






Scientific Note

On the record of *Calomera funerea funerea* (MacLeay, 1825) (Coleoptera: Cicindelidae) from Odisha, Eastern India

Sobre el registro de *Calomera funerea funerea* (MacLeay, 1825) (Coleoptera: Cicindelidae) en Odisha, India oriental

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Abstract. *Calomera funerea funerea* is reported for the first time from Odisha, Eastern India, represents southernmost locality of the subspecies. Among the two Indian subspecies of *Calomera funerea*, *Calomera f. funerea* was previously known from Northern and North-eastern India. On 1.ix.2015, more than 100 individuals of *Calomera f. funerea* were observed along with a *Calomera angulata*, in a communal roosting, at Balikiari Reserve Forest of Athgarh Forest Division, Odisha, India.

Key words: Balikiari Reserve Forest; *Calomera angulata*; congregation; new record.

Resumen. *Calomera funerea funerea* se reporta por primera vez en Odisha, India Oriental, representando la localidad más sureña de la subespecie. Entre las dos subespecies indias de *Calomera funerea*, *Calomera f. funerea* se conocía previamente en el norte y noreste de la India. El 1.ix.2015, fueron observados más de 100 ejemplares de *Calomera f. funerea* junto a un ejemplar de *Calomera angulata*, en un refugio comunal situado en el bosque de reserva Balikiari de la división forestal de Athgarh, Odisha, India.

Palabras clave: Bosque de la Reserva Forestal Balikiari; *Calomera angulata*; congregación; nuevo registro.

Calomera Motschulsky, 1862 is a widely distributed genus of tiger beetle, with 36 known species distributed in Africa, Europe, and Asia (Pearson *et al.* 2020). According to Pearson *et al.* (2020), nine species of the genus *Calomera* are found in India. In India, *Calomera funerea* MacLeay, 1825 is represented by two subspecies, *C. f. funerea* (MacLeay, 1825) and *C. f. assimilis* (Hope, 1831). The subspecies *C. f. assimilis* confined in Central India, Pakistan, Nepal, Bhutan, Bangladesh, Myanmar, Lao PDR to China (Pearson *et al.* 2020). Distribution of *C. f. funerea* ranges from Northern India to Northeastern India, China, Myanmar, Thailand, Viet Nam, Lao PDR, Cambodia to Indonesia (Pearson *et al.* 2020). In the present note, we report subspecies *C. f. funerea* for the first time for Eastern India.

During a faunal investigation in Athgarh Forest Division, Cuttack, Odisha, India, we encountered a communal roosting of Tiger beetles in the Balikiari Reserve Forest

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(Lat 20°34'20.64" N, Long 85° 0'36.29" E, 136 masl), on 1.ix.2015, at about 02:30 pm. The Congregation was made of more than 100 tiger beetles. The congregated beetles were photographed by using Nikon D3200 Camera with Tamron tele-macro lens. Identification was done with the help of field guidebook of Pearson *et al.* (2020). In the congregation, most of the individuals were *Calomera funerea* and only one individual was *C. angulata* (Fabricius, 1798) (Figs. 1A-1C). The congregation was about 1 m above the ground, on two small adjacent twigs at the stream periphery. A few individuals were also seen on the sandy ground below the congregation site. The stream was shaded by moderate canopy cover, with very shallow water and slow current. The present report is based on the photographic records; therefore, site fidelity of the congregated beetles was not observed. Communal roosting of tiger beetles known to be occurred, mostly during early monsoon season and by the end of the wet season communal roosting comes to an end (Bhargav & Uniyal 2008). The function of communal roosting in tiger beetles is to protect from predation and also it influence thermoregulation (Pearson *et al.* 2020). According to Knisley & Hobak (1994), this behaviour could function as a "selfish herd" defence in which congregated individuals get benefit from the "communal alertness" provided in a group (Hamilton 1971). Although, tiger beetles are usually considered as asocial insects, roosting aggregations have often been reported in a few species of tiger beetle from lowland forest trail of Amazon in South America, and also observed in the Asian countries, from the Himalayan foothills of Northern India and Cambodia (Pearson & Anderson 1985; Knisley & Hobak 1994; Pearson and Vogler 2001; Bhargav & Uniyal 2008; Jocque *et al.* 2019; Pearson *et al.* 2020).



Figure 1. *Calomera funerea funerea*. A. Congregation of *Calomera f. funerea* and *C. angulata* on two adjacent twigs. B. *Calomera f. funerea* on the sandy ground, below the congregation site. C. Single individual of *C. angulata* in the roosting congregation (Photo Arajush Payra). / A. Congregación de *Calomera f. funerea* y *C. angulata* en dos ramas adyacentes. B. *Calomera f. funerea* en el suelo arenoso, debajo del sitio de congregación. C. Individuo solitario de *C. angulata* posado en la congregación (Foto Arajush Payra).

Morphologically, individuals of *C. f. assimilis* are generally greenish in colour and only three spots present along each elytral margin. Whereas *C. f. funerea* is coppery brown and four spots present along each elytral margin including one spot in shoulder (Pearson *et al.* 2020). Thus, we identified the congregated individuals of tiger beetles as *C. f. funerea*. Our present record *C. f. funerea*, in Balikiari Reserve Forest of Athgarh Forest Division, Odisha, represent southernmost range of the subspecies. The present record also indicates the necessity of further systematic survey in least explored areas of Odisha, to find out more species of tiger beetles in future.

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