

Indicator Species:

Sandgrouse is an indicator of undisturbed, open, semi-arid habitat. This habitat needs a recognized status.



Vast undisturbed open semi-arid habitat is the home of the sandgrouse. This so called ‘wasteland’ is vanishing at an alarming rate today.

Habitat:

Barren, plain or semi-arid stony country; semi-deserts; dry short grasslands, and fallow land. Avoid forests and coasts.

Habit:

Diurnal. In variable flocks of 10 to 100 birds. Congregations fly to favorite

waterholes in arid habitats in morning, where the birds turn up for drinking water at fixed time day after day. They alight at some distance from the water body and cautiously waddle on their short legs to drink and bathe. If not disturbed, they fly, make a roundabout and come back again.

Distribution:

In India, common in north-west provinces and in peninsular India but rare southwards and eastwards; not in NE India. Occur in West Pakistan, SW Arabia, Iraq, Palestine, Syria, and N & E Africa.

Status:

Resident. Nomadic. Local migration not well studied.



A pair perching on the ground - terrestrial habit



Food:

Vegetarian diet. Seeds of weeds and grass; tender leaves. Also ingest gravel. Seeds of *Cyanopsis*, *Elusine*, *Psuedanthiopteria*, *Tephrosia*, *Indigofera*, *Panicum*, *Phaseolus*, etc. genera are identified from stomach content analysis. (Faruqi et al 1960. JBNHS 57:360-61). Mushroom-shaped white-capped droppings are typical. Glean food on the ground by slowly and carefully inspecting the terrain.

Phenology:



A pair of sandgrouse foraging on a grassy hillslope with scattered stones and boulders. Nests are made in such habitats



Cryptically coloured eggs



Three eggs between stones



Male near the egg



Female incubating the egg



One egg is hatching, one chick is few hours old and other is one day old. Hatching is asynchronous



Four days old chick shows a camouflaged plumage



Adults with young in short grass habitat

Key Features:



The scalloped plumage of the male in side view



Close up of the face



The intricate design of the female's plumage makes her invisible. A recently hatched young is seen under her belly; a female running on the ground, the hind toe is absent



- Cheek, chin, throat are yellowish.
- Bill horny, plumbeous, small, stout, arched.
- Iris - dark brown.
- Narrow black breast band.
- Sandy-grey - buff upperparts, scalloped in male, designed in female.
- Dark spots on breast in female.
- Chestnut-brown to dark lower belly.
- Wings not long, sickle-like, pointed. First primary longest.
- All tail feathers equal. Pointed in flight.
- Upper primaries dark.
- Tarsi - short, feathered in front; bare reticulated behind.
- Toes bare, short.

Etymology:

Pterocles (Gr.), Gr. *Pteron*, a wing, -kles, endowed with ; *exustus* (L.), burnt, scorched. Refers to the dark brown feathers, appearing scorched. (Pande, Satish (2009).

Cultural aspects:

Sandgrouse species feature on postal stamps of countries from Africa and Arabia.



Related species:

The co-inhabiting Painted Sandgrouse *Pterocles indicus*. Head and breast markings typical.



Male



Female



Sun-bathing in semi-arid habitat is their favorite past time of these dwellers of dry habitat. Chicks remain with parents for up to a month after hatching

Amazing Facts:

The Chestnut-bellied (Indian) Sandgrouse and Imperial Sandgrouse were introduced in the USA in 1960-62 as supplementary game birds in ecologically similar habitats by the Bureau of Sport, Fisheries and Wildlife, USA. However, none of the birds survived and by 1964 all birds had disappeared. (Ali and Ripley, 1970).



Fledglings under mother's belly

Sandgrouses wet their belly feathers and fly up to few km to the nest to cool the eggs, as they breed in hot habitats. Later, the sandgrouse chicks eat dry seeds but they cannot fly long distances and need water in summer months. Water may not be close. The belly feathers of males have excess number of barbules that hold water, and act like sponge. They wade in water and fly to the chicks, where they drink water stored in dad's belly feathers!!

Chestnut-bellied Sandgrouse *Pterocles exustus* (Neumann, 1909). (Indian Sandgrouse).

Type locality: El Hota, Lahej, southern Arabica; **Race** *P.e.hindustan - Sambhar, Rajputana, India.*

Pakhurdi; Pokundi (Marathi); ***Bhat teetar, Kuhar*** (Hindi); ***Kal gojal hakki*** (Kannada); ***Jam polanki*** (Telugu); ***Kal koundri*** (Tamil); ***Batebar bateban*** (Sind).

- **Size:** 280 mm.
- **Weight:** Male 227 – 284 g. Female 212 – 242 g.
- **Wing:** Male 177 – 185 mm. Female 171 – 177 mm.
- **Tail:** M 105 – 142 mm; F 85 – 104 mm.
- **Tarsus:** M 26 – 28 mm; F 25 mm.
- **Bill:** M 17 – 20 mm; F 16 – 19 mm.
- **Breeding season:** Chiefly January to May; during summer.
- **Clutch:** 1 – 3 eggs. One clutch per year.
- **Eggs:** Elliptical; grayish yellow with brown, grey and lavender spots and specks; cryptic.
- **Egg Size:** 36.8 x 26.2 mm. (Baker).
- **Incubation:** 19 - 20 d.
- **Call:** The presence of approaching birds is announced before they are seen due to the far reaching double note *kut-roo*, *kut-roo* uttered in flight. Guttural notes like that of a pigeon. Call on wings.

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- **Design:** Kiran Velhankar, Media Next Infoprocessors Pvt. Ltd.
- **Copyright and Published by:** Ela Foundation, C-9, Bhosale Park, Sahakarnagar-2, Pune 411009. July, 2014. An OENSL initiative. www.elafoundation.org.
- **References:** *Ali & Ripley (1969). *Satish Pande. (2009) Latin Names of Indian Birds Explained. Book made and Funded by Ela Foundation.; Satish Pande et al (2003). Birds of Western Ghats, Kokan and Malabar. Last two published by Oxford University Press and Bombay Natural History Society.
- **Recommended citation:** Pande, Satish and Rahul Lonkar (2015). Chestnut-bellied sandgrouse. *Ela File 19*: 1-6. Ela Foundation, Pune.



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Chestnut-bellied Sandgrouse

- **Order:** Columbiformes
- **Family:** Pteroclididae
- **Status:** Resident



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Importance of water:



A pair of sandgrouses approach a water hole to drink the life giving water in semi-arid habitat. Water is a precious commodity and sandgrouses fly long distances every day to a favourite water hole. Offering water in artificial ponds can be a good conservation initiative in semi arid habitats. Males often wet their belly feathers to bring water for their young, who may not have developed flight ability to approach distant water bodies

Chick camouflage:



Chicks start walking as soon as they hatch and run with wings stretched to keep their balance

Top view of a chick perching on a parched dry land patch. Note the excellent camouflage

The chicks are impossible to find unless they reveal themselves by moving

Nest:

Unlined, shallow scrape on bare ground, or in a shallow hoof print of cattle, amidst pebbles or debris. In arid, semi-arid, open or fallow land and uncultivated fields. Both parents incubate, by taking turns. Precocious chicks instinctively walk and feed after hatching, and may be intermittently supplemented by parents. Adults supervise their movements by uttering specific calls. The chicks respond to alarm calls of parents and stay motionless and undetectable on ground in their cryptic down.

THREATS:

Today, short open grasslands and scrublands are under threat due to road development and irrigation of semi-arid habitats for converting them to cropland. Natural causes are predation by fox, jackal, wolf or harriers or trampling by cattle or goats.



A road kill

Conservation:

The sandgrouses constitute an important prey base of raptors. In countries where falconry is legally practiced or hunting is legal they are used as game birds. Identifying important sandgrouse occupied habitats and protecting them by peoples' participation is the key to their conservation. They are protected in India under the Wild Life (Protection) Act, 1972 and trapping / hunting is a punishable offence. 'Rural Biodiversity Conservation Outreach Workshops,' like those undertaken by **Ela Foundation** for conservation of so called 'wastelands' are the key to their survival.

Dr. Satish Pande, Rahul Lonkar, Arjunrao Jadhav, Rajkumar Pawar, Amit Pawashe, Dr. Satish Karmalkar and Prashant Deshpande did field research for over eight years in the semi-arid habitats of Purandar and Indapur talukas of Pune district. These precious habitats are considered wastelands and are slowly brought under clutivation through irrigation.