

Short note

## *First confirmed breeding of Hazel Grouse (*Bonasa bonasia* Linnaeus, 1758) in Plana Mountain, CW Bulgaria*

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**Abstract.** Nest of Hazel Grouse was found in Plana Mountain, where the species have not been reported yet. According to collected eggshell material we can claim for 9 successfully hatched chicks and one died during hatching. The vegetation in the nest site is presented by 60-70 years old Scots Pine (*Pinus sylvestris* L.) culture. The nest side is at 1150m a.s.l. at the foothill of a west exposed 12° slope.

**Key words:** nest, breeding territory, hatchlings, habitat characteristics.

Bulgarian Hazel Grouse (*Bonasa bonasia* (L., 1758)) population forms one of the most southern parts of species range in Europe. The species is Least Concern with stable population trend (Birdlife International, 2015). In Bulgaria the Hazel Grouse has been protected according to the Game Management Act of 1926 since 1926. Around the middle of the 20<sup>th</sup> century the species distribution including many Bulgarian mountains also some flat forest areas (PATEV, 1950). At the early 90's species' distribution in Bulgaria starts to decline, so it is spread mainly in Rhodopes, Rila, Pirin, Sredna gora, Vitosha, Osogovska, Belasitsa and Slavianka mountains (BOEV, 1985; SIMEONOV *et al.*, 1990; GERASIMOV *et al.*, 2007). The population size in Bulgaria varied between 1500 - 5000 breeding pairs (GERASIMOV *et al.* 2007). The secretive way of life and inaccessible habitats make it impossible to ascertain the actually distribution and breeding density of Hazel Grouse.

The location of the nest we determined by GPS model Garmin eTrex touch 35, after the hatching of the chickens. The height of the tree was measured with altimeter model Suunto PM 5/1520. Clinometer was used to determine the slope within the sample plot as well. We also measured the diameters at ground and breast height (1.3 m) of the tree at the base of which the nest was placed.

The Hazel Grouse nest with 3 eggs (N 42°29'; E 23 °25') was found in Plana Mountain on April 17 2018 after flushing the bird from a one meters from the observer (Fig.1).

We observed seven eggs covered with dry beech leaves on April 21. During this observation (around 9:30 am) the hen was not in the nest. In the next visit (April 21) the hen was in the nest, incubating with its head pointed south (at around 2:00 pm). Later on May 22 the chicks were hatched and left the nest (Fig. 2).



**Fig.1.** Nest of Hazel Grouse (*Bonasa bonasia*) in Plana Mountain, 17 April 2018 (Photo by Kamelia Tsvetkova).



**Fig.2.** Eggshell remains after hatching in the nest of Hazel Grouse (*Bonasa bonasia*) on 22 May 2018 (Photo by Evlogi Angelov).

According to collected eggshell material we can claim for 9 successfully hatched chicks and one died during hatching. This proves successful breeding of the species in Plana Mountain. The size of the egg with dead chicken is 40.63 x 29.12 mm (length x width). The nest is 18.5 cm in diameter and 6.5 cm in depth.

The nest is placed at the base of approximately 29 m high Scots Pine with diameter of 44 and 36 cm at ground and diameter at breast height (1,3m) respectively. Around the tree there is a Blueberry patch with surface of around 3 m<sup>2</sup>. The nest side is at 1150 m a.s.l. at the foothill of a west exposed 12° slope. Some 35 m away from the nest passes a small stream across which there is Grey Alder (*Alnus incana* (L.) Moench) and sporadically Crack Willow (*Salix fragilis* L.). In a relatively small clearing between the nest and the stream there are patches of Raspberry (*Rubus* sp.). The nest is 300m away from rarely used forest road.

The collected data allows confirm breeding of the Hazel Grouse in the studied area. The nest and egg sizes are within the range known to the species. The characteristics of the habitat are similar to those in other parts of the Hazel Grouse areal (SIMEONOV *et al.*, 1990; GLUTZ VON BLOTZHEIM *et al.*, 1994) and this is the probable reason why the birds have chosen this nest site.

This breeding locality is a new for Bulgaria. It is 9763 meters in a straight line from a locality of the species described by GERASIMOV *et al.* (2007). There are no natural barriers between the closest known breeding locality of the Hazel Grouse and that in this Note. Two possible scenarios of the occurrence of this breeding location can be suggested: the species has expanded its breeding area; or the locality has been there before, but has not been reported so far. The Hazel Grouse is a conservation priority

(Biodiversity Act, Annex 2.3) and the present information could help for improving the species conservation and the management of habitats in Plana Mountain in the future.

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