

HANDBOOK
OF THE
BIRDS
OF INDIA
AND
PAKISTAN

Vol. 4

Frogmouths to Pittas

SÁLIM ALI
AND
S. DILLON RIPLEY

The *Handbook*, which will be completed in about ten volumes, brings up to date and greatly enlarges on the information contained in E. C. Stuart Baker's books in the *Fauna of British India* series. It aims to describe the 1200 species of birds which, in nearly 2100 forms, are to be seen or are known to have occurred in India, Pakistan, Nepal, Sikkim, Bhutan and Ceylon. Detailed life-histories and feather-by-feather descriptions are not attempted: the *Handbook* confines itself to recording concisely what is known of the distribution, habits, breeding biology, diet, voice, etc. of the birds in the area. When complete the work will contain 113 colour plates, of which nearly half have been specially prepared for it. With the help of these and the systematic keys in the text, the bird-watcher and the scientific ornithologist should be able to identify most of the birds they see and all those that they handle. Maps show the distribution of many migratory and spatially restricted forms, and a number of line drawings illustrate diagnostic features such as bills and feet. This volume describes 228 forms, covering the Caprimulgiformes, Apodiformes, Trogoniformes, Coraciiformes and Piciformes and beginning the Passeriformes. It describes Nightjars (with a key to their calls), Swifts, Trogons, Kingfishers, Bee-eaters, Rollers, Hoopoes, Hornbills, Barbets, Honey-guides, Woodpeckers (69 of them), Broadbills and Pittas. Its eleven colour plates illustrate 88 forms.

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K.K. Venugopal

HANDBOOK OF THE
BIRDS
OF INDIA
AND PAKISTAN

IN TEN VOLUMES
VOL. 4

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BIRDS
OF INDIA
AND PAKISTAN

*TOGETHER WITH THOSE OF
NEPAL, SIKKIM, BHUTAN AND CEYLON*

SÁLIM ALI
AND
S. DILLON RIPLEY

Volume 4
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869	Hooded or Greenbreasted Pitta, <i>Pitta sordida cucullata</i> Hartlaub ..	254
870	Nicobar Hooded or Greenbreasted Pitta, <i>Pitta sordida abbotti</i> Richmond	255
871	Blue Pitta, <i>Pitta cyanea cyanea</i> Blyth	256

COLOUR PLATES

Synopsis numbers in brackets

(SE) = *species extralimital* (RE) = *race extralimital*

Plate 44, facing page 16

D. V. COWEN

- 1 *Eurostopodus macrotis bourdilloni*, Bourdillon's Great Eared Nightjar (669)
- 2 *Batrachostomus moniliger*, Ceylon Frogmouth (666)
- 3 *Chaetura gigantea indica*, Brownthroated Spinetail Swift (691)
- 4 *Harpactes fasciatus malabaricus*, Malabar Trogon (711)
- 5 *Chaetura sylvatica*, Whiterumped Spinetail Swift (692)
- 6 *Clamator coromandus*, Redwinged Crested Cuckoo (569)
- 7 *Centropus toulou bengalensis*, Lesser Coucal (605)

Plate 45, facing page 32

PAUL BARRUEL

- 1 *Chaetura caudacuta nudipes*, Whitethroated Spinetail Swift (688)
- 2 *Caprimulgus mahrattensis*, Sykes's Nightjar (674)
- 3 *Halcyon coromanda coromanda*, Ruddy Kingfisher (733)
- 4 *Apus melba melba*, Alpine Swift (693)
- 5 *Harpactes wardi*, Ward's Trogon (716)
- 6 *Alcedo hercules*, Blyth's Kingfisher (721)
- 7 *Merops superciliosus persicus*, Bluecheeked Bee-eater (747)
- 8 *Coracias garrulus semenowi*, Kashmir Roller (754)
- 9 *Merops apiaster*, European Bee-eater (746)

Plate 46, facing page 64

A. M. HUGHES

- 1 *Harpactes erythrocephalus erythrocephalus*, Redheaded Trogon (715)
- 2 *Harpactes oreskios uniformis*, Orangebreasted Trogon (SE)
- 3 *Upupa epops longirostris*, Hoopoe (766)
- 4 *Cypsiurus parvus infumatus*, Palm Swift (708)
- 5 *Caprimulgus asiaticus asiaticus*, Indian Little Nightjar (680)
- 6 *Hemiprocne longipennis coronata*, Tree Swift (709)
- 7 *Glaucidium cuculoides rufescens*, Barred Owlet (641)
- 8 *Tyto alba stertens*, Barn Owl (606)
- 9 *Athene brama (pulchra)*, Spotted Owlet (650 RE)
- 10 *Bubo zeylonensis leschenaulti*, Brown Fish Owl (631)

Plate 47, facing page 80

A. M. HUGHES

- 1 *Merops orientalis birmanus*, Green Bee-eater (751)
- 2 *Merops philippinus philippinus*, Bluetailed Bee-eater (748)
- 3 *Alcedo atthis bengalensis*, Small Blue Kingfisher (723)
- 4 *Merops leschenaulti leschenaulti*, Chestnutheaded Bee-eater (744)
- 5 *Pelargopsis capensis (burmanica)*, Storkbilled Kingfisher (731a RE)
- 6 *Halcyon smyrnensis perpulchra*, Whitebreasted Kingfisher (737)
- 7 *Ceryle rudis leucomelanura*, Indian Pied Kingfisher (719)
- 8 *Anthracoceros coronatus (leucogaster)*, Pied Hornbill (775 RE)
- 9 *Halcyon pileata*, Blackcapped Kingfisher (739)

Plate 48, facing page 112

D. V. COWEN

- 1 *Halcyon pileata*, Blackcapped Kingfisher (739)
- 2 *Halcyon chloris vidali*, Malabar Whitecollared Kingfisher (740)
- 3 *Pelargopsis capensis capensis*, Brownheaded Storkbilled Kingfisher (730)
- 4 *Ceyx erithacus erithacus*, Threetoed Forest Kingfisher (727)
- 5 *Ceryle rudis travancoreensis*, Kerala Pied Kingfisher (720)
- 6 *Alcedo meninting*, Blue-eared Kingfisher (725)

Plate 49, facing page 128

D. V. COWEN

- 1 *Loriculus vernalis*, Indian Lorikeet (567)
- 2 *Psittacula columboides*, Bluewinged Parakeet (564)
- 3 *Nyctornis athertoni*, Bluebearded Bee-eater (753)
- 4 *Eurystomus orientalis laetior*, Broadbilled Roller (759)
- 5 *Megalaima rubricapilla malabarica*, Malabar Crimsonthroated Barbet (790)
- 6 *Merops leschenaulti leschenaulti*, Chestnutheaded Bee-eater (744)
- 7 *Megalaima viridis*, Small Green Barbet (785)

Plate 50, facing page 160

J. P. IRANI

- 1 *Rhyticeros undulatus ticehursti*, Wreathed Hornbill (772)
- 2 *Aceros nipalensis*, Rufousnecked Hornbill (771)
- 3 *Ptilolaemus tickelli austeni*, Assam Brownbacked Hornbill (770)
- 4 *Megalaima flavifrons*, Yellowfronted Barbet (786)
- 5 *Picus squamatus squamatus*, Scalybellied Green Woodpecker (807)

Plate 51, facing page 176

PAUL BARRUEL

- 1 *Dinopium shorii shorii*, Himalayan Goldenbacked Threetoed Woodpecker (824)
- 2 *Picoides* (syn. *Dendrocopos*) *darjellensis darjellensis*, Darjeeling Pied Woodpecker (838)
- 3 *Blythipicus pyrrhotis pyrrhotis*, Redeared Bay Woodpecker (857)
- 4 *Sasia ochracea ochracea*, Rufous Piculet (800)
- 5 *Mulleripicus pulverulentus mohun*, Great Slaty Woodpecker (828)
- 6 *Picus flavinucha flavinucha*, Large Yellownaped Woodpecker (813)
- 7 *Megalaima franklinii franklinii*, Goldthroated Barbet (787)
- 8 *Megalaima virens magnifica*, Assam Great Barbet (778)
- 9 *Indicator xanthonotus xanthonotus*, Nepal Orangerumped Honeyguide (794)

Plate 52, facing page 208

D. V. COWEN

- 1 *Picus chlorolophus chlorigaster*, South Indian Small Yellownaped Woodpecker (816)
- 2 *Dinopium javanense malabaricum*, Malabar Goldenbacked Threetoed Woodpecker (825)
- 3 *Dinopium benghalense tehminae*, Kerala Goldenbacked Woodpecker (821)
- 4 *Hemicircus canente*, Heartspotted Woodpecker (856)
- 5 *Picumnus innominatus malayorum*, Speckled Piculet (799)
- 6 *Chrysocolaptes lucidus chersonesus*, Southern Larger Goldenbacked Woodpecker (862)
- 7 *Dryocopus javensis hodgsonii*, Indian Great Black Woodpecker (830)

Plate 53, facing page 224

J. P. IRANI

- 1 *Gecinulus grantia grantia*, Paleheaded Woodpecker (827)
- 2 *Picoides* (syn. *Dendrocopos*) *himalayensis himalayensis*, Garhwal (or Himalayan) Pied Woodpecker (837)
- 3 *Hypopicus hyperythrus hyperythrus*, Rufousbellied Woodpecker (833)
- 4 *Picus myrmecophoneus*, Little Scalybellied Green Woodpecker (808)
- 5 *Chrysocolaptes festivus festivus*, Blackbacked Woodpecker (858)
- 6 *Picus canus sanguiniceps*, Blacknaped Green Woodpecker (809)
- 7 *Picoides* (syn. *Dendrocopos*) *mahrattensis mahrattensis*, Yellowfronted Pied Woodpecker (847)
- 8 *Picoides* (syn. *Dendrocopos*) *cathpharius cathpharius*, Crimsonbreasted Pied Woodpecker (840)
- 9 *Pitta cyanea cyanea*, Blue Pitta (871)
- 10 *Pitta sordida cucullata*, Hooded Pitta (869)

Plate 54, facing page 240

A. M. HUGHES

- 1 *Picus viridanus viridanus*, Burmese Scalybellied Woodpecker (SE)
- 2 *Picoides canicapillus canicapillus*, Greycrowned Pygmy Woodpecker (850)
- 3 *Picus flavinucha flavinucha*, Large Yellownaped Woodpecker (813)
- 4 *Micropternus brachyurus phaiiceps*, Rufous Woodpecker (803)
- 5 *Chrysocolaptes lucidus guttacrastatus*, Larger Goldenbacked Woodpecker (861)
- 6 *Sasia ochracea reichenowi*, Rufous Piculet (801)
- 7 *Mulleripicus pulverulentus harterti*, Great Slaty Woodpecker (829)
- 8 *Dryocopus javensis (feddeni)*, Great Black Woodpecker (830 RE)
- 9 *Jynx torquilla chinensis*, Wryneck (797)

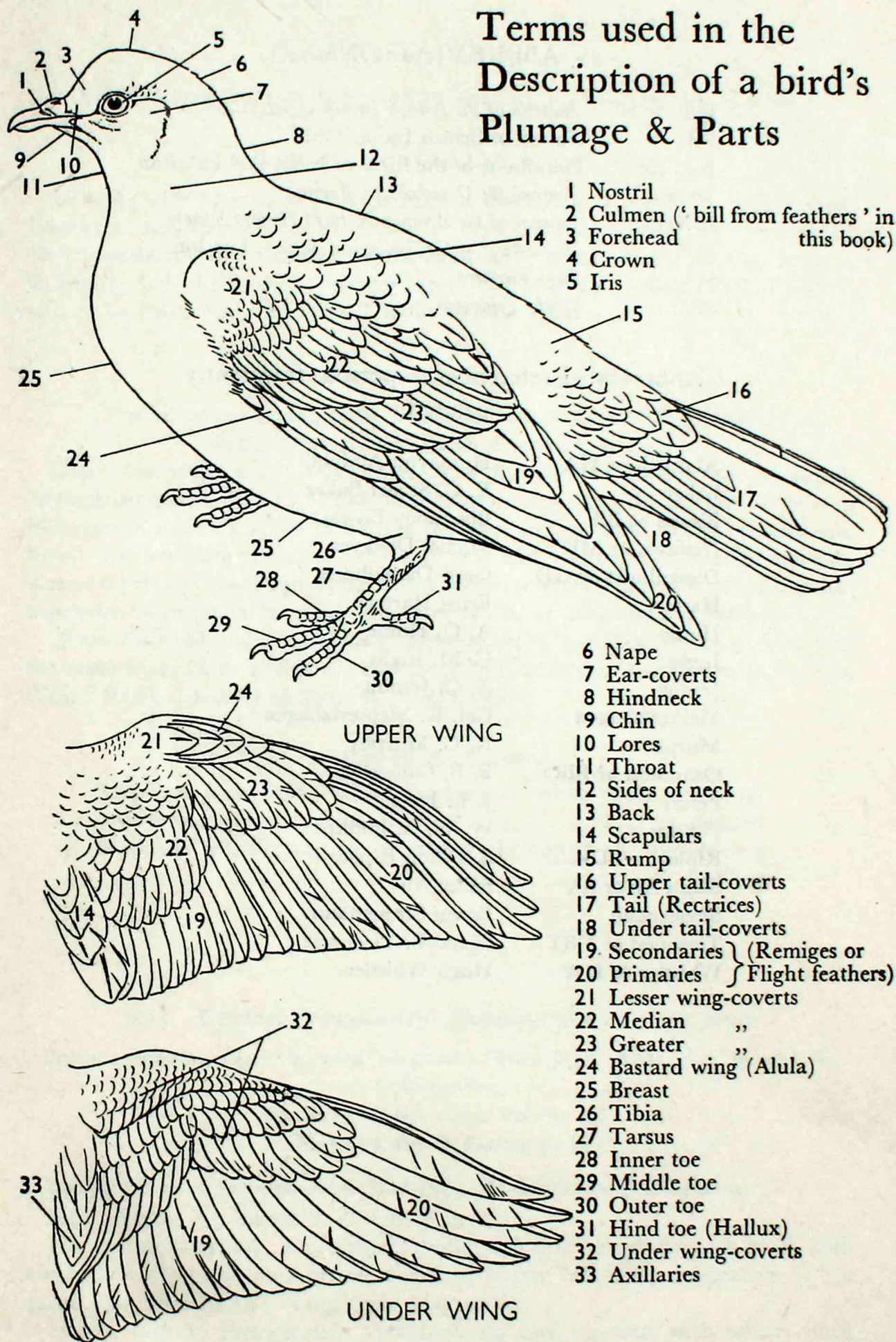
1850

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1851

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Terms used in the Description of a bird's Plumage & Parts



- 1 Nostril
- 2 Culmen (' bill from feathers ' in this book)
- 3 Forehead
- 4 Crown
- 5 Iris

- 6 Nape
- 7 Ear-coverts
- 8 Hindneck
- 9 Chin
- 10 Lores
- 11 Throat
- 12 Sides of neck
- 13 Back
- 14 Scapulars
- 15 Rump
- 16 Upper tail-coverts
- 17 Tail (Rectrices)
- 18 Under tail-coverts
- 19 Secondaries } (Remiges or
- 20 Primaries } Flight feathers)
- 21 Lesser wing-coverts
- 22 Median "
- 23 Greater "
- 24 Bastard wing (Alula)
- 25 Breast
- 26 Tibia
- 27 Tarsus
- 28 Inner toe
- 29 Middle toe
- 30 Outer toe
- 31 Hind toe (Hallux)
- 32 Under wing-coverts
- 33 Axillaries

ABBREVIATIONS

Bull. BOC	<i>Bulletin of the British Ornithologists' Club</i>
FBI	Fauna of British India, Birds
Ind. Hb.	Handbook of the Birds of India and Pakistan
J. Orn.	<i>Journal für Ornithologie</i> , Berlin
JBNHS	<i>Journal of the Bombay Natural History Society</i>
PZS	<i>Proceedings of the Zoological Society</i> , London
SF	<i>Stray Feathers</i>
SZ	<i>Spolia Zeylanica</i>

Abbreviated references to persons frequently quoted

Abdulali or HA	Humayun Abdulali
Baker	E. C. Stuart Baker
Biswas or BB	Biswamoy Biswas
Desfayes or MD	Michel Desfayes
Diesselhorst or GD	Gerd Diesselhorst
Hartert	Ernst Hartert
Hume	A. O. Hume
Inglis	C. M. Inglis
Jerdon	T. C. Jerdon
Meinertzhagen	Col. R. Meinertzhagen
Murphy	R. C. Murphy
Osmaston or BBO	B. B. Osmaston
Peters	J. L. Peters
Phillips	W. W. A. Phillips
Ripley or SDR	S. Dillon Ripley
Sálim Ali or SA	Sálim Ali
Stresemann	Erwin Stresemann
Ticehurst or CBT	Claud B. Ticehurst
Whistler or HW	Hugh Whistler

Order CAPRIMULGIFORMES

For morphological details etc. see Stresemann, E., 1927-34, *Aves* : 826-8.

Family PODARGIDAE : Frogmouths

Bill very wide at gape as in Nightjars but much larger; powerful, hard, curved, hooked at tip. Base of bill overhung by bristly feathers concealing the nostrils, which are narrow slits protected by membranes. For further details, see Van Tyne, J. & Berger, A. J., 1959: 461; Serventy, D. L., 1964, Article 'Frogmouth' in Thomson, A. L. (ed.), *New Dict. Birds*, London & New York.

Genus BATRACHOSTOMUS Gould

Batrachostomus Gould, 1838, *Icones Avium*, pt. 2, pl. (17) and text.

Type, by monotypy, *Podargus auritus* J. E. Gray

Gape even wider than in Nightjars, with the corners swollen and enlarged. Nostrils concealed by conspicuous bristles projecting from the feathers at base of bill; tufts of similar feathers in front of the eyes, and ear-tufts. Wings rounded and short: 4th and 5th primaries (as.) subequal and longest, occasionally the 5th. Tarsus short; feet small and feeble with middle toe greatly elongated. No oil gland; a powder-down patch on either side of rump. Sexes dimorphic in coloration.

Genus Oriental and Australasian; represented in our area by two species with the same remarkable widely discontinuous Indo-Malayan distribution as e.g. the Lizard Hawks (*Aviceda*) cf. Ind. Hb. 1: 215, 218.

Key to the Species

- Scapulars with broad white patches; no white spots on wing-coverts *B. hodgsoni*
Scapulars without any white; round white spots on wing-coverts *B. moniliger*

666. **Ceylon Frogmouth.** *Batrachostomus moniliger* Blyth

Batrachostomus moniliger 'Layard' = Blyth, 1846, *Jour. Asiat. Soc. Bengal* 18: 806 (Ceylon)

Baker, FBI No. 1635, Vol. 4: 381

Plate 44, fig. 2, facing p. 16

LOCAL NAMES. *Gembi-kata-bassā* (Sinhala); *Mākkāchikkāta* (Malayalam).

SIZE. Myna \pm ; length c. 23 cm (9 in.).

FIELD CHARACTERS. An obliteratedly coloured nightjar-like bird with absurdly wide gape and broad, swollen, horny bill aptly suggestive of the name Frogmouth, and completely diagnostic.

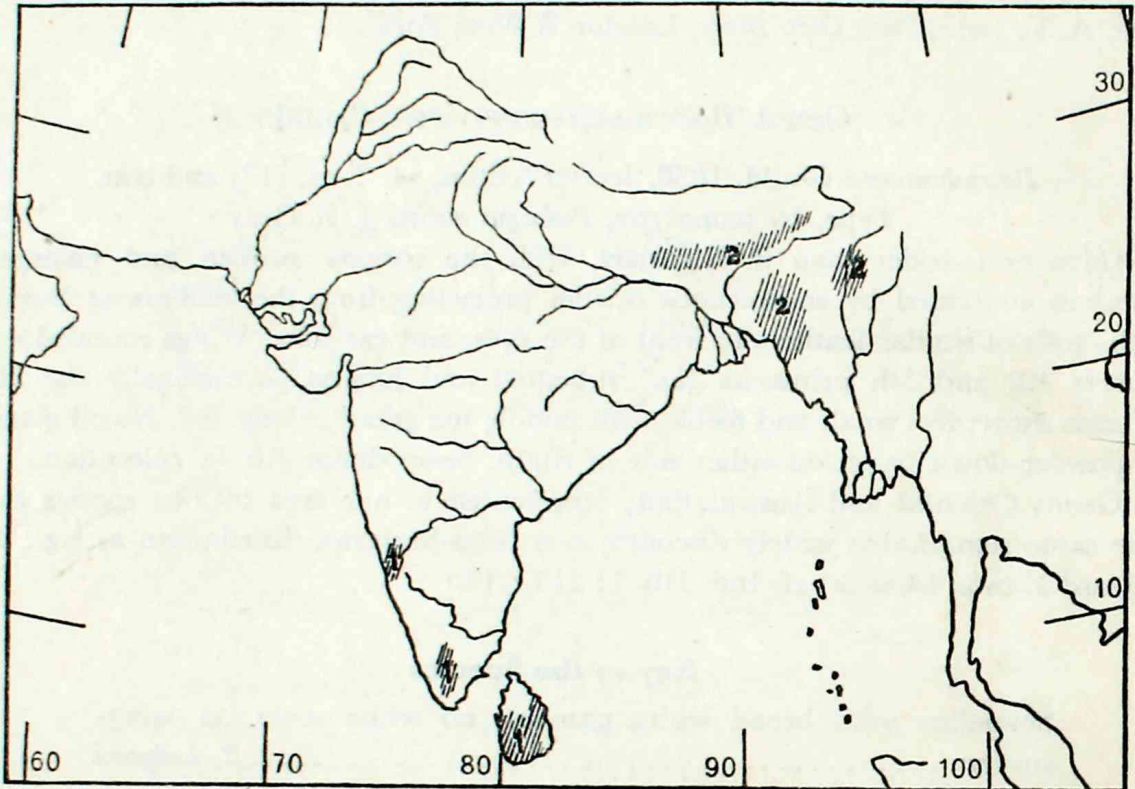
Male (adult) grey-brown, vermiculated and mottled with white, buff, brown, black, and chestnut.

Female dull rufous overall; upper wing-coverts boldly spotted with black-edged white spots.

Young (immature). Narrowly barred above with brown.

STATUS, DISTRIBUTION and HABITAT. Resident. Apparently rare. The southern heavy-rainfall tracts of the Western Ghats from *c.* 15°N. lat. in N. Kanara dist. (Mysore) south to Trivandrum dist. (Kerala) up to *c.* 1200 m; Ceylon, throughout the forest areas up to *c.* 1800 m. Affects dense evergreen forest and secondary jungle with cane brakes etc.

Batrachostomus



▨ Known distribution

1 *B. moniliger* (666).

2 *B. h. hodgsoni* (667).

GENERAL HABITS. Little known. Nocturnal; seldom seen in daytime unless flushed by chance. Spends the day in dense jungle perched across a branch (like a passerine bird) body tilted at a slight angle with the tail pointing downward, simulating a broken stump. On alarm stretches neck and head upwards, bill and rictal bristles pointing to sky, eyes closed to slits, thereby heightening its resemblance to a lichen-covered snag. Eludes detection further by remaining completely immobile even on very close approach by observer, while following his movements by almost imperceptibly screwing the head round as in an owlet. Wide gape and surrounding bristles suggest adaptation for hawking winged insects, but reported to take them chiefly on the ground or from branches.

FOOD. Moths, beetles, grasshoppers, etc.

VOICE and CALLS. Uncertain. Circumstantially described as commencing considerably after dark and variously as 'a soft, rapid *kooroo, kooroo, kooroo*' (Butler), 'a series of 10 - 15 low but rather rapid *whoo, whoo, whoo, whoo*

notes' (Phillips), 'a fairly loud liquid chuckle *ahwoo* repeated monotonously every 2 or 3 seconds for 30 minutes or more at a stretch' (Sálim Ali). 'A bird which was kept under observation by C. E. Norris uttered a call resembling the screech of a fishing reel running out fairly slowly' (Henry).

BREEDING. *Season*, apparently straggling, chiefly January to April; in Ceylon also September. *Nest*, a small pad, *c.* 6 cm in diameter, of moss, leaves, and twigs felted with down from the bird's underplumage, and camouflaged on the outside with bits of lichen and bark. Placed in the fork of a small tree or on a horizontal branch *c.* 2 to 5 metres off the ground. *Egg*, a singleton, large for the size of the layer, white, elliptical, fine-textured. Average size of 30 eggs 29.9×20.6 mm (Baker). Both sexes share in incubation, the male chiefly sitting during daytime. Period of incubation and other facets of breeding biology unknown.

MUSEUM DIAGNOSIS. For details of plumage see Baker, loc. cit. Tarsus fully feathered in male; *c.* two-thirds in female.

Nestling covered with pure white down (T. R. Bell).

MEASUREMENTS

	Wing	Bill (from skull)	Tail
♂ ♀	119-127	21-23	100-110 mm (HW, SA)

Tarsus *c.* 15; width of gape 32-34 mm (Baker).

COLOURS OF BARE PARTS. Iris pale khaki or brownish buff ['yellow, or marbled yellow and grey'—Baker]. Bill pale horny, yellowish at gape and chin; mouth sulphur yellow; gullet pink. Feet dusky yellow; claws brownish.

667. Hodgson's Frogmouth. *Batrachostomus hodgsoni hodgsoni* (G. R. Gray)

Otothrix hodgsoni G. R. Gray, 1859, Proc. Zool. Soc. London: 101, pl. 152, Aves
(Northern India = Darjeeling)

Batrachostomus hodgsoni rupchandi Koelz, 1954, Contrib. Inst. Regional Exploration,
No. 1: 27 (Karong, Manipur)

Baker, FBI No. 1633, Vol. 4: 378

Vol. 3, plate 39

LOCAL NAME. *Sūmbong* (Manipur Naga).

SIZE. Myna +; length *c.* 27 cm ($10\frac{1}{2}$ in.).

FIELD CHARACTERS. As for 666, q.v. See Key.

Young (immature). Like adult female but duller and barred all over with dull blackish brown; signs of the collar show very early. Iris dull brown; bill horny grey, pinkish above (Baker).

STATUS, DISTRIBUTION and HABITAT. Resident. Apparently rare. Sikkim (from extreme eastern Nepal?), Bhutan, Assam hills north and south of Brahmaputra river, Nagaland, Manipur, Mizo (?), East Pakistan (Tippera and Chittagong Hill Tracts), between *c.* 300 and 1800 m. Affects subtropical evergreen forest.

Extralimital. Hills of N. Burma (Chin, Kachin, etc.).

GENERAL HABITS, FOOD, VOICE and CALLS. More or less as in 666, but imperfectly known.

BREEDING. *Season*, April to July. *Nest* and site, as in 666. *Eggs*, normally 2 sometimes a singleton, white, elliptical. Average size of 30 eggs 26.5 × 17.6 mm (Baker). Both sexes incubate, the male mostly during daytime. According to Baker both birds assist in making the nest, pulling the down from their lower plumage and welding it into the branch and then into the nest itself.

MUSEUM DIAGNOSIS. For details of plumage see Baker, loc. cit.

Nestling covered with bright rufous down.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	126-141	17-18 width at gape 29-32	c. 15-16	131-143 mm

(Baker)

COLOURS OF BARE PARTS. Iris variegated grey, brown and yellow. Bill fleshy pink or yellowish horn. Feet pinkish flesh.

Family CAPRIMULGIDAE: Nightjars, Goatsuckers

For morphological details etc. see Stresemann, E., 1927-34, *Aves*: 827; Witherby *et al.*, 1938, 2: 251; Baker, 1927, 4: 358; Junge, G. C. A., 1964, Article 'Nightjar' in Thomson, A. L. (ed.), *New Dict. Birds*, London & New York.

Bill short, weak, flexible and with an enormous gape. Nostrils tubular. Wing long: 2nd primary (as.) generally longest. Family represented throughout the tropical and temperate regions of the world.

Key to the Genera

	Page
No ear-tufts; strong rictal bristles present.....	<i>Caprimulgus</i> 7
Well developed erect ear-tufts; no rictal bristles.....	<i>Eurostopodus</i> 4

Genus EUROSTOPODUS Gould

Eurostopodus Gould, 1838, April, Syn. Bds. Austr., app., (4): 1. Type, by subsequent designation, *Caprimulgus guttatus* Vigors & Horsfield

Lyncornis Gould, 1838, Icones Avium, (2), pl. 14. Type, by monotypy, *Lyncornis cerviniceps* Gould

Distinguished from *Caprimulgus* by absence of rictal bristles and presence of ear-tufts or aigrettes consisting of a few elongated, erectile feathers just above and behind ear-coverts. Sexes alike. Represented by one species with two races within our limits.

EUROSTOPODUS MACROTIS (Vigors)

Key to the Subspecies

Wing over 290 mm	<i>E. m. cerviniceps</i>
Wing under 290 mm	<i>E. m. bourdilloni</i>

668. **Burmese Great Eared Nightjar.** *Eurostopodus macrotis cerviniceps*
(Gould)

Lyncornis cerviniceps Gould, 1838, *Icones Avium*, (2), pl. 14 and text ('Said to be a native of China or the adjacent islands' = Trang, Peninsular Siam by designation of Robinson & Kloss, 1923, *Jour. Nat. Hist. Soc. Siam* 5: 140)
Baker, FBI No. 1631, Vol. 4: 374

LOCAL NAME. *Din koo nah* (Assam).

SIZE. House Crow —; length *c.* 41 cm (16 in.).

FIELD CHARACTERS. A very large and handsome dark coloured nightjar with the characteristic mottled and vermiculated plumage of the family — grey, black, buff, and chestnut. Two prominent erectile ear-tufts on sides of head behind the eyes, and distinctive whistling call diagnostic. Sexes alike.

In overhead flight large size, long tail, and stately wing-beats particularly striking.

STATUS, DISTRIBUTION and HABITAT. Resident. Possibly local migrant in some areas: thus in NE. Cachar 'appears about beginning of August; very plentiful in August and September; disappears at the end of the rains' (James Inglis, 1877, *SF* 5: 17). Assam east and south of Brahmaputra river, Nagaland, Manipur, Mizo, East Pakistan (Tippera and Chittagong Hill Tracts). Affects evergreen and moist-deciduous biotope, from plains level to *c.* 1000 m alt.; commonest in foothills country.

Extralimital. Southern Yunnan south through Burma and Malay Peninsula and Penang; SE. Thailand, South Vietnam.

GENERAL HABITS. Crepuscular and nocturnal. Roosts during daytime squatting belly to ground, or on a fallen log amongst scrubby undergrowth in a ravine; also in caves (Tenasserim, Burma). Issues forth at sundown heralded by the distinctive clear whistling calls, circling high above the forest tree-tops with the leisurely deliberate wing-beats of an owl. Descends lower as the dusk deepens, sailing swiftly a metre or two above ground on motionless wings like a harrier to hawk winged insects in a forest clearing; sometimes a loose party of 7 or 8 birds criss-crossing one another at different levels in the air.

FOOD. Moths, bugs, beetles, flying termites, and other insects captured on the wing.

VOICE and CALLS. In general pattern similar to 669 of Kerala; described by A. F. P. Christison as '*Pee-wheoo-wheoo-wheoo* repeated a variable number of times, followed by a protracted quavering whistle ending in a cadence'. Uttered chiefly on the wing; sometimes repeated for several minutes while squatted on a tree-stump like a nightjar, the head shot forward with a jerk at each call.

BREEDING. *Season*, mainly January to April as far as known. *Nest*, none built. *Egg*, a singleton laid on the bare ground in thin forest or bamboo jungle under shelter of a bamboo clump or thick bush. Broad to long ellipse in shape, typical of the nightjars, pale yellowish cream to deepish rosy salmon (when fresh), variably marbled with pale grey and occasionally pale bright reddish. Average size of 6 eggs 42.1 × 30.5 mm (Baker). Share of the sexes in the domestic chores, and incubation period, unknown.

MUSEUM DIAGNOSIS. For details of plumage see Baker, loc. cit.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	292-317	c. 10-11	21-22	207-225 mm (Baker)

COLOURS OF BARE PARTS. Iris hazel to dark brown. Bill pale pinkish horny to pinkish brown, tip and culmen darker; gape flesh-coloured. Legs and feet fleshy brown to pale brown.

669. **Bourdillon's** or **Kerala Great Eared Nightjar**. *Eurostopodus macrotis bourdilloni* (Hume)

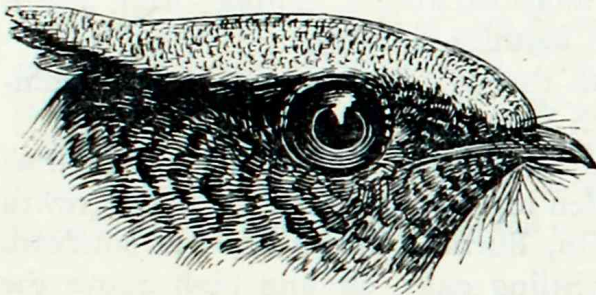
Lyncornis Bourdilloni Anonymous = Hume, 1875, Stray Feathers 3: 302
(Kalland, Khauni, Travancore)

Baker, FBI No. 1632, Vol. 4: 375

Plate 44, fig. 1, facing p. 16

LOCAL NAME. *Sāndhyā mūzhākki* (Malayalam).

SIZE. House Crow —; length c. 40 cm (15½ in.).



× c. ⅔

FIELD CHARACTERS. As of 668, q.v.
See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Range curiously discontinuous and restricted [cf. *Batrachostomus moniliger* (666)] but absent in Ceylon. Known only from Kerala (Kottayam, Quilon, and Trivandrum dists.). Sedentary and local; not uncommon where occurring. Confined to ever-

green and moist-deciduous biotope, chiefly foothills jungle and up to c. 1000 metres.

GENERAL HABITS and FOOD. As in 668, q.v.

VOICE and CALLS. A beautiful loud, clear, rather supercilious-sounding ('wailing') double- or 3-noted whistle, *whi-wheeeew* uttered chiefly on the wing — the first syllable short and abrupt, the second very long and drawn-out. A third short undertone note preceding the call is often audible at close range. Heard mostly during the short interval between sunset and dark, and then again in a brief burst at earliest dawn before the birds retire for the day. Silent at night except for sporadic calls during moonlight. Several birds answer one another from different directions.

BREEDING. *Season*, January to May, chiefly February and March. No nest. *Egg*, a singleton, laid on the bare ground on a bush-covered broken hillside or in thin undergrowth in forest. The same site is said to be occupied year after year. Eggs very variable in colour and markings — from unmarked rich salmon-cream to the same blotched and speckled with chestnut; or cream, densely marbled with brown at one end and clouded with grey elsewhere. Average size of 40 eggs 40.0 × 28.8 mm (Baker).

MUSEUM DIAGNOSIS. Doubtfully distinguishable from 668 except by smaller size. Perhaps a little darker with less buff and more grey on the wings and upper-parts.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♀	274-285	20-22	c. 21	182-203 mm (HW, SA, Baker)

COLOURS OF BARE PARTS. Iris brown. Bill pinkish brown, nostrils and tips of both mandibles blackish brown. Legs pale pink; toes dusker; claws horny brown.

NOTE. Possibly some form of *Eurostopodus* occurs in the Andaman group of islands. It is claimed to have been seen on Southern Jolly Boy Island by a party including two competent and dependable observers, Dr Stoliczka and Mr Ball (Hume, 1874, SF 2: 162), but no specimen was collected, nor has been since.

Genus CAPRIMULGUS Linnaeus

Caprimulgus Linnaeus, 1758, Syst. Nat., ed. 10, 1: 193. Type, by tautonymy,
Caprimulgus europaeus Linnaeus

Wing long and pointed: 2nd primary (as.) longest, 1st and 3rd slightly shorter. Tail long, graduated. Rictal bristles strong and numerous, generally white at base. Tarsus feathered in some species, naked in others. Sexes alike except that in some species the white patches in the wings and tail of the male are buff or rufous in the female.

Nightjars are soft-plumaged, long-winged, crepuscular and nocturnal birds with longish tails, very short legs and short soft bills with enormous gapes. Plumage overall mottled, vermiculated, barred and streaked with brownish buff, grey, rufous, black and white, blended in a remarkably obliterative or camouflaging pattern. The different species are usually difficult to identify in the field except by their calls chiefly heard in the breeding season, which are distinctive and specifically diagnostic. See Key to the Calls.

Key to the Species

	Page
A Greater part or whole of tarsus feathered; back with black streaks and spots	1
B Tarsus almost naked	2
1 Four outer pairs of tail-feathers with subterminal white spots in male	<i>C. indicus</i> 8
Two outer pairs of tail-feathers tipped white in male.....a	
a A white spot on first three primaries in male; tarsi three-quarters feathered	<i>C. europaeus</i> 12
A white spot on first four primaries in male; tarsi feathered all over	<i>C. macrurus</i> 16
2 Distinct but narrow black streaks on back.....	<i>C. asiaticus</i> 21
No distinct black streaks on back.....b	
b Outer tail-feathers tipped white in male, buff in female	<i>C. mahrattensis</i> 14
Outer tail-feathers all white except at tip in male; mottled throughout in female.....	<i>C. affinis</i> 23

Key to Nightjar Calls

	Page
Series of soft, rapid <i>kooroo, kooroo, kooroo</i> or <i>whoo, whoo, whoo, whoo</i>	1
.....Ceylon Frogmouth (666)	
Frequently repeated <i>pee-wheeeoo-wheeeoo-wheeeoo</i>	5
.....Burmese Great Eared Nightjar (668)	
Clear double- or 3-noted long-drawn whistle <i>whi-wheeeew</i>	6
.....Kerala Great Eared Nightjar (669)	
Long runs of quickly repeated loud <i>chuck-chuck-chuck</i> or <i>chuckoo-chuckoo-chuckoo</i> etc.	8
.....Himalayan Jungle Nightjar (670)	
As above, or alternatively runs of <i>Ūk-krūkroo</i> ..	10
Indian Jungle Nightjar (671)	
Oft-repeated <i>chuk'm chuk'm chuk'm</i> 'like exhaust-note of small gas engine'	11
.....Ceylon Jungle Nightjar (672)	
Steady whirring notes, and quick-repeated subdued <i>chuck-chuck-chuck</i> as of	12
House Gecko	
.....Hume's European Nightjar (673)	
Soft, long-continued <i>prrrrrrrrrr</i> like Bustard-Quail's drumming	14
.....Sykes's or Sind Nightjar (674)	
Loud, resonant <i>chaunk, chaunk, chaunk</i> like hammering on wooden plank	16
.....Longtailed Nightjar (675)	
<i>Chuck-chuck-chuck-chuckr-r-r-r</i> , like pelted stone skidding over ice	21
..... Little Nightjar (680)	
Single, sharp, penetrating <i>sweesh</i> (or <i>choo-ee</i> or <i>chwees</i>) like sound of whiplash	23
cutting air.....	
.....Franklin's Nightjar (682)	

CAPRIMULGUS INDICUS Latham

Key to the Subspecies

- A Upperparts paler; wing *c.* 172 to 198 mm.....*C. i. indicus*
 B Upperparts darker
- 1 Smaller; wing *c.* 167 to 184 mm.....*C. i. kelaarti*
 Larger; wing *c.* 196 to 218 mm.....*C. i. hazarae*

670. **Himalayan Jungle Nightjar.** *Caprimulgus indicus hazarae* Whistler & Kinnear

Caprimulgus indicus hazarae Whistler & Kinnear, 1935, Jour. Bombay nat. Hist. Soc. 38: 37 (Abbottabad, Hazara, Himalayas)

Caprimulgus indicus memnon Koelz, 1954, Contrib. Inst. Regional Exploration, No. 1: 27 (Blue Mountain, Lushai Hills)

Baker, FBI No. 1626 (part), Vol. 4: 367

LOCAL NAMES. *Chhippāk, Chhāppā, Dābchiri, Dābnak* (for all nightjars — Hindi); *Tamor* (Lepcha); *Wapatshai* (all nightjars — Naga); *Dao chuk* (Cachari).

SIZE. Pigeon —; length *c.* 32 cm (12½ in.).

FIELD CHARACTERS. As for the Genus, q.v. Call diagnostic, see below; also keys to the Species and Subspecies, and Museum Diagnosis.

Female similar to male but tail-feathers mottled throughout and without the white tips. No white spots on primaries; these more or less indicated by smaller rufous spots or patches.

STATUS, DISTRIBUTION and HABITAT. Resident, local and altitudinal migrant. The entire Himalayas from Hazara dist. in NW. Pakistan eastward to NEFA (including Nepal, Sikkim, Bhutan). Assam hills north and south of Brahmaputra river, Nagaland, Manipur, Mizo, and East Pakistan; from the foothills to *c.* 3300 metres. Affects forest glades, and sparsely scrubbed ravines and hillsides contiguous with jungle.

Extralimital. Yunnan, Burma, Malay Peninsula — Peters.

GENERAL HABITS. Insectivorous, crepuscular, and nocturnal. Roosts in some shady spot during daytime squatted lengthwise on a bough, or on the ground among dry leaves and stones where its coloration obliterates it in an astonishing way. Emerges soon after sunset to hawk winged insects, flying about and sailing erratically above the forest or close to the ground in glades and clearings, performing agile aerial contortions in pursuit of prey. Is fond of squatting in the middle of cross-country earth tracks after dusk, its eyes gleaming ruby in the headlights of an oncoming car, and is adept at dodging clear by flip-flap zigzags when within an ace of being run over. Flight completely silent as in the likewise soft-plumaged owls except for an occasional smack of the wing-tips during the lightning twists and turns. In spite of the very short legs, occasionally runs for short distances, e.g. at the nest site, with a shuffling, waddling gait, often with the wings raised almost vertically back to back.

FOOD. Moths, bugs, beetles, and other winged insects captured in the air.

VOICE and CALLS. Calling commences as soon as dusk deepens to darkness and, with short breaks, is sustained more or less continuously through the night, ceasing only at dawn. Particularly vocal during moonlight nights in the breeding season. Call normally of two types: (1) a quick-repeated *chuck* (or *tuck*)-*chuck-chuck* (at *c.* 5 *chucks* in 2 seconds) in unbroken runs of 50 or more, (2) a less rapid *chuckoo-chuckoo-chuckoo* in runs of 3 to 14 (at the rate of about 3 in 2 seconds), the runs repeated monotonously again and again for 3 to 5 minutes at a stretch with an occasional miss of a beat or a pause of a second or two. The *chuckoo* calls sometimes end in a pleasant hollow-sounding *wowowowowo* fading off in a series of 'intake' whistles reminiscent of an oil-engine conking out. This, according to one observer (A. E. Jones), is while the calling male is chasing another bird, 'probably its mate'.

A third call, *ūk-krūkroo*, common in the nominate peninsular race (671, q.v.), has curiously enough not been recorded in the Himalayan bird.

BREEDING. *Season*, March to June, principally April and May. No nest. *Eggs*, 2, white, marbled with primary markings of dark grey or greyish brown, and secondary markings of pale grey; quite different from those of the two other races of *indicus*! Average size of 100 eggs 30.7×22.7 mm (Baker). Both sexes share incubation; incubation period *vide* Baker 16 to 17 days.

MUSEUM DIAGNOSIS. See Key to the Species; for details of plumage, Baker loc. cit. Separable from the nominate race (671), in a series, by the general tone of coloration being warmer and browner (less grey); markings on the back heavier; barring on the tail broader. Also, individuals tend to average larger in size.

MEASUREMENTS

	Wing	Tail
♂♂	200-215	124-146 mm
♀♀	187-203	126-137 mm
		(HW, BB, SA)

COLOURS OF BARE PARTS. Iris deep brown. Bill pinkish brown, paler at base and gape. Feet fleshy brown.

671. **Indian Jungle Nightjar.** *Caprimulgus indicus indicus* Latham

Caprimulgus indicus Latham, 1790, Index Orn. 2: 588 (India)

Baker, FBI No. 1625, Vol. 4: 366

LOCAL NAMES. Same as for 670 where applicable. *Kāpoo* (Adivasi Bhils); *Rā chuckoo* (Malayalam).

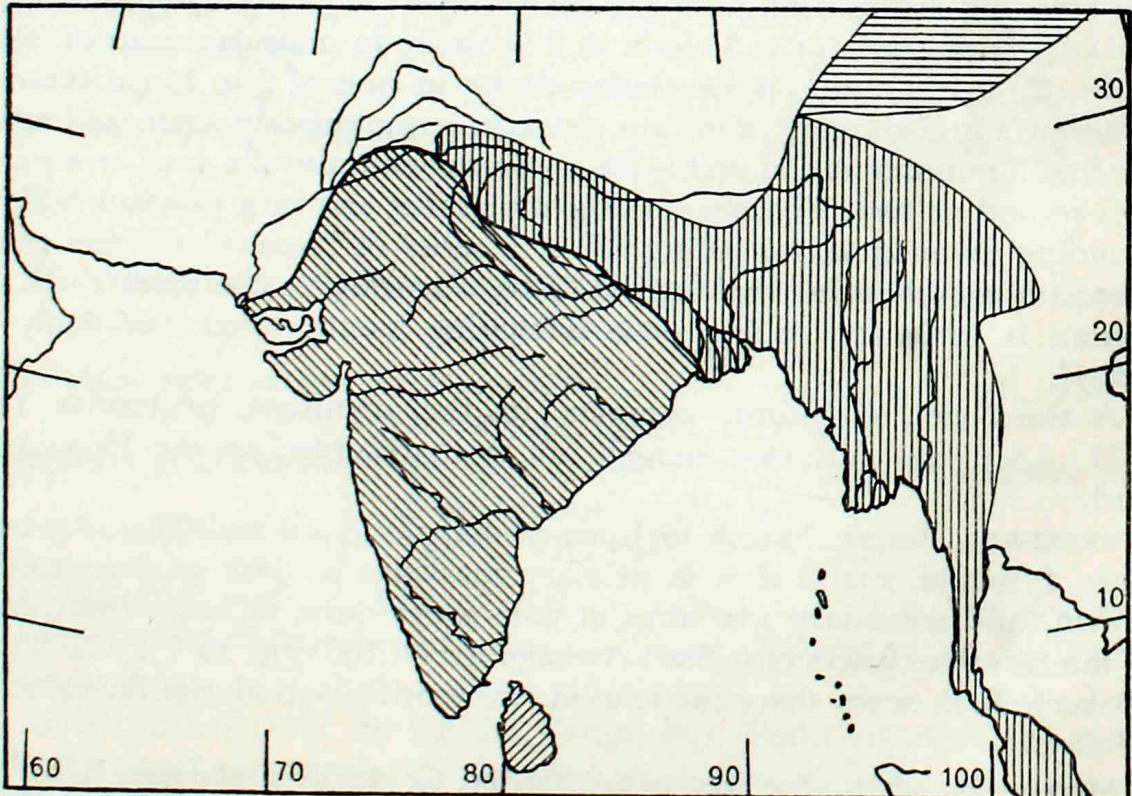
SIZE. Pigeon — ; length *c.* 29 cm (11½ in.).


FIELD CHARACTERS. As for the Genus, q.v. See keys to the Species and Subspecies, and Museum Diagnosis.


Female differs from male as in 670.


STATUS, DISTRIBUTION and HABITAT. Resident and partial local migrant. Practically all India south of the Himalayas including Kerala. Absent in W. Rajasthan, Kutch, and sub-Himalayan W. Pakistan. Affects open scrub, and dry- and moist-deciduous jungle; from plains level up to *c.* 2300 m in the peninsular and S. Indian hills. Teak plantations and mixed bamboo forest are favourite haunts.


Caprimulgus indicus



 *C. i. nazarae* (670).

 *C. i. indicus* (671).

 *C. i. kelaarti* (672).

 *C. i. jotaka* (RE).

GENERAL HABITS and FOOD. As in 670, q.v.

VOICE and CALLS. In addition to the two calls described under 670, peninsular birds commonly have a third call—a pleasant though rather mournful *ūk-krūkroo*, monotonously repeated every two seconds or so, in unbroken runs of a quarter or half hour. It is resumed after a short pause, and continued thus more or less throughout the night, particularly in moonlight. Either the first two calls or the third are uttered at a time (by same or different individuals?); we have not heard one type of call being switched over to the other while a bird is calling. The significance of this alternative call in peninsular birds is not understood. In moonlight, in breeding season, calls all night in long unbroken runs — *chuck-chuck-chuck-chuck* etc. — at about two *chucks* per second, sounding in the distance singularly like the oil engine of a village flour mill.

BREEDING. *Season*, February to May, chiefly March and April. No nest. *Eggs*, 2, very similar to those of *C. m. atripennis* (676) and different from those of the Himalayan race; pale creamy to warm buff, spattered irregularly all over with blackish- or reddish brown spots. Laid on the bare ground on a stony hill slope, or in a ravine, sometimes but not always in the shade of a bush. Average size of 38 eggs 30.4×21.3 mm (Baker). Both sexes incubate; incubation period undetermined, presumably as in the Himalayan race (670) — 16 or 17 days.

MUSEUM DIAGNOSIS. See Key to the Species. Compared with *C. i. hazarae*, this race is greyer on the upperparts, more finely streaked on the back, and more narrowly barred on the tail. Juveniles are very different-looking, with much warm brick-rufous suffusion in the plumage.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	174–198	20–24	15–18	125–144 mm
♀♀	181–195	20–24	15–18	124–135 mm
				(SA, HW)

COLOURS OF BARE PARTS. Iris brown; fine circumorbital rim yellow. Bill horny brown, yellowish on commissure and gape. Feet pinkish brown; claws pale horny brown.

672. **Ceylon Jungle Nightjar.** *Caprimulgus indicus kelaarti* Blyth

Caprimulgus Kelaarti Blyth, 1852 (1851), Jour. Asiat. Soc. Bengal 20: 175 (Ceylon)
Baker, FBI No. 1627, Vol. 4: 368

LOCAL NAMES. *Bin bassā* (Sinhala); *Pādukāi kūrūvi* (Tamil).

SIZE. Myna +; length *c.* 27 cm ($10\frac{1}{2}$ in.).

FIELD CHARACTERS. As for the Genus, q.v. See keys to the Species and Subspecies, and Museum Diagnosis.

Female differs from male as in 670.

STATUS, DISTRIBUTION and HABITAT. Race peculiar to Ceylon. Resident in the Hill Zone; locally distributed throughout the hills to over 6000 ft [*c.* 1800 m]. More common on the eastern or Uva aspects where the climate is drier (Phillips).

GENERAL HABITS and FOOD. As in 670, q.v.

VOICE and CALLS. Song described as far-carrying and reminiscent 'of the exhaust note of a small gas engine *chuk'm chuk'm chuk'm chuk'm* . . . repeated for many minutes at a time during the courting season. At close quarters this song has a curious resonant quality, the *chuk* being superimposed, as it were, upon a throbbing drone represented by the *m*. The courting male has also another note which sounds like *hōō hōō hōō hōōteter hōōteter* . . . uttered in flight with wings held high and steady, and tail widely expanded and canted to one side or the other, exposing the white tips of the four outer feathers' (Henry). Cf. *wowowowowo* under 670.

BREEDING. *Season*, February/March to June/July. *Eggs*, 2, smaller replicas of those of the Indian bird (671); also laid without nest on bare stony ground in similar sites. Average size of 12 eggs 28.1 × 20.7 mm (Baker).

MUSEUM DIAGNOSIS. See Key to the Species. Smaller than the nominate race (671) with the tail perhaps darker and more heavily barred.

MEASUREMENTS

	Wing	Tail
2 ♂♂	174-180	126 mm
1 ♀	174	116 mm
		(HW)

Weight 1 o? 69 g (SDR).

COLOURS OF BARE PARTS. As in 671.

673. **Hume's European Nightjar.** *Caprimulgus europaeus unwini* Hume

Caprimulgus unwini Hume, 1871, Ibis: 406 (Agrore Valley and in the neighbourhood of Abbottabad. The specimens listed as types in the Cat. Bds. Brit. Mus. are from the former locality)

Baker, FBI No. 1619, Vol. 4: 359

LOCAL NAMES for all nightjars: *Chhippāk*, *Chhāppā* (Hindi); *Chapāki* (Punjab Salt Range); *Patāk* (Rawalpindi dist.).

SIZE. Myna +; length *c.* 25 cm (10 in.).

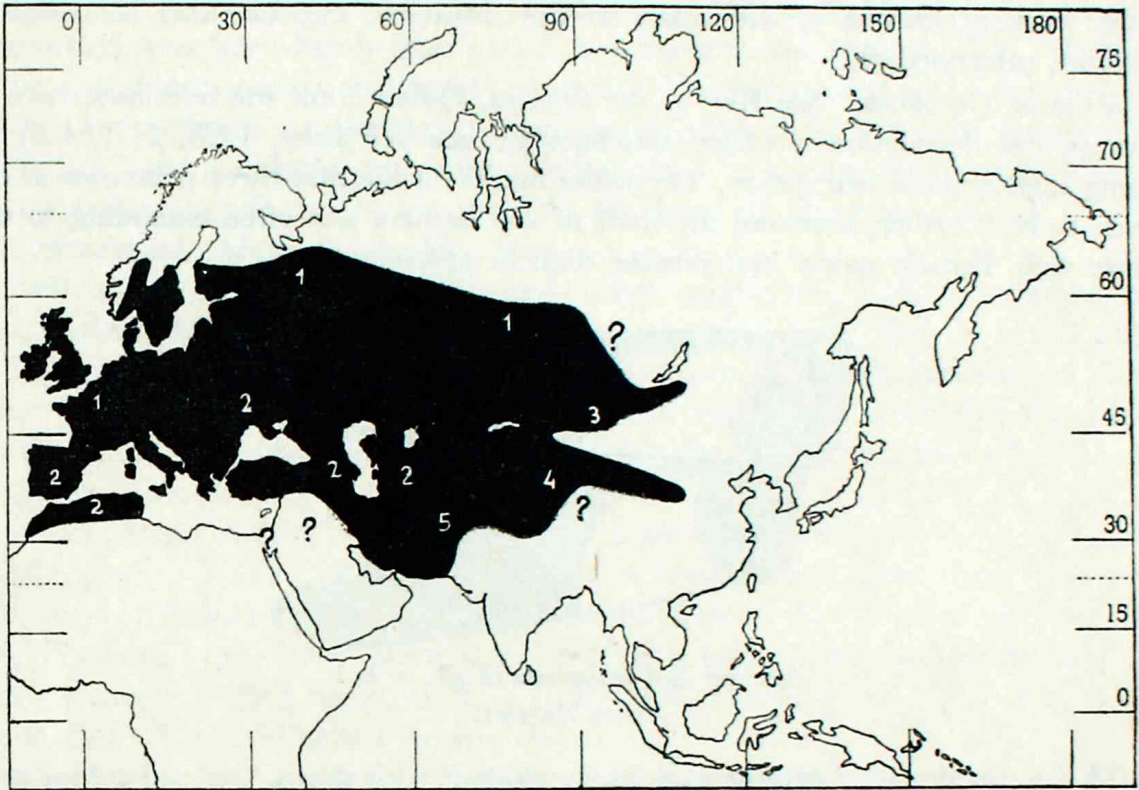
FIELD CHARACTERS. As for the Genus, q.v. A small greyish brown nightjar. See keys to the Species and Calls, and Museum Diagnosis.

Female similar to male but with no white on the tail; the white wing-bar is replaced by buff, sometimes whitish in centre sometimes profusely marked with dark brown.

STATUS, DISTRIBUTION and HABITAT. Summer visitor and passage migrant (April/May to August/September) to West Pakistan, breeding in the lower hills and valleys of the mountain ranges, between *c.* 1600 and 2800 m, in C. and N. Baluchistan (Kalat, Quetta, Ziarat, Chaman, etc.) and in the Afghan frontier areas (Peshawar and Rawalpindi dists., Kurram Valley, Thal, etc.) north to Gilgit. Probably also in Kashmir, but no breeding record east of Murree. Obtained at Skardu, Baltistan by Meinertzhagen in August (status?). Fairly common and abundant as a transient on autumn passage (*c.* September) in southern Makran, Sind, and Kutch which lie on the easternmost fringe of the known migration route from Afghanistan,

NW. Pakistan, etc. over Arabia to its winter quarters in Africa. The bulk evidently by-passes these areas on northward passage in spring (c. April) since the bird is rare in Sind at that season, and apparently absent in Kutch. Stragglers have been recorded in Jodhpur (Rajasthan) and Bombay City in October, and as far east as Gorakhpur in Uttar Pradesh (c. 83°E.) in January. Affects sparsely forested and open hillsides with *Dodonoea*, *Gymnosporia* and suchlike bushes.

Caprimulgus europaeus



■ Breeding range

5 *C. e. unwini* (673).

1, 2, 3, 4 extralimital races.

Extralimital. Breeds also from the eastern shores of the Caspian Sea east to Kuldja and the Khangai Mountains, south to Persia and probably S. Afghanistan. Winters in eastern Africa from the Sudan south to Natal.

GENERAL HABITS. As in 670, q.v. In summer (on breeding ground) met with singly or in pairs; on autumn migration passage sometimes in loose parties or flocks of 6 to 20 (or more) roosting on stony scrubland in daytime, flying about erratically hawking winged insects at dusk, freely perching on telegraph posts and wires where available. On account of its swift and agile zigzag flight when chased, apparently is (or was, in the heyday of falconry?) much prized by the local sporting gentry in the Punjab as a quarry for trained hawks.

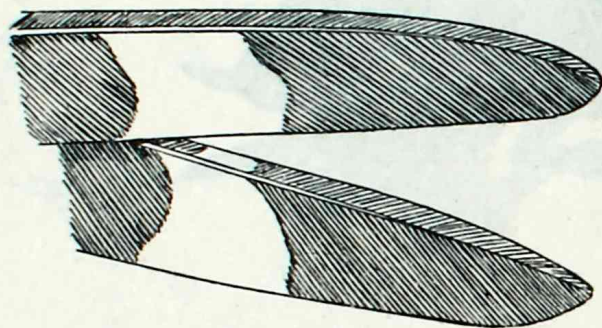
FOOD. Moths, crickets, grasshoppers, dung beetles (Copridae) and other insects.

VOICE and CALLS. In summer described as a steady whirring note uttered both on the ground and from a bush or tree; call on the wing as very similar to that of Franklin's Nightjar (*C. a. monticola*), a sharp *choo-ee* or *sweesh*. A low chuckle when flushed during daytime (H. W. Waite).

While a transient on passage, an occasional quick-repeated rather subdued *chuck-chuck-chuck-chuck* etc. of the quality and volume of a House Gecko's call (*Hemidactylus*), but faster (SA).

BREEDING. *Season*, May to July, principally June. No nest. *Eggs*, 2, laid on bare ground on the side of a stony hill or ravine, under shelter of a bush; somewhat variable, chiefly white or pinkish white, spotted with black all over the surface, with underlying secondary blotches, scrawls and smears of pale lavender-grey. Unconfusable with eggs of *C. a. monticola* or *C. mahrattensis* often found in the same localities. Average size of 44 eggs 29.9×21.2 mm (Baker). Share of the sexes in the domestic chores, and incubation period, unrecorded.

MUSEUM DIAGNOSIS. See Key to the Species. Differs from the nominate race of Europe (for description of whose plumages etc. see Witherby, 1938, 2: 254-6) in being slightly paler and greyer. The white marks on the first three primaries of the male extend further, reaching the shaft of the feathers and often extending to the outer web. Female greyer and sandier than in *europaeus*.



1st and 2nd primaries of ♂, $\times c. 1$
(After Hartert)

Chick (in down). 'Almost completely clothed with down. General colour pale isabelline, paler than in *europaeus*; dark spots on head, wings and thighs black not brown as in *europaeus*' (Ticehurst).

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	172-192	c. 9-10	c. 16-17	(117) 125-144 mm (Baker, SA)

COLOURS OF BARE PARTS. Iris dark brown. Bill black. Legs and feet fleshy- or reddish brown.

674. **Sykes's or Sind Nightjar.** *Caprimulgus mahrattensis* Sykes

Caprimulgus Mahrattensis Sykes, 1832, Proc. Zool. Soc. London: 83 (Mahrattas [?])

Baker, FBI No. 1628, Vol. 4: 369

Plate 45, fig. 2, facing p. 32

LOCAL NAMES. *Chhippāk*, *Chhāppa* (all nightjars — Hindi); *Shapkor* (Baluchi).

SIZE. Myna \pm ; length c. 23 cm (9 in.).

FIELD CHARACTERS. As for the Genus, q.v. A small sandy grey semi-desert haunting nightjar, finely vermiculated above with wavy bars of light brown. See Key to the Species.

Female similar to male but with the spots on primaries smaller and fulvous-tinged; tail-spots fulvous, often somewhat vermiculated with brown.

STATUS, DISTRIBUTION and HABITAT. Resident in W. Pakistan (Sind, Baluchistan [including coastal and central Makran], Afghan frontier districts); apparently only summer visitor (breeding) in some parts, e.g. Punjab Salt Range; in the plains and at moderate elevations up to *c.* 500 m in the arid hills. Widely but sparsely dispersed in winter, straggling to Rajasthan, Kutch, N. Gujarat, Saurashtra, W. Khandesh, Deccan (Ahmadnagar, Nasik), Konkan (Kalyan, Ratnagiri), south to N. Mysore (Belgaum). Recorded also from Simla and Delhi; not farther east than *c.* 77°E.¹ Affects environs of semi-desert cultivation, and stony wasteland cut up by dry torrent beds — sometimes sand dunes in pure desert dotted with sparse xerophytic bushes (*Capparis aphylla*, *Salvadora oleoides*, etc.). In winter frequently flushed in daytime from foot of grass tussocks on dried-up borders of jheels.

Extralimal. Afghanistan, SE. Iran.

GENERAL HABITS. As in 670 and other nightjars. 'More crepuscular than others of the genus; never sits on a tree' (T. R. Bell, *c.* 1905, Sind MS.). Sometimes found right out in rolling sandy desert, roosting in daytime in the shelter of a scraggy thorn bush topping a wind-rippled dune. In Sind has been observed coming out from the desert at dusk to hawk over a grassy swamp.

FOOD. Melolonthid beetles and other dusk-flying insects.

VOICE and CALLS. 'Very like that of a frog, heard after sunset' (Nicol Cumming, Baluchistan). 'A long-continued *purr* like that of a Bustard-Quail (*Turnix taigoor*) — *prrrrrrrrrrr* — but in a higher key, and softer. Always uttered when settled on ground' (T. R. Bell, Sind). A low, soft chuckle — *cluck cluck* — when flushed during daytime.

BREEDING. *Season*, overall February to August, mainly March to May. No nest. *Eggs*, 2, laid on bare stony ground in arid hummocky country or on salt-encrusted *pāts* or *kāllār* in semi-desert in the shelter of a *Capparis* or suchlike bush; also on tamarisk-covered sandy aits in the Indus (in Sind). Ground colour greyish white mottled all over with dark grey or brownish grey, and with secondary clouds of pale grey. Readily distinguished from other nightjars' eggs by general pattern of coloration — densely mottled grey rather than definitely marked or spotted. Average size of 36 eggs 28.8 × 20.9 mm (Baker). Incubation evidently by both sexes; period undetermined.

MUSEUM DIAGNOSIS. See Key to the Species. For details of plumage see Baker, loc. cit. 'In females the white spots on the three outer primaries are smaller and more suffused with buff than in males, especially on the third feather; the two outer tail-feathers entirely lack the white tips of the male, and have a buffish spot on the outer feather, or the two outer feathers, or no spot at all' (Ticehurst).

Chick (in down)? 'General colour whitish isabelline and so rather paler than *unwini* [673]; dark marks less pronounced than in *unwini*, but in the same positions' (Ticehurst).

¹ A. E. Osmaston's specimen from Gorakhpur, U.P. *c.* 83°E. (JBNHS 32: 541) is really a juvenile of *C. a. monticola* (*vide* Whistler, *ibid.* 38: 38), and Baker's record of a straggler in 'Purnea, W. Bengal' cannot be verified.