but five Blue Tit eggs, the eggs not covered. For

the first time no Flycatcher was observed. On 8 June the Blue Tit female was sitting on all 8 eggs, and on 18 June she was still incubating.

On 26 June there were eight small nestlings, and three differed slightly in appearance from the others. The nestlings were ringed on 30 June, when it was easy to distinguish between the two species. The Blue Tit parents were feeding all 8 nestlings in the box. No Pied Flycatchers were observed in the surroundings. On 6 July two of the Flycatchers left the nest and one

stayed with the Blue Tit nestlings. The Blue Tit also fed the two fledged Flycatchers in the neighbourhood, despite the fact that their begging sound differs from that of the Blue Tit. On 12 July all nestlings had left the nest.

Author's address: Aarno Magnusson, Riihitie 10 A 3, SF-00330 Helsinki.

(Report no 20 from Tiirankari Bird Station)

Received 19 September 1989, accepted 24 September 1989



Instructions to authors

ORNIS FENNICA is published quarterly and contains scientific ornithological articles. The contents may be descriptive, experimental or theoretical, in the form of research reports or reviews. Connections with Finnish or Scandinavian ornithological research are desirable, but papers of broad general interest are also accepted. Contributions are welcomed from all parts of the world, but should be written in English (in exceptional cases other languages may be accepted).

Manuscripts should be submitted to the Editors (see inside front cover) in **three copies**, including tables and figures and their captions (on separate pages). All typewritten material should be double-spaced on one side of good quality paper with at least 3 cm margins. If the manuscript is written on a word processor, please inform the Editors, because it may be possible to print the text directly from the processor disc.

The *format* of the manuscript (title, headings, abstract, references, tables, etc.) should be in accordance with recent issues of the journal. For italics use underlining. Do not divide words. Do not use boldface, right margin justification, or other special word processor features. Both scientific and vernacular names should be given when birds are first mentioned in the text. Use the 24-hour clock (e.g. 09.00 and 22.30) and dates as 1 April 1987. The abstract should not exceed 175 words.

In the list of *references* the following format should be used: Angelstam, P. K., Jaarola, M. & Nordh, N.-E. 1985: Are female Black Grouse Tetrao tetrix territorial? — *Ornis Fennica* 62:1–9.

Calder, W. A. 1974: Consequences of body size for avian energetics. — In: Paynter, R. A. (ed.), *Avian energetics*, pp. 86–115. Nuttall Ornithol. Club, Cambridge, Mass.

Pielou, E. C. 1974: *Population and community ecology. Principles and methods.* — Gordon & Breach, New York.

Journal names should be abbreviated as in *Biol. Abstr.*; if in doubt, do not abbreviate. Do not use italics in references. Do not cite papers in preparation.

Tables should be comprehensible without reference to the text. Avoid long column headings, complicated structure and vertical lines. Plan your tables for column or page width.

All *illustrations* should be numbered consecutively as figures. Parts of figures should be identified with letters, not numbers (e.g. Fig. 1A). Plan your figures for column or page width when printed. Typewritten lettering is not acceptable. Lettering should be large enough to be readable after reduction of the figure and the lettering style must be uniform in all figures. The figures may be submitted as originals or as glossy prints (please note that figures larger than A4 are easily damaged in the mail). Photographs should have good contrast and be sharp.

The *statistical methods* used should be adequately documented. Means and percentages should usually be given with standard deviations (SD) and the numbers of observations (n). Numerical values of test statistics (including nonsignificant values) should usually be given along with their degrees of freedom (df) and probabilities (P). Give probabilities either as, e.g., $P < 0.05$ or exactly. When reporting χ^2 - or G-tests, total n must be clearly indicated.

Refereeing. All manuscripts within the scope of the journal will be reviewed by at least two referees. Authors will generally be notified of acceptance or rejection within two months.

Proofs. Authors will receive proofs for approval. Extensive alterations will be charged to the author.

Reprints. Authors will receive 50 reprints free of charge; additional copies can be obtained at cost price.