

BREEDING BIOLOGY AND ECOLOGY OF THE GREAT GREY SHRIKE (*Lanius excubitor*) IN NORTHERN BELARUS

V. V. Ivanovsky and V. J. Kuzmenko

ABSTRACT

Ivanovsky V. V., Kuzmenko V. J. 2000. *Breeding biology and ecology of the Great Grey Shrike (Lanius excubitor) in northern Belarus*. Ring 22, 1: 181-183.

Breeding at raised bogs is a particular feature of the northern Belarussian Great Grey Shrike population. In winter this species inhabits mainly agricultural lands there. Main parameters of its life cycle are characterised. Occasional data on the feeding habits and mortality caused by predation of other raptors: Merlin (*Falco columbarius*), Goshawk (*Accipiter gentilis*), Golden Eagle (*Aquila chrysaetos*) are also reported.

V. V. Ivanovsky, Vitebsk State University, 210032, Vitebsk, Pobeda prospect, 15-4-87, Belarus; V. J. Kuzmenko, Vitebsk State University, 210009, Vitebsk, Frunze prospect, 64-65, Belarus

The Great Grey Shrike in Belarus is considered uncommon and poorly studied in the republic (Fedjushin and Dolbik 1967, Nikiforov *et al.* 1989). Phenology is insufficiently studied, there is practically no information about the abundance and distribution of the species.

During 1975-1998 investigations were conducted on raised bogs in Vitebsk region and the Great Grey Shrike was observed nesting only on large raised bogs of about 1000 ha.

These bogs are characterised by the presence of many open pools, complex vegetation patterns, and remaining lakes and range lake complexes on larger bogs. Old and recently abandoned nests of Great Grey Shrike were found on raised bogs in Jelnja, Obol – 2, Servech, Krasnopol'skoe, Lebediny Moch, Strechno and Sokolische.

In raised bogs, birds nested in pine woods – particularly those bordering on open bog areas (38% of 15 nests), in small pine groves in the middle of bogs (19%) and near small isles (12%), and also in pine woods on small sand isles on bogs (6%) with some (25%) found in pools completed with rear pine trees.

The breeding density ranged from 0.3 to 0.8 pair/km² in different bog places and 0.36 pair/km² of raised bog.

The Great Grey Shrike is a permanent resident in northern Belarus nesting in raised bogs, but generally occupying agricultural areas in unploughed fields near the edges of small coppices in winter. Solitary birds were observed on 25 January 1992 (Kozyany), 15 February 1992 (raised bog near the lake Nobisto), 1 December 1988 (Moshkany), 18 December 1988 (Krasomay). It is significant that in winter period the birds generally are found in the cultural landscape in unploughed fields near the edges of small coppices.

The first signs of nesting behaviour of this species were seen in early March (3 March 1991) as a Great Grey Shrike sang frequently during a 30 min. period. Pair formation occurred in early April. Nest building occurred in late April or early May. A bird removing the lining from an assumed old nest was seen near Lake Chjornoe on raised bog Jelnya on 28 April 1985. In another part of this bog a pair of Great Grey Shrikes was building a nest on a low pine 30 April 1980.

A rest in the stage of building was marked on the bog Pushcha Golubitskaya on 1 May 1988. On the bog Jelnya near the lake Suchoye on 1 May 1988 an entirely built nest was found.

All nests ($N = 15$) were built in pines at heights from 1.75 to 9 m (average 3.7 m) and around half of nests were at 2.5 m (53%). The nests had the following size: outer diameter – 12-23 cm, height – 13-14 cm, inner diameter – 9-11 cm, depth – 7-8 cm.

The nests were lined with bird feathers (mainly of Willow Grouse – *Lagopus lagopus* and Black Grouse – *Tetrao tetrix*), dry stalks, and the fur of White Hare – *Lepus timidus*. The periods of egg laying were different for different pairs, e.g. 7 hatchlings were found on 3 May 1993 in Servech, while on 8 May 1977 in Obol there were only 3 fresh eggs. All the eggs were of typical colour, but on the bog Lebediny Moch on 8 May 1989 in a 7-eggs clutch one egg was very light and almost without spots.

The average size of the eggs was $26.38 \pm 1.7 \times 19.67 \pm 1.24$ mm ($N = 21$).

Incubation lasted 15-17 days. One half-feathered nestling and two wind-eggs were found in the nest on 25 May 1991 (Obol), fully feathered and ready to fly nestlings were found in nests on 22 May 1979 (Potoky) and on 29 May 1993 (Jelnja). The latest brood observed was found at Hodanski Moch on 25 May 1979 where two eggs were found in the nest. Probably in this case it was a second attempt after first brood's loss.

Fledglings were observed as early as on 9 July and then until independence when the young begin to migrate and appear in the cultural landscape. During the nesting period the species was the prey of Merlin (3%) (Dorofeyev and Ivanovsky 1980), Goshawk (Bishnev 1993) and Golden Eagle – 0.1% (Ivanovsky 1990).

Comparative analysis of spreading and biological peculiarities of Great Grey Shrike in Belarussian Lake region and other regions of the Republic show some specific features of the northern settlements of this species. In the larger part of Belarus Great Grey Shrikes nest on different open bogs but in the northern part of the country it nests only on raised bogs. There are differences in phenodates, egg size and diet, which might support Gritshik's suppositions (1933) about a possible dif-

ferent northern subspecies of the Great Grey Shrike in northern Belarus and other bordering areas. In Belarus species of northern affinities, *e.g.* Whimbrel (*Numenius phaeopus*), Greenshank (*Tringa nebularia*), Red Grouse (*Lagopus lagopus scoticus*), Golden Plover (*Pluvialis apricaria*), nest only in the northern lake region on large raised bogs (Ivanovsky and Kuzmenko 1989). Further research is necessary to show whether different genetic stocks of this species nest in different areas of Belarus.

REFERENCES

- Bishnev I. I. 1993. *Birds over Beresina*. Minsk 1993: 1-352.
- Gritshik V. V. 1993. *Polymorphic variability as an aspect of biological diversity. The problems of preserving biological diversity of Belarus*. Minsk: 72-73.
- Dorofyev A. M., Ivanovsky V. V. 1993. *The ecology of Falco columbaris in Belarussian Lake area*. Zoological Record 5: 62-67.
- Fedjushin A. V., Dolbik M. S. 1967. *Belarussian birds*. Science and technique, Minsk. 519 pp.
- Ivanovsky V. V., Kuzmenko V. J. 1989. *Changes in the constitutions of ornithological fauna of raised bogs in Belarussian Lake area for the last 10-15 years*. Comm. of the Baltic Commission for the Study of Bird Migration 20: 31-35.
- Ivanovsky V. V. 1990. *The ecology of breeding (Aquila chrysaetos) in Northern Belarus*. Comm. of the Baltic Commission for the Study of Bird Migration 22: 130-154.
- Nikiforov M. E., Yaminsky B. V., Shklarov L. P., 1989. *The birds of Belarus: Reference-book-determiner of nests and eggs*. Minsk. 479 pp.