The life history of the flesh fly *Liosarcophaga choudhuri* (Sinha & Nandi, 2002) was studied in the laboratory. The three larval instars are described in detail. The species is a parasitoid on the intertidal snail *Littoraria (Palustorina) melanostoma* (Gray, 1839) in the mangrove forests of the Sundarbans Biosphere Reserve, India, and as such represents the first insect parasitoid of an intertidal, marine gastropod known outside Australia.

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**Introduction**

Huge infestations of the intertidal snail *Littoraria (Palustorina) melanostoma* (Gray, 1839) by the flesh fly *Liosarcophaga choudhuri* (Sinha & Nandi, 2002) were observed by the senior author in the extensive mangrove forests of the Sundarbans Biosphere Reserve, India (Sinha, unpublished PhD thesis). In the Bani Jungle on Sagar Island in the Reserve (Fig. 16), this intertidal snail is commonly seen on the branches of mangrove trees that are normally flooded during high tide (Fig. 17). The snails may remain there when the water recedes during low tide. *Liosarcophaga choudhuri* was found to deposit larvae on those exposed snails. In India, Senior-White (1924) reported some species of *Sarcophaga* sensu lato that were reared from dead specimens of the large land snail *Achatina fulica* Bowdich, 1822. Parashar & Rao (1988) studied the effects of predation by *Liosarcophaga dux* (Thomson, 1868) (as *Parasarcophaga miser* (Walker, 1849) predating on the freshwater snail *Indoplanorbis exustus* (Deshayes, 1834). *Liosarcophaga choudhuri* appears to be the first sarcophagid fly in India reported as parasitizing the intertidal snail *Littoraria melanostoma*. This record is noteworthy as parasitism or predation of littorinid snails by flesh flies (or other Diptera) has otherwise only been known from Australia, where McKillup et al. (2000) and Pape et al. (2000) reported *Sarcorohdendorfia megafilosa* (Pape, McKillup & McKillup, 2002) and *S. meiofilosa* (Pape, McKillup & McKillup, 2002) as parasitoids or predators on *Littoraria (Littorinopsis) filosa* (Sowerby, 1832). Morphologically *Liosarcophaga choudhuri* is similar to *L. angarosinica* (Rohdendorf, 1937) but differs from it by the structure of the phallus, particularly the ventralia and lateral plate of the paraphallus (Sinha & Nandi 2002).

**Material and methods**

Infested live snails (Fig.14) were collected from the mangrove forest area of the Bani Jungle, Sagar Island, the Sundarbans Biosphere Reserve (21° 31'- 21° 53'N, 88° 37'- 89° 09'E), and brought to the

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laboratory alive for rearing. Adult flies reared from the dead snails were identified as *Liosarcophaga choudhuri* (Fig. 12). The flies were cultured in five separate glass jars (10×8 cm). A single male and female fly were kept with a number of live snails of *Littoraria melanostoma* in each glass jar under laboratory conditions at room temperature (24 ± 4 °C) and a RH of 66 ± 4%. The mouth of the jar was covered with silken cloth, and cotton soaked in a sugar solution was applied above the silken cloth of the jar four times daily to provide the adult flies with a sufficient and continuous energy supply. Some larvae were collected just after the deposition, and were reared separately on the snail to study the different larval instars. Collection of larvae was repeated at six hour intervals until the formation of puparia to