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STUDIES OF THE CEYLONE FROGMOUTH, *BATRACHOSTOMUS MONILIGER* BLYTH FROM INDIA, WITH THE DESCRIPTION OF A NEW SUB-SPECIES FROM WESTERN GHATS

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INTRODUCTION

The Western Ghats is one of the globally recognized 'Hot Spots' for biodiversity in India (Mayers, 1990). The Western Ghats, a continuous chain of hill ranges from 20 to 2600 m altitude, falls under 'Malabar botanical provinces' Hooker's (1907). It has similar type of tropical rain forest with that of NE Himalaya and having some Indo-malayan avian elements (Hora, 1938-53; Dilger, 1952; Ali, 1948 and Ripley, 1949).

Blyth (1846) described *Batrachostomus moniliger* on the Layard's material taken from Ceylone (=Sri Lanka). Baker (1927) provided its range as Ceylone, Travancore and Wayanad, Ripley (1961), further extended its range as far as Western Ghats strip of North Kanara in Mysore (Karnataka). Ali & Ripley (1970) stated its range from 15°N latitude south to Trivanathapuram and Sri Lanka. The avian samples collected during the field survey in 1977 from the northern part of its range, viz., Jog Falls, Shimoga Dist., and Sampaje, Coorg Dist., Karnataka revealed that the northern population is different from the southern population and thus warranting a new name. The southern birds are in the intergrading zone and more akin to the Sri Lankan form.

Keywords : Western Ghats, Jog Falls, Shimoga district, Sampaje, Coorg district, Karnataka, Podargidae, *Batrachostomus moniliger roonwali* sp. nov.

DESCRIPTION : *Batrachostomus moniliger* Blyth

The description given by Blyth (1846); Baker (1927) and Ali & Ripley (1970) for Ceylon Frogmouth, *Batrachostomus moniliger* are inadequate. Hence a detail description is given below on the basis of specimens preserved in the National Zoological Collections, Zoological Survey of India, Kolkata.

MATERIAL EXAMINED OF NOMINATE SPECIES

- Crown** : In male, feathers are vermiculated dark with apical black spot edged with white, spots many. In female, feathers are finely vermiculated chestnut with apical black spot edged with rufous, spots few.
- Back** : In male, feathers are mottled dark brown having lanceroate crescent, tips pale. In female, feathers are mottled chestnut having pure chestnut terminal part with a crescent of black sub-apical spot, tip well pronounced pale chestnut; in lower back spots are obsolete or absent.
- Scapulars** : In male, feathers are grey and white finely vermiculated with apical semi lunar rufous spot followed by a crescent of black spot with a minute white tip. In female, feathers are vermiculated rufous with a white apical spot followed by a thin black crescent.
- Wing** : In male, primaries are dark brown but outer web distinctly barred with white and rufous spots joining outward. Inner secondaries as in scapulars, outermost quills leaning to primaries, exposed part well mottled, all secondary quills have a triangular black tip.
In female are primaries dark brown but outerweb rufous with indistinct bars. Secondaries vermiculated rufous with white tip having black marking behind, outerwing pale terminal part.
- Underwing** : Pale fulvous in both male and female but marked by very faint black bars in male and clouded with brown in female.
- Wing coverts** : Heavily mottled, on secondaries a bold white spot on the outer web followed by a black apical tip; the coverts in female are chestnut but having similar spots as in male.
- Back** : In male, feathers are dark brown heavily mottled with a lanceroate black apical spot margined by chestnut crescent behind, tip pale rufous. In female, feathers are finely mottled chestnuts having pure chestnut terminal part with a black sub apical crescent spots are obsolete or absent on lower back.
- Tail** : In male, feathers are heavily mottled brown with paler bands of mottled gray and white lined by wavy black lines well marked behind, a sub apical black bar and rufous tip.
In female feathers are mottled chestnut, pale band indistinct throughout the black lining behind well defined, tips rufous followed by a black band.

- Chin and throat** : In male, pale brown those on throat feathers having a black spot following the white tip. In female, feathers are chestnut having similar spots on throat as in male but white is replaced by rufous at tip.
- Throat band** : In male, feathers are having a bold white spot towards tip and margined by black sharply pronounced behind, but in female, the anterior black margin is absent.
- Breast** : In male, breast feathers mottled brown but those on lower breast having similar spots like throat band forming the breast band, few lanceolate black spots on sides grading into feathers with white spot.
- In female, upper breast is mottled chestnut, lower breast well spotted, feathers having white apical spots well marked by black margins, more pronounced basally, forming the second band.
- Abdomen** : In male mottled white with large white spot apically.
- In female, feathers mottled rufous brown with large white spots well marked by black on the base of the white spot.
- Vent** : In male, pale fulvous with white spots and faint black lines showing up as faint bars. In female, rufous feathers having white spots with well marked black basal margin.
- Sides** : Correspond to that in male and female abdomens.

DISTRIBUTION OF NOMINATE SPECIES

The Western Ghats from c. 15°N, Kana'ra dist. (Mysore) south to the Thiruvananthapuram dist. (Kerala) up to c. 1200 m; Ceylon, throughout the forest areas up to c. 1800 m. (Ali & Ripley 1970).

Study area : Chatterjee (1940), classified the Western Ghats in four broad phytogeographic regions. The present study area falls in the "River Kalinadi to Coorg" which included part of Karnataka. This region consists of valleys surrounded by deep gorges 3-5 km. across and 300 m. deep and lies within 12°25'-14°15'N and 74°35'-75'E. The area has thick and dense Moist Evergreen Forest. Major rivers are Sharavati, Tunga and Bhadra. The area is further thickly covered with trees where the undergrowth is profuse and trangled with twinnings and climbers and very much swampy, damp in nature and surrounded by a couple of streams and nullas.

Materials and Methods : All the material, 2♂, 2♀, were collected from Vanathipuram, Madurai district, and Bana Thirtham, Tirunelveli district of Tamil Nadu. All were preserved and deposited in

the National Zoological collections, Zoological Survey of India, Kolkata. Comparative studies of morphometric characters and comparison of other biodatas were made as per standardisation adopted by Baker (1927) and Ali & Ripley (1970).

Abbreviations : Reg. No. : Register Number; ZSI : Zoological Survey of India.

Order CAPRIMULGIFORMES

Family PODARGIDAE

Batrachostomus moniliger roonwali new subspecies

Type Locality : Jog Falls, Shimoga District, Karnataka, India.

Holo-Type : ZSI Reg. No. 40208; Adult Male; Collected by Dr. V. C. Agrawal on 21 Jan 1977 from Jog (=Jog Falls), Shimoga District, Karnataka, India.

Para-Types : ZSI Reg. No. 40207; Adult Female; taken on 15 Jan. 1977, other details as in the Holotype. ZSI Reg. No. 40209; Sub-adult Male; taken on 3 Feb. 1977 from Sampaje, Coorg District, Karnataka, collector Dr. V. C. Agrawal. Other comparative material : ZSI Reg. No. 40201; Adult Female; taken on 25 Feb. 1986m ZSI Reg. No. 40211; Adult Male taken on 27 Feb. 1986, both taken from Vanathiparai, Madurai District, Tamil Nadu. ZSI Reg. No. 39128; Adult Male taken on 17 Sep 1992 from Bana Thirtham, Tirunelveli District, Tamil Nadu; all collected by S. S. Saha. Repository, Zoological Survey of India, Kolkata.

*Key to the subspecies of **Batrachostomus moniliger** Blyth*

Male

Wing patch grey, under parts spotted white*B. m. moniliger*

Wing patch fulvous grey, under parts spotted fulvous*B. m. roonwali*

Female

Wing patch chestnut, crown spotted, tail barred*B. m. moniliger*

Wing patch bright chestnut, crown unspotted, tail not barred*B. m. roonwali*

DESCRIPTION

Male : General colour above heavily spotted dark speckled brown. A conspicuous whitish collar and an oblique pale grey patch along the inner wing and scapulars, tail barred. Under parts brown much paler than above, having heavily spotted breast with double bands, one on lower throat and the other on lower breast, the latter extending along the sides. Abdomen lighter with fulvous bold spots, each with wavy dark brown lines. Head heavily spotted, each mottled feather has a sub-apical black spot margined by apical fulvous tip. Lower neck warmer, followed by the

collar band. Each feather of the collar band has a terminal black spot and a subterminal whitish bar, margined by a thin black band. Back vermiculated dark brown, splattered with black and chestnut markings. Tail with alternate bands of light and dark brown, the light band margined by black, well marked distally; tip pale fulvous.

Female : General colour above very finely vermiculated chestnut. A white collar and the oblique pale patch on the wing is replaced by pale chestnut feathers, having black and white spottings on tip; spotting absent on inner scapulars. Under parts paler than above. Throat band not so conspicuous as in male. Abdomen paler than breast but heavily spotted, spots are on the outer web of terminal part of the feather.

Sub adult Male : An admixture of male and female plumage. General colour like female but dark and light spottings as of male, complete with wing patch, collar, bands, and tailbars. Tail has bands but vermiculated and with more solid apical black markings.

Distribution : Southern Western Ghats strip from about Jog Falls, Shimoga Dist., and Sampaje, Coorg Dist. Karnataka. The distribution of nominate subspecies *moniliger* would be from Madurai district down to Tirunelveli district of Tamil Nadu barring the zone from Coorg south to Madurai being the intergrading zone of two population.

Etymology : The name *roonwali* has been given as my homage to Late Dr. M. L. Roonwal ex-Director of Zoological Survey of India and ex-vice-Chancellor of Jodhpur University who substantially contributed to Zoology.

Discussion/Museum diagnosis : Comparison of diagnosis characters of both *B. m. roonwali* sp. nov. and *B. m. moniliger* Blyth.

Male

Ventral View

01. Black drops on the lower breast and upper abdomen are more in *roonwali* than in *moniliger*.
02. (i) Feathers of the abdomen and vent are chestnut brown with broad black crescent marking in *roonwali*.
- (ii) Feathers largely light brown with bold white drops together with faint blackish brown minute spots sometime forming broken lines in *moniliger*.

Dorsal view

01. Colour of tail feathers is more saturated in *roonwali* than *moniliger*.
02. Brownish white bare on tail are boldly edged with black in *roonwali* and fainting edged with black in *moniliger*.

Female**Ventral view**

01. Bold white drops on abdomen and vent are more in *moniliger* than in *roonwali*.

Dorsal view

01. Whole crown with black spots and are more in fore crown in *moniliger* and absolutely no black spot on the crown in *roonwali*.

02. Entire tail feathers with thin transverse black bars in *moniliger* and no such black bars on tail in *roonwali*.

03. Bold white drops edged with black on the scapular region are more in *moniliger* and one or no spots 1 *roonwali*.

Dorsal view :

0.1 Whole crown with black spots and are more in fore crown in *moniliger* and absolutely no black spot on the crown in *roonwali*.

02. Entire tail feathers with then transverse black bars in *moniliger* and no such black bars on tail in *roonwali*.

03. Bold white drops edged with black on the scapular region are more in *moniliger* and one or no spots 1 *roonwali*.

B.m. roonwali produces a loud guttural rapid series of note like. "Toro..... Toro..... Toro Toro..... repeated monotonously every two seconds against a soft "Kooroo..... Kooroo....." or a fairly louo liquid chuckle ahwoo repeated monotonously every 2 or 3 seconds (Ali) by *B.m. moniliger*.

Table-1. Morphometric measurements (in mm) of *B. m. roonwali* (Holotype and Paratype) and *B. m. moniliger*.

Body parts	<i>B. m. roonwali</i>		<i>B. m. moniliger</i>
	Holotype	Paratypes	
Wing	120+	125–120	124, 122, 122
Tail	116	110–103	115, 110, 110
Tarsus	15.5	14.5–14.5	14.5 (2), 13
Bill (from skull)	21.5	21.6–21.0	21, 21
Bill (from gape)	33.6	32–33.6	34, 32.5, 32

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