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Title: A Preliminary Study on the Maturation and Reproduction of *Spinibarbus denticulatus* (Oshima, 1926), an Indigenous Species of Northern Vietnam

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Abstract: These preliminary studies were conducted to understand some of the basic reproduction parameters of the indigenous carp, *Spinibarbus denticulatus* (Oshima 1926) as a prelude to more specific research studies, and the subsequent development of hatchery technology. Gonad and oocyte development was assessed over a 12 month period. Observation of the annuli rings of the fish scale was found to be a reliable means of measuring fish age. Mature males were smaller and matured earlier (4 years) than females (5 years). The gonadosomic index revealed two peaks (April and October). Oocytes, developing at various stages were examined from January to March. In January the oocytes sizes were uniformly small. Two distinct oocyte-size groups were observed in the February sampling and three size groups were observed in March. The proportion of large-size oocytes (55%) was higher compared to mid-size (26%) and small-size (19%) oocytes during the near peak spawning months. The average number of oocytes in the ovaries in a female was 31,041. The mean sperm concentration was 8.42 ± 0.36 million cells per ml with only a small amount (3.3 ± 0.2 ml) of total expressible milt per male. However, when induced with LHRHa the milt production increased to 6.2 ± 0.5 ml without an increase in the total number of sperm cells. The species shows potential for mass production; however, low fecundity and late puberty could present obstacles to artificial seed production.

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