

**D-18 Important aspects of the reproductive biology of *Cyprinus carpio* in a pond and reservoir: a comparative study**

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The common carp *Cyprinus carpio* is a relatively cheap and popular food fish in Sri Lanka. In order to promote pond culture and its propagation in large deep reservoirs, a comparison of its reproductive performance in these 2 habitats was undertaken.

Using standard techniques, comparisons were made on the condition factor, fecundity, gonadal maturation and egg diameter frequency distribution in gravid females collected during the same period from a pond (0.4 ha in extent) and from the commercial catches of the Victoria reservoir.

The average body condition of gravid females from the reservoir ( $1.89 \pm 0.12$ ) was better than those from the pond ( $1.78 \pm 0.15$ ). Fecundity of pond cultured females ranged from 15,734 to 65,642 with total length varying from 18.5 to 31.9 cm. In the reservoir, females with a total length of 30.8 to 46.0 cm had a fecundity between 49,070 and 240,000. Females from the pond produced eggs with less yolk compared to those from the reservoir. Irrespective of the location, there were 7 distinguishable ovarian maturity stages, with the diameter of ripe ova ranging between 0.85 and 1.70 mm. The single mode in egg diameter frequency distribution indicated single spawning.

The presence of larger sized females with a correspondingly higher fecundity, and good body condition which produce heavily yolked eggs indicate the potential to develop this resource in large deep reservoirs such as the Victoria. The feasibility of developing pond culture to stock heavily depleted reservoirs with fingerlings has also been highlighted.

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