High-altitude records of the Great Grey Shrike *Lanius excubitor* in Bulgaria during migration and winter

Višinski podatki o velikem srakoperju *Lanius excubitor* v Bolgariji v času selitve in prezimovanja

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The Great Grey Shrike *Lanius excubitor* is widespread in the Holarctic taiga zone, occupying a variety of habitats (Cramp & Perrins 1993, Harris & Franklin 2000). It rarely breeds at elevations above 1000 m a.s.l. – in Poland up to 900 m (Lorek 1995), in Central France mainly 600–1000 m (but up to 1300 m), in Germany up to 800–1050 m (Lefranc & Worfolk 1997), in Central Asia up to 1700–2500 m (Dementiev 1954, Panov 2008). Throughout its range some populations undergo altitudinal movements, spending the winter-time at lower elevations (Harris & Franklin 2000). In Bulgaria the species is currently considered an irregular breeder but commonly recorded between October and March, mainly in lowlands and hilly country, exceptionally above 1000 m a.s.l. (Nankinov & Nikolov 2003).

To date, high-altitude records of Great Grey Shrikes in Bulgaria have been published for Ponor Mts – up to 1200–1280 m (Nikolov 2002), Lyulin Mts – 750–1100 m (Paspaleva-Antonova 1964), Vitosha Mts – 700–1000 m (Donchev 1961), Sredna gora Mts – up to 1000 m (Petrov 1981), Western Stara planina Mts – up to 900 m (Donchev 1970). Here we present some additional, unpublished high-altitude records of the species above 1000 m a.s.l., in Bulgaria, mainly from mountainous areas in Western Bulgaria. They are given below in descending order in relation to the altitude; UTM square numbers are appended:

1400 m: Ponor Mts, to the west of Prespanitsa Peak (N of Dobravitsa), 14 Mar 1999; no snow cover, +10°C. [FN86]

1300 m: Vratsa Mts, near the Purshevitsa hut (on a north facing slope), 4 Jan 2009; snow cover about 40–50cm, -4°C. The bird was observed twice, for about 20 min in the early afternoon, chasing small passerines around a single small tree in the open, above the tree line (Beech *Fagus sylvatica* forest). The shrike eventually caught a bird – the size and calls suggested a tit (*Parus* sp.) species, carrying it in its talons in the raptor's manner. The prey was still alive as it was squealing during the 300 m flight, after which the shrike disappeared behind trees. Obviously the victim was heavy for the predator, because the Great Grey Shrike was flying with frequent wing-beats (more frequent than normal according to our experience) and with deeper "waves" due to the excessive weight. [GN08]

1300 m: Western Stara planina Mts, above Berkovitsa (along the way to Kom hut), 20 Sep 2003; absence of snow cover, +12°C. [FN78]

1280 m: Plana Mts, below Manastirishte Peak (Ravnako area), 8 Nov 2003; absence of snow cover, +9°C. The bird was observed to chase a Long-tailed Tit *Aegithalos caudatus* persistently for several minutes within a small tree, then a Dog Rose *Rosa* sp. bush, and finally back again on the same tree, without success. [FN90]

1250 m: Vratsa Mts, above Milanovo (Korita area), 11 Dec 2004; absence of snow cover (snow present in deep gullies only), –3°C. [FN97]

1200 m: Western Stara planina Mts, above Chiprovtsi, 28 Oct 2000; absence of snow cover, +12°C. [FP50]

1150 m: Vratsa Mts, Stresherski polyani area, 22 Mar 2003; absence of snow cover, –3°C. [FN89]

1120 m: Rhodope Mts, Batak reservoir, 11 Jan 2001; absence of snow cover, +8°C. [KG65]; Rhodope Mts, Batak reservoir, 17 Jan 2009; patchy snow cover, +3°C. [KG65]

1100 m: Vitosha Mts, between Yarema and Kovachevtsi, 13 Feb 2008; absence of snow cover, +3°C. [FN90]

1100 m: Plana Mts, 2.5km NE from Kovachevtsi, 10 Dec 2000; absence of snow cover. [FN90]

1000 m: Vratsa Mts, above Gorna Bela rechka (to the west of Dobralin Peak), 9 Jan 2005; absence of snow cover, +16°C. [FN98]

1000 m: Vratsa Mts, above Milanovo, 15 Dec 2005: patchy snow cover, –2°C. [FN97]

Almost all (10 out of 13) the above records involve observations made in snow free conditions, usually on south-facing slopes. At such places the snow melts earlier and the opportunities for catching a greater variety of prey is increased. On sunny and warm days, when snow cover is absent, many invertebrates, like Field Crickets *Gryllus campestris*, are active. Probably because of this, the Great Grey Shrike in Bulgaria rarely caches food and rarely preys upon vertebrates, in comparison to its Central and Northern European wintering grounds. A latitudinal cline in the proportion of vertebrates in Great Grey Shrike diet has been shown during winter throughout Europe, starting from 10.5% in Bulgaria and ending with 100% in Finland (Nikolov *et al.* 2004). The mild climate during winter-time in Bulgaria is the probable reason why the Great Grey Shrike occupies individual territories of 10–40 ha (Nikolov *et al.* 2004) – much smaller than those in Central (52–68 ha; Schön 1994) and Northern Europe (110–144 ha; Olsson 1984, Karlsson 2001).

In warm and snowless winters or during migration, Great Grey Shrike can be observed in Bulgaria at much higher altitudes on some southern mountain slopes, mountain plateaus or even the subalpine zone, resembling some of the typical breeding grounds of the species in the north.

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Povzetek

Veliki srakoper *Lanius excubitor* je v Bolgariji nereden gnezdilec, redno pa je opažen med oktobrom in marcem v nižinah in gričevnatem svetu, le izjemoma nad 1000 m n.m.v. V članku so predstavljeni novi višinski podatki za to vrsto v Bolgariji, predvsem za njen hriboviti zahodni del. Predstavljenih je 12 podatkov, v višinskem razponu 1000–1400 m n.m.v.

References

Cramp, S. & Perrins, C. (eds.). (1993): The Birds of the Western Palearctic. Vol. 7. – Oxford Univ. Press, Oxford, New York.

Dementiev, G. (1954): Family Shrikes Laniidae. pp. 5–57 In: Dementiev, G. & Gladkov, N. (eds.): The Birds of Soviet Union. Volume 6. – Sovetskaya nauka, Moscow. (in Russian)

Donchev, S. (1961): The Birds of Vitosha Mountain. – Bull. Inst. Zool. Mus. 10: 59–139. (in Bulgarian)

Donchev, S. (1970): The Birds of Western Stara planina Mts. – Bull. Inst. Zool. Mus. 31: 45–92. (in Bulgarian)

Harris, T. & Franklin, K. (2000): Shrikes & Bush-shrikes. Including wood-shrikes, helmet-shrikes, flycatcher-shrikes, philentomas, batises and wattle-eyes. – Christopher Helm, A & C Black, London.

Karlsson, S. (2001): Selection of habitat and perches by the Great Grey Shrike *Lanius excubitor* and the effects of snow layer and prey type. – Ornis Svecica 11: 7–18.

Lefranc, N. & Worfolk, T. (1997): Shrikes: A Guide to the Shrikes of the World. – Pica Press, London.

Lorek, G. (1995): Breeding status of the Great Grey Shrike in Poland. pp. 98–104 In: Yosef, R. & Lohrer, F. (eds.): Shrikes (Laniidae) of the World: Biology and Conservation. – Proc. Western Found. Vert. Zool. 6 (1).

Nankinov, D. & Nikolov, B. (2003): On the subspecies, breeding, migration and wintering of the Great Grey Shrike (*Lanius excubitor*) in Bulgaria. – Biota 4 (1/2): 73–82.

Nikolov, B., Kodzhabashev, N. & Popov, V. (2004): Diet composition and spatial patterns of food caching in wintering Great Grey Shrikes (*Lanius excubitor*) in Bulgaria. – Biological Lett. 41 (2): 119–133.

Nikolov, S. (2002): Study on the avifauna of Ponor Mountain. MSc Thesis, University of Sofia, Faculty of Biology.

Olsson, V. (1984): [The winter habits of the Great Grey Shrike *Lanius excubitor*. II. Territory.] – Vår Fågelvärld 43: 199–210. (in Swedish)

Panov, E. (2008): [Shrikes of the world fauna – ecology, behaviour, evolution]. – RAN, Moscow. (in Russian)

Paspaleva-Antonova, M. (1964): [Contribution to the avifauna of Lyulin Mountain]. – Bull. Inst. Zool. Mus. 16: 35–59. (in Bulgarian)

Petrov, T. (1981): The Birds of Sredna gora Mts. – Bull. Mus. South Bulgaria 7: 9–49. (in Bulgarian)

Schön, M. (1994): Kennzeichen des Raubwürger-Lebensraumes (*Lanius e. excubitor*) im Gebiet der südwestlichen Schwäbischen Alb: Jahreszeitliche Nutzung und Revier-Grösse, Struktur-Merkmale und -Veränderungen, Kleinstrukturen und Bewirtschaftung. – Ökol. Vögel 16 (1): 253–495.

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