

# Confirmed presence of territorial groups of golden jackals (*Canis aureus*) in Slovenia

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**Abstract.** The article presents the first confirmed records of territorial groups of the golden jackal (*Canis aureus*) in Slovenia. During the survey at Ljubljansko barje on 20<sup>th</sup> February 2009, we noted a response by two jackal groups to a broadcasted howling near the village of Bevke (UTM VM82, 288 m a.s.l.). Since we recorded no response at any other location, it seems that the number of territorial golden jackals at Ljubljansko barje is small. Further studies would be needed to determine whether the jackals have already established permanent territories also in other regions of Slovenia.

Keywords: golden jackal, *Canis aureus*, Slovenia, territorial groups

**Abstract. POTRJENA PRISOTNOST TERITORIALNIH SKUPIN ŠAKALOV (*CANIS AUREUS*) V SLOVENIJI** – V prispevku navajam prve potrjene podatke o prisotnosti teritorialnih skupin šakalov (*Canis aureus*) v Sloveniji. Med popisom na Ljubljanskem barju dne 20.2.2009 smo v bližini vasi Bevke (UTM VM82, 288 m n.v.) zabeležili odziv dveh skupin šakalov. Glede na to, da nismo zaznali odziva na nobeni drugi lokaciji, sklepam, da je število teritorialnih šakalov na Ljubljanskem barju majhno. Potrebne bi bile nadaljnje raziskave, s katerimi bi lahko ugotovili, ali so šakali vzpostavili stalne teritorije tudi na katerem drugem območju v Sloveniji.

Cljučne besede: šakal, *Canis aureus*, Slovenija, teritorialne skupine

Golden jackal (*Canis aureus*) is one of the rarest and least known autochthonous canids in Europe. A relatively rapid expansion of this species towards the north-west was noted in the 20<sup>th</sup> century (Kryštufek & Tvrtković 1990). In Slovenia, it has been recorded since 1952 (Brelj 1955). Until present, however, there has been no confirmed record that jackals would have established permanent territories, although Krofel & Potočnik (2008) hypothesized that this could have been possible.

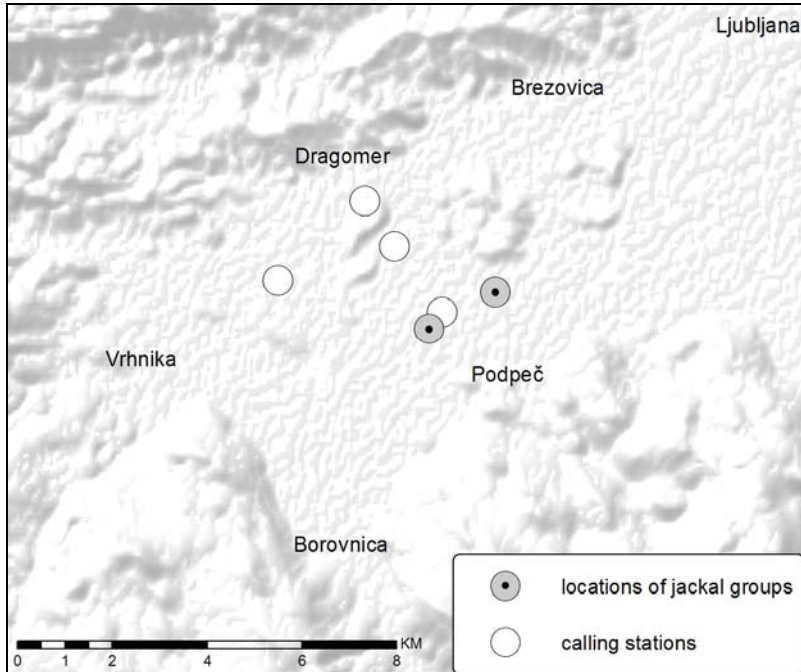
Presented herewith are the results of a survey performed on 20<sup>th</sup> February 2009 in the western part of Ljubljansko barje (central Slovenia). To determine the presence of territorial groups of jackals, we used the acoustic (play-back) method, which proved useful in Greece (Giannatos et al. 2005) and Croatia (Krofel 2008). We selected suitable locations according to the topographical characteristics in order to optimize sound transmission, and avoided sources of background noise (main roads, settlements) as much as possible. From these calling stations, which were approximately 2 kilometres apart, we broadcasted a recorded group yip-howling by three to four jackals. Each broadcasted howl lasted for 30 seconds and was followed by a 5 minute pause. If there was no response, this set of broadcast and pause was repeated for six times on each calling station, which totalled to overall session time of approximately 30 minutes. When jackals responded to the broadcast, we determined the direction of howling jackals using a compass. Geographical coordinates and altitude of locations were recorded by handheld GPS. At calling stations located in open habitats, we also tried to make a direct observation of jackals using night vision goggles. We began with the survey one hour after sunset. The survey was performed on a night with clear weather and without wind.

At one of the calling stations close to the village of Bevke (UTM 59, 288 m a.s.l.; see Fig. 1) we noted, after the third broadcast of jackal howling, a howling response by a group of jackals from the south-west. We estimated that they were located few hundreds of meters away from us. Few seconds after the vocalization of this group, another group responded from the north-east. This one was further away, probably 1-2 kilometres. We broadcasted another jackal howling, and the first group replied again. We scanned the area with night-vision goggles, but due to dense vegetation we were not able to see any of the animals. We did not record any other response at other calling stations on that particular night.

Although there were few unconfirmed records of spontaneous jackal vocalization (including one near Bevke at Ljubljansko barje – T. Skrbinšek & D. Denac, pers. comm.), we can now confirm that golden jackals have established their territories in Slovenia. At present, it is difficult to estimate the number of territorial groups at Ljubljansko barje and to predict whether these territorial groups will remain there also in the future. Since we recorded no response at any other location nor during previous surveys in other parts of Ljubljansko barje (Krofel M., unpublished data), I assume that the number of territories in this region is still small. Further research is needed to gain better knowledge on the distribution of this species in Slovenia and to monitor the development of the established population at Ljubljansko barje. According to the results presented above and recent data from the neighbouring countries (e.g. Herzig-Straschil 2008), it seems that the species continues to expand towards Central Europe.

**Figure 1.** Estimated locations of recorded territorial jackal groups (*Canis aureus*) and calling stations used in a survey on Ljubljansko barje on 20<sup>th</sup> February 2009.

**Slika 1.** Označene ocenjenjene lokacije dveh teritorialnih skupin šakalov (*Canis aureus*) in točke, od koder smo predvajali posnetke med popisom na Ljubljanskem barju dne 20.2.2009.



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