

# Short-toed Snake Eagle

The Schlangenadler (*Circaetus gallicus*) is so named since its main food source is composed of snakes. A morphological feature for catching snakes is its short talons that are ideal for gripping a snake. This feature accounts for the English name Short-toed Snake Eagle. The Short-toed Snake Eagle is a large raptor that is significantly larger than the Eurasian Buzzard. However, because Short-toed Snake Eagles often fly very high in the sky, it can be difficult to judge how large they actually are. Its overall appearance is that of a large, pale raptor with long, broad wings and a short tail. Most individuals have a pale coloured underside combined with a dark brown head. Female Short-toed Snake Eagles are larger than their male counterparts, but this difference is smaller than for most raptors with the size of the two genders largely overlapping.

The European population of the Short-toed Snake Eagle is estimated to be between 8,400 and 13,000 breeding pairs by BirdLife International with the largest population being found in southern Russia, followed by Spain and France. The entire global population of Short-toed Snake Eagle is estimated to be between 12,000 and 26,000 pairs, indicating that a large percentage of the global population breeds within Europe.

This species has a wide geographic range in parts of Africa, Europe and Asia. Throughout its range, it hunts and nests in a wide variety of habitats. In some parts of its range, it might nest in woodland areas, but prefers terrains of an open landscape with low vegetation, since this is where it hunts snakes. In addition, it can also live in a wide range of habitats, ranging from farmland to dry terrains and in South Eastern Europe is also found in damp lowland forests mixed with grassy fields and wetlands. In the Southern-most part of its breeding range it is most often found in sunny, arid rocky or sandy areas with scattered open woodlands. Areas with cliff formations interspersed with spaces cleared for cultivation are also used.

This relatively large eagle spends a lot of time in flight with the most common behaviour observed being soaring and flying slowly at high altitudes whilst scanning the countryside below for snakes. When not flying, it perches in tops of tall trees often on the large exposed branches.

It generally uses two types of hunting techniques. It might stoop down on prey from a high perch or it hovers effortlessly (like a Common Kestrel but requiring much less wing beats to maintain position) with the head into the air-flow until it spots its prey. When the prey is located, it drops rapidly to the ground where it captures its prey with its strong feet and sharp, short talons.

The Short-toed Snake Eagle is highly specialized for hunting snakes and is normally only found in regions where sufficiently large snake populations exist. Over 80% of the food of Short-toed Snake Eagles are snakes with a small percentage of lizards, frogs and mammals also being taken. All of these are captured on the ground in open country. The most common snake species eaten by Short-toed Snake Eagles are grass snakes and other non-venomous species, although venomous snakes may also be part of its prey. Mammalian prey include rodents, rabbits and hares. It may also take advantage of finding injured or sick birds to feed on and it will also consume invertebrates such as millipedes. Researchers consider that the non-reptilian prey may actually be a more important part of their diet than previously considered, especially in areas where reptiles are often underground during cold winter months.

Since snakes hibernate during the winter in most parts of Europe and the Short-toed Snake Eagle specializes on snakes, it is a strict, long-distance migratory species (September-March) that spends the winter in sub-Saharan Africa. However, a small number of over-wintering individuals can be observed in Spain each year. Similar to other large migratory raptors, the Short-toed Snake Eagle migrates along migration corridors and crosses the Mediterranean Sea at its narrowest straits.

While the Short-toed Snake Eagle population has declined significantly during the last century due to changes in agricultural cultivation practices, but also persecution from man, the conservation status is classified as 'Least Concern' by BirdLife International. Vogelwarte.ch currently lists it as vulnerable on the Swiss Red List. The main threat to Short-toed Eagles has been habitat destruction due to intensified agricultural approaches and land clearance that create declines in the snake populations.

Long persecuted by man, the Short-toed Snake-Eagle is however currently (re)colonizing Southern Cantons of Switzerland, in particular Ticino and in the Upper Rhone valley (Valais and Vaud Chablais). Since 2017, investigators at the University of Bern have been closely monitoring the latter population after a first successful breeding was observed in 2012. In 2022, 7 territories existed in Valais and Vaud Chablais with 4 pairs each successfully raising a usual single chick to fledging.

Its recent spatial expansion towards higher latitudes in Central Europe may be a consequence of increased protection measures that now exist compared to the past as well as to changes in global temperatures as noted in recent years. With earlier springs and later autumns, this may enable it to fully complete its breeding cycle at more Northern latitudes than previously. As shown in Vogelwarte.ch, the presence index of the Short-toed Snake-Eagle has markedly increased in Switzerland since 2012.

2023 marked a special year for local (BL and Alsace) Short-toed Snake-Eagle sightings that in particular included sightings in the Leimental. Prior to 2023 and via a data-base search on Ornitho.ch (May 1902 - Dec 2023), there had been 6 local Short-toed Snake-Eagle sightings in BL, SO and Alsace as follows: Hofstetten-Flüh (SO) 27 August 2004, PCA (68) 26 April 2008, Wolschwiller (68) 23 August 2009, Liestal (BL) 23 August 2009, Sondersdorf (68) 7 October 2018 and Duggingen (BL) 6 July 2021.

In 2023 commencing 2 April, a total of 8 registered Short-toed Snake-Eagle sightings were made in BL and Alsace as follows: Buus (BL) 2 April, Therwil 27 June, Muttenz 6 July, Duggingen (BL) 14 July, 5 August PCA (68), Therwil and Biel-Benken 30 August and Liestal 31 August. Study of the photos where photos exist for these sightings indicated that at least 2 Short-toed Snake-Eagle individuals were present in the area. The sightings on the 30 August 2023 in Therwil (15:40) and Biel-Benken (15:42) most likely represented the same individual based on sighting timings and both observers seeing it flying in a general SW direction with a group of Honey Buzzards.

Based on the major food source of the Short-toed Snake-Eagle being snakes, some unanswered questions arise. Are the individual Short-toed Snake-Eagles finding food in the local vicinity to keep them local or are they only passing through? In which locations are the snake food sources being located? Are these of sufficient numbers to sustain at least 2 individuals during the sightings time-frame?

2024 is eagerly awaited in order to follow-up on these exciting developments.

Text and Photos: Dean Evans (2023)



*Therwil, 27th June 2023*



*Duggingen, 14th July 2023*



*PCA Rhein Insel, 5th August 2023*



*Biel-Benken, 30th August 2023*