

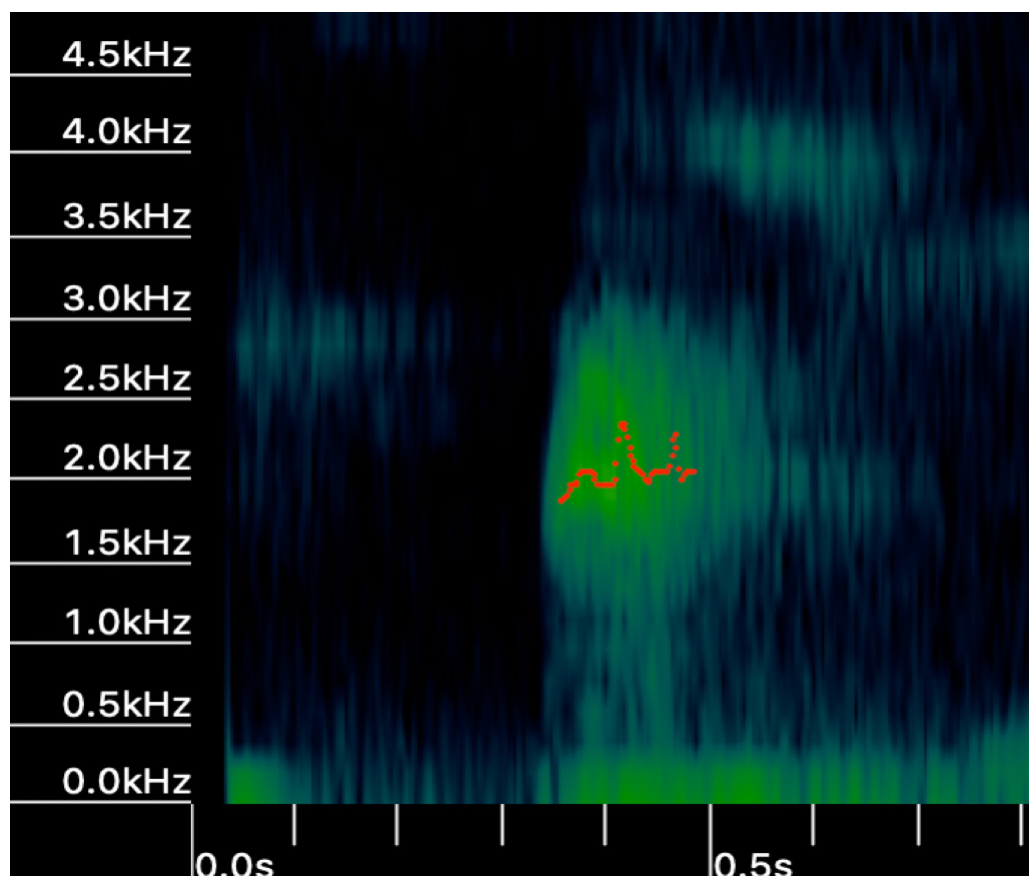
Acoustic evidence of Western Tragopan from Dhauladhar Wildlife Sanctuary

Because of vulnerability to human exploitation and sensitivity towards habitat degradation, pheasants play an important role as bio-indicators (Fuller & Garson 2000). But due to their dense and steeper habitat preferences, much is unknown about their population biology and behaviour (Miller 2010). The Western Tragopan *Tragopan melanocephalus* locally known as ‘Jujurana’ is an elusive Himalayan species

which is listed as ‘Vulnerable’ by the IUCN Red List and is on Schedule-I of Indian Wildlife (Protection) Act, 1972. This species prefers broadleaved and coniferous forests with thicker undergrowth at an altitude ranging 2,400–3,600 m (Delacour 1977).

Dhauladhar Wildlife Sanctuary is an assemblage of diverse biomes covering a span of 982 sq. km. It encompasses subtropical, temperate, and

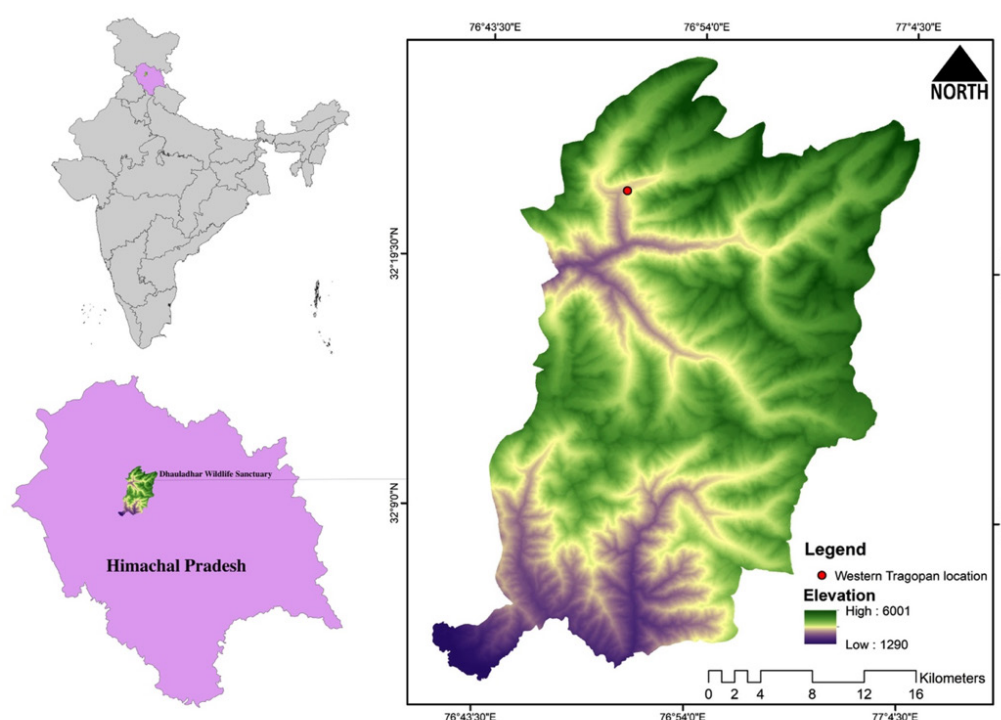
subalpine forests (following Champion & Seth 1968). It covers three biomes- Eurasian high montane (Alpine and Tibetan- Biome 5), Sino-Himalayan temperate forests (Biome-7) and Sino-Himalayan subtropical forests (Biome-8). Such wide combinations of habitats and altitudes make this sanctuary a biodiversity-rich area and serve valuable habitat for elusive species like the Western Tragopan.



Spectrogram (Time vs. frequency) of a single syllable of Western Tragopan call.

Table 1. Parameters for eight recorded syllables used for comparison with xeno-canto recordings.

Syllables	Offset	Duration	F-min	F-mean	F-max
1	0.352	0.133333	1406.25	2069.197	3000
2	0.858667	0.138667	1125	2062.5	3000
3	1.376	0.128	1125	2062.5	3187.5
4	1.882667	0.133333	1031.25	2062.5	3000
5	2.389333	0.133333	1031.25	1968.75	3093.75
6	2.906667	0.112	1031.25	2019.886	3000
7	3.408	0.138667	656.25	2082.589	3187.5
8	3.904	0.128	1031.25	2069.711	3187.5



Location in
Dhauladhar Wildlife
Sanctuary where
Western Tragopan
was heard.

Communication in form of songs/calls is one of the many ways how birds convey information related to courtships, agnostic and complex social communications (Owings & Morton 1997; Hauser 1999). It provides fruitful grounds for research information related

to individual identity, moods, and intentions (Bradbury & Vehrencamp 1998). Monitoring birds by their songs/calls provides important insights into scientific research (Stowell et al. 2016). Recording acoustic signals are well suited for confirming species presence as it is a non-

invasive sampling technique. Many biodiversity monitoring projects rely on acoustic signal detection of birds.

On 11 July 2021, at around 0535h, we heard a distinct call from close proximity near our field station located (32.3747 N, 76.8389 E) in Shahnala

Beat of Dhauladhar Wildlife Sanctuary. The recording only lasted for four seconds before it stopped calling. We avoided tracking the bird in the dark as this Wildlife Sanctuary has a dense population of carnivores. To confirm it further we analyzed eight syllables of our recorded call on Kaleidoscope Pro V5.4.8 (Table1) and compared it with the same number of syllables of existing xeno-canto recordings (<https://xeno-canto.org>) and calls recorded in breeding centers with the package 'warbleR' in R Core Team, 2020. The presence of Western Tragopan in the Dhauladhar Wildlife Sanctuary is evident from the results obtained after the comparisons of call spectrograms. Earlier recordings were based on observations from entire Dhauladhar mountain ranges, and not within sanctuary limits. Although locals from Bara Bhangal Village explain their opportunistic sightings of 'Jujurana', this is the first scientific reporting on its presence within sanctuary boundaries.

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Citation: Parab, T., R. Rohane & S. Lyngdoh (2022). Acoustic evidence of Western Tragopan from Dhauladhar Wildlife Sanctuary. *Bird-o-soar* #182, In: *Zoo's Print* 37(10): 25–27.