D-24: Species composition and population dynamics of fresh water fish fauna in the Heen-ela (Western province)

P M Mapatuna, Ajantha de Alwis
(Dept of Zoology, Univ of Sri Jayewardenepura, Nugegoda)

A study was carried out in Heen-ela, a small tributary of Wak-Oya, for a period of 7 months from March to October 1992 to get information on the species of fresh water fish fauna occurring in the area, their distribution and abundance pattern. Monthly sampling included fish and physical and chemical parameters of habitats.

Fish sampling from randomly selected stations representing various habitats included a station near a rubber factory and special emphasis was made to determine the effects of factory effluents on the fish fauna in the area.

During the study period 25 species of fresh water fish were recorded of which only 4 species, namely *Garra ceylonensis, Puntius bimaculatus, P. cumingi, P. nigrofasciatus* were endemic. Their population size was comparatively lower than that of the most abundant non-endemic fish species *Dania malabaricus.*

Flow velocity and concentration of effluents from the rubber factory had a significant cumulative effect on fish population distribution and abundance.

The fish population distribution and abundance showed inverse relationships with flow velocity and the concentration of factory effluents. However, the impact of factory effluents was confined to the immediate discharging area during the dry season, while the impact during the rainy season was evident in the downstream. Rainfall had direct influence on the 2 factors mentioned above. Hence rainfall is the principal governing factor of fish distribution and abundance of the study area.

Two spawning peaks were observed during the study period for *D. malabaricus*, *Rasbora daniconius*, *Puntius dorsalis*, namely, March to April and August to September with slight variations among species.