



New report of little Indian field mouse, *Mus booduga* (Gray) from Andaman and Nicobar Islands

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Order Rodentia, the largest group among mammals, represents almost 40 per cent of mammals comprising around 389 genera and 1,700 species in 35 families throughout the world. In India, 101 species of rodents under 43 genera and four families have been reported. Fifteen species are regarded as endemic to the country (Mandal and Chakrabarty, 1999). Muridae is the largest family represented by 28 genera and 68 species in India (Agarwal, 2000). The Indian field mouse, *Mus booduga* (Gray, 1837), (Family Muridae) is a widely distributed rodent in India, Myanmar, Nepal and Sri Lanka. It is a fairly abundant rodent species in the country, particularly in Andhra Pradesh, Maharashtra, Odisha, Punjab, Tamil Nadu, Uttar Pradesh and West Bengal, causing loss to standing crops (Sridhara band Tripathi, 2005). In Andhra Pradesh the infestation ratio of this species to the lesser bandicoot rat, *Bandicota bengalensis*, was reported to be 7:3 (Purushotham and Rao, 1979). Recently, this mouse was reported from irrigated fields in arid regions also (Idris *et al.*, 2004). Present study is the first report of occurrence of this rodent species from Andaman and Nicobar Islands.

The Andaman and Nicobar Islands, a Union Territory of India is located between 92-94° E Longitude and 6-14° N Latitude. The group of islands forms an arched string of 572 Islands and islets in Bay of Bengal stretching from Union of Myanmar in the north to Sumatra in the south. The climate is humid and tropical (Temp. 28-32°C and RH 75-95%), endowed with the occurrence of both South-West and North-East monsoon and the rainy season is of more than eight months in a year with an average rainfall of 3100 mm.

The earlier reports of Zoological Survey of India revealed the occurrence of 15 species/subspecies of rodents from these Islands. They include one sciurid species, *Funambulus pennanti* and 14 murids *viz.*, 13 from genus *Rattus* and only one from genus *Mus sp i.e.*, *M. musculus*. Genus *Rattus* is represented by eight species of *Rattus* and five sub species of *Rattus rattus*. The *Rattus* fauna reported from the Islands are *R. burrulus*, *R. burrescens*, *R. burrus*, *R. pulliventer*, *R. palmarum*, *R. rogersi*, *R. stoicus*, *R. taciturnus*, *Rattus rattus alexandrinus*, *R. r. andamanensis*, *R. r. atridorsum*, *R. r. flebilis*, *R. r. hoelchu*. According to Agarwal (2000) the poorly known *Rattus* fauna like, two species of *R. rogersi* and *R. tactiturnus* are synonymized with *R. stoicus*; *R. pulliventer* and *Mus flebilis* are being treated as subspecies of *R. rattus*. *R. burrulus* and *R. burrescens* have been synonymized with *R. burrus*.

During regular survey in different parts of the Islands, the little Indian field mouse, *Mus booduga* were trapped from plantation crops (coconut and arecanut) and nearby old wooden houses in Garacharma location of South Andaman (Andaman district). Garacharma located between 92° 42' 59" E Longitude and 11° 36' 49" N Latitude is a census town in the district with a population of 9431. The collected specimens were sexed, weighed and measurements of various body parts like, head body (HB), hind foot (HF), tail (T) and ear (E) lengths were recorded. The specimens were sent to Zoological Survey of India (ZSI), Kolkata, for identification.

All eight specimens collected were identified as *Mus booduga* (Gray) by ZSI. The sex ratio (M:F)

in the collections was 1:0.6 (5♂s and 3♀s). The dorsal side was grey whereas the ventrum was greyish white in colour. *M. booduga* are mainly greyish from dorsal side but the colouration of venter varies from pure white to grey. The animals with greyish white under surface (as reported in the present study) have also been reported from Uttar Pradesh, Bihar, Orissa, Andhra Pradesh and West Bengal (Agarwal, 2000).

The average body weight of mouse collected from Andaman was 9.75 ± 0.28 g (range 9.3-10.1 g) with slender, short and naked, bicolor tail. The head-body length ranged between 58-68 mm (Mean: 63.13 ± 3.7 g). The tail length was 74 to 79 mm (Mean 76.4 ± 1.7) and ear length ranged from 5-8 mm with a mean length of 6.25 ± 1.04 mm. The head-body (HB) length of *M. booduga* is generally longer than the tail length in the main land, India (Rao and Balasubramanyam, 1992). But due to ecological adaptability, the collected specimens of *Mus booduga* (Gray) from Andaman were found to be different from India as their HB and Tail ratio was reverse *i.e.* HB length was shorter than the tail. (Fig.1). The length of hind foot (HF) ranged from 10-15 mm (Mean: 12.5 ± 1.6 mm). Total body length of Andaman collections of adult *M. booduga* ranged between 139-147 mm and the juveniles were between 132-137 mm with an overall mean of 139.5 ± 4.9 mm. (Table 1). These observations are in conformity with reports of Rao and Rajabai (1978) and Idris *et al.* (2004). Reports of Zoological Survey of India, also indicated a mean length of HB, tail and hind feet of *M. booduga* ranging between as 61-63, 58-60 and 14-15 mm, respectively (Agarwal, 2000).

The little field mice are nocturnal and fossorial rodents making small and shallow burrows



Fig. 1. Indian Field Mouse, *Mus booduga* (Gray) collected from South Andaman

in fields. Presence of small mounds of minute damp soil pellets at the entrance is a characteristic feature of their live burrows (Rao, 1980). The species is regarded as an agricultural pest in various cropping systems in the main lands of the country (Rao and Balasubramanyam, 1992). This species is the second most predominant rodent found in coconut and cocoa plantations of Kerala (Bhat and Sujatha, 1986).

Present findings add one more species in the rodent faunal diversity of A & N islands. However, considering the pest status in other parts of the country, detailed investigations on bio-ecology and behaviour of *M. booduga* in Island ecosystems are urgently required.

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Table 1. Body weight and measurements of *Mus booduga* collected from South Andaman (A&N Islands)

Specimen No. and stage/sex	Weight (g)	HF (mm)	Ear (mm)	HB (mm)	Tail (mm)	Total body length (mm)
1. Juvenile/male	9.7	12.0	6.0	60.0	77.0	137.0
2. Juvenile/male	9.4	10.0	5.0	59.0	76.0	135.0
3. Juvenile/male	9.3	11.0	5.0	58.0	74.0	132.0
4. Adult/male	9.8	13.0	6.0	64.0	75.0	139.0
5. Adult/male	9.9	12.0	6.0	65.0	78.0	143.0
6. Adult/female	10.1	14.0	7.0	68.0	79.0	147.0
7. Adult/female	9.8	13.0	7.0	64.0	75.0	139.0
8. Adult/female	10.0	15.0	8.0	67.0	77.0	144.0
Mean \pm SD	9.7 ± 0.2	12.5 ± 1.6	6.2 ± 1.0	63.1 ± 3.7	76.4 ± 1.7	139.5 ± 4.9

References

- Agarwal, V.C. 2000. Taxonomic studies on Indian Muridae and Hystricidae. In: *Records of Zoological Survey of India*. (Occasional paper No 180) Zoological Survey of India, Kolkata. 177p.
- Bhat, S.K. and Sujatha, A. 1991. Population structure and breeding season of the field mouse, *Mus booduga booduga* Gray. *Mammalia* **55**(3): 389–396.
- Idris, M., Tripathi, R.S., Chaudhary, V. and Rana, B.D. 2004. Incidence of Indian field mouse, *Mus booduga* Gray in *Thar Desert*. In: *Human Impact on Desert Environment*. (Eds.) Pratap Narayan, S. Kathju, Amal Kar, M.P. Singh and Pravin Kumar. Scientific Publishers, Jodhpur. pp. 343-347.
- Mandal, A.K. and Chakrabarty, S. 1999. Endemic species of rodents in India, *Rodent Newsletter* (ICAR). **23**: 1-2.
- Purushotham, K. R. and Rao, A. M.K.M. 1979. The distribution of field rodents around Tirupati with a note on their burrowing habits. *Andhra Agriculture Journal* **26**: 85-87.
- Rao, A.M.K.M. 1980. Observations of some microclimatic aspects in the burrows of the Indian field mouse, *M. booduga*. *Saugetierkundliche Mitteilungen* **28**: 310- 311.
- Rao, A.M.K.M. and Balasubramanyam. M. 1992. The Mice, *Mus* spp. In *Rodents in Indian Agriculture*. (Eds. Ishwar Prakash and P.K. Ghosh) Scientific Publishers, Jodhpur, 147-164.
- Rao, A.M.K.M. and Rajabai, B.S. 1978. Morphological variations in the Indian field mouse, *M. booduga booduga* (Gray 1837) inhabiting two different habitats. *Saugetierkundliche Mitteilungen* **26**: 317-320.
- Sridhara, S. and Tripathi, R.S. 2005. Distribution of Rodents in Indian Agriculture. All India Network Project on Rodent Control (ICAR). 136 p.

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