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A Preliminary Assessment on the Current Status and General Ecology of the Point Endemic, *Ceylonthelphusa durrelli* (Crustacea: Decapoda: Gecarcinucidae) in Sri Lanka**Bandara, J.^{1,2*}, Gunawardena, M.P.^{2,3,4}, Ranaweera, S.R.D.^{2,3}, Hettiarachchi H.S.^{2,3}**¹*Faculty of Fisheries and Marine Sciences and Technology, University of Ruhuna, Matara, Sri Lanka*²*Faculty of Science, Horizon Campus, Knowledge City Malabe, Sri Lanka*³*Biodiversity Educational Research Initiative (BERI)*⁴*Thema Collection LE CUBE, Colombo, Sri Lanka***janaminabandara@gmail.com***Abstract**

Ceylonthelphusa durrelli Bahir & Ng, 2005 is a microendemic freshwater crab considered as Critically Endangered (CR), recorded only from its type locality in Corbett's Gap (07°22'N 080°50'E, altitude 1,000 m above sea level (asl), in the Knuckles mountains Range, Sri Lanka. As it has been nearly 20 years since this species was originally described, there was a knowledge gap about the current status of this population. Therefore, a preliminary assessment was carried out from 24-27 September 2023 at the type locality at an elevation range of 1,000-1,360 m asl. Physiochemical parameter ranges recorded along with the sample frequencies (n) as follows: water temperature; 20.5±1.2° C (n=10) at night it drops down approximately by 2° C, pH; 7.5-7.8 (n=5), Dissolved Oxygen (DO); 6.0±0.5 mg/L (n=5), Biological Oxygen Demand (BOD); 1.5-2.0 mg/L (n=2), salinity; 0‰ (n=5), depths of the water column in the habitats; <20 cm (n=8), width of the stream; 5.05±1.45 m (n=6), and the turbidity; clear water (using Secchi disk). Vegetation mainly consist of ferns and cardamom plantations where the habitats were fully shaded by a canopy cover. Microhabitats; littoral zones with wet soil and leaf litter and substrate is sandy-cobble. Predators prey on *C. durrelli* (by analyzing scat samples); *Lutra lutra* and *Prionailurus viverrinus*. As co-existing fauna; *Schistura notostigma*, Odonata species and water striders were recorded. The mean width and the total length of the only stream (1st order streamlet of the Heel Oya) within the extent of occurrence [EOO]~1 km² was calculated as 5.01 m and 700 m respectively. Therefore, according to the calculations, the area of occupancy [AOO] is approximately 3,507 m². Based on observations from the quadrat sampling method (quadrat: 1×1 m) and considering 0-4 individuals per 1 m² (n=8) with a population density of 1.63 m⁻², the current population is theoretically estimated to be less than 5,716. However, the abundance of found dead adult shells and frequent sightings of juveniles (comprising the majority of recorded individuals) suggests a seasonal pattern in the reproductive maturity of adults. Since *C. durrelli* is a narrowly endemic species, declaring a species management area would be a successful initiative as a conservation approach to further study the species' phenology, reproduction, and ecology. This is especially important because the Corbett's Gap trail is subjected to anthropogenic activities by tourists and resident villagers.

Keywords: Freshwater crab, Microendemic, Physico-chemical, Knuckles mountain range, Population estimation