

DISCOVERY

An apparently new species of *Rallina* crane from Great Nicobar Island, India

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Great Nicobar Island (7.0°N 93.75°E) about 1,045 km² in area and the largest island of the Nicobar group, is the southernmost point of India, lying about 150 km north of Sumatra, Indonesia, and about 1,300 km south-east of the Indian mainland. The climate is tropical and the annual rainfall is high (3,000–3,800 mm) due to the monsoons. Vegetation is typically divided between coastal mangrove forest and interior evergreen and deciduous moist broadleaf forest (although some islands contain extensive interior grasslands thought to be the result of human intervention). The 885 km² Great Nicobar Biosphere Reserve set up in 1989 incorporates two national parks, and several endemic birds and mammals are found on the islands. BirdLife International has designated the Nicobar islands an Endemic Bird Area. The islands were severely affected by a 10–15 m high tsunami on 26 December 2004 in the aftermath of the 2004 Indian Ocean earthquake and there have been subsequent earthquakes in July 2005, November 2009 and June 2010.

Four species of rallid have been reported from the Nicobars (Rasmussen & Anderton 2005, Grimmett *et al.* 2011): Slaty-breasted Rail *Rallus striatus*, White-breasted Waterhen *Amaurornis phoenicurus*, Watercock *Gallixera cinerea* (sight records) and Purple Swamphen

Porphyrio porphyrio (although no specimens or other evidence traced).

On 21 November 2011, at around 06h00 (about 2 hours after dawn) SR found a single crane at Govind Nagar tsunami shelter on the east coast of Great Nicobar, 6 km from Campbell Bay. The area was occupied recently by people displaced by the 2004 tsunami. The bird was observed foraging for insects in the open for about 15 minutes at a range of 4 m and provided good views. It was photographed both in short grass and on gravel. The bird was silent throughout the encounter, and when disturbed, ran away quickly up a steep slope and hid rather than taking flight. The bird was initially thought by SR to represent an odd plumage of Band-bellied Crane *Porzana paykullii*, in which case it would have been the first record for the Indian subcontinent of this migratory species. Further study in collaboration with PCR has revealed that the crane differs from any known species (e.g., Taylor & van Perlo 1998) in numerous respects, and must surely represent a new species that has gone completely undetected by science until now. Here we provide a preliminary diagnosis based on comparisons of photographs of living birds, and describe the circumstances of this first record. For convenience we henceforth refer to this taxon as the 'Great Nicobar Crane'. Formal

Plate 1. First image of the new Great Nicobar rallid foraging in short grass, at Govind Nagar tsunami shelter, Great Nicobar, 21 November 2011.



S. RAJESHKUMAR

Plate 2. The 'Great Nicobar Crane' quickly crossing gravel, by Govind Nagar tsunami shelter, Great Nicobar, 21 November 2011.



S. RAJESHKUMAR

designation as a new species should await availability of type material.

Our preliminary diagnosis indicates that the Great Nicobar Crake is a medium-sized crake most similar to some Asian members of the genus *Rallina* and almost certainly pertaining to this genus as presently constituted. Although its size cannot be accurately estimated from the images, SR believes it is about the size of an adult White-breasted Waterhen—i.e. about the size of an Andaman Crake *Rallina canningi*. The bill is rather thick and short, neck moderately long, legs rather heavy with moderate length toes and short claws, and the tail fairly short. The plumage is generally rich rufescent, the back browner, the wing-coverts narrowly black-and-white barred, the underparts below breast with broad black and narrow white bands, and the thighs very narrowly barred, appearing blackish. The iris is bright red, fleshy eye-ring orange-red; bill entirely very pale green except for slightly reddish-tinged tip, tarsi bright orange-red with dusky claws. No other species of *Rallina* has a combination of pale green bill, broadly black-banded underparts, and heavy orange-red legs.

The Great Nicobar Crake differs in shape and proportions from Andaman Crake in having a relatively larger head and eye, less triangular bill that is more evenly deep from base to near tip, with more curved distal culmen; less hunched back; more laterally compressed, less barrel-shaped body; and much shorter, less prominent tail. In the Great Nicobar Crake, the bill appears pale greenish rather than yellow (some descriptions of *R. canningi* indicate the bill as apple-green, but photographs of several birds show it to be pure yellow or greenish-yellow in that species); the iris is more obviously red and fleshy eye-ring much more prominent than in *canningi*; legs and toes are similarly heavy but appear proportionately shorter, and are orange-red instead of dull pale greenish, with darker instead of pale claws as in *canningi*. The main plumage colour of the Great Nicobar Crake is paler and more orange-brown on face, neck and breast, with crown and dorsum (including tertials and scapulars) fairly dark rufescent brown, much darker posteriorly than on the upper mantle (not uniform rich dark maroon-chestnut as in *canningi*). The wing-coverts near the wing edge of the Great Nicobar Crake are narrowly black-and-white barred, looking mostly black, not plain maroon-chestnut as in *canningi*. The underparts below the breast are much more broadly banded black, not narrowly and approximately equally black-and-white barred as in *canningi*.

The Great Nicobar Crake differs from Slaty-legged Crake *R. eurizonoides* in having an entirely

pale green bill (instead of bluish-horn or dusky-horn with greenish base of lower mandible) that is relatively shorter and blunter; a larger, redder eye; a rounder head and thinner, more distinct neck; a deeper, relatively shorter body with more erect posture; and orange-red instead of dark bluish-horn or dark grey legs, which are heavier with shorter toes. In plumage it differs by having a much paler, more rufescent dorsum that lacks contrast with the head and neck, in the presence of narrow black-and-white barring on the secondaries closest to the wing edge, narrower white barring on the lower underparts, and the dark, very narrowly banded thigh feathering.

From the Red-legged Crake *R. fasciata*, the Great Nicobar Crake differs in being (probably much) larger and lankier, with relatively smaller eyes, a pale green instead of dark bluish-horn bill, probably without a red gape, and longer, heavier, more orange-red (*vs* pinkish-red) legs and proportionately shorter toes. On the upperparts, spots are lacking on the upperwing-coverts, only the marginal wing-coverts being barred, and these much more narrowly and less obviously barred than in *R. fasciata*; the underparts have much broader black bands and much narrower white ones, and the thigh feathering is dark instead of white.

The Great Nicobar Crake differs from Band-bellied Crake in having a rounder head and longer neck, a much more uniformly and paler green bill, a more obvious bare eye-ring, and brighter orange-red, longer and thicker legs and much shorter toes. In plumage it differs most obviously in having the whole head and nape rufous-brown, lacking the strongly contrasting brown crown and nape of *paykullii*, and the entire dorsum is much more rufescent in the Great Nicobar bird; it also has much broader dark bands and narrower white ones on the underparts, and dark rather than white thighs. The extent and nature of barring on the wing-coverts is more similar to that of *paykullii* than to any of the aforementioned species, but it is narrower and blacker.

It is possible that the photographs of the Great Nicobar Crake could be misleading in certain respects, but the two were taken in different habitats and lighting conditions and many photographs of all the other taxa were consulted, and yet the differences mentioned here are consistent. Even if one or a few of the differences mentioned above are found to be variable in series, there is still no known candidate species to which this bird could belong. Important plumage features not visible on either of the two existing photographs of the bird include the mid-belly pattern (whether fully barred or white), the wing pattern, the tail and the undertail-coverts.

The possibility of a hybrid has been considered. However, the particular combination of characters shown by the Great Nicobar bird seem highly unlikely to be exhibited in a hybrid (assuming common genetic patterns) from any two of the above possible parental species in any part of their range, much less on an island group from which none has ever been recorded.

Now that it is clear that there is an unknown species of rallid on Great Nicobar Island, SR will attempt to locate and study further individuals and describe it to science as soon as possible. This finding of course raises questions as to its total range, habitat selection and conservation status. Judging from how different it appears from the Andaman Crane in body shape, as well as the habitat in which it was found, it does not appear likely to be a forest species or to be particularly closely related to *R. canningi*.

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