

## Aspects of the Reproductive Biology of Brook Trout *Neolissochilus stracheyi* (Day, 1871) in Northern, Thailand

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**Abstract :** Reproductive biology of Brook trout, *Neolissochilus stracheyi* (Day, 1871), were sampled in the Northern of Thailand during October 2010 - September 2011 from the fisherman, using gillnet of various mesh sizes. For the study of relationships between total length and body weight, spawning seasons, sex ratio and fecundity. At least 66 fish samples were used every month. The result showed that the total 821 Brook trout had 7.4-61(23.32±5.91 cm). There were 353 males that had fish samples there were 8.5-45.1 cm of TL (22.36±5.91cm) and 468 females that had 7.4±61 cm of TL (24.04±7.09 cm). The relationships equation between total length and weight was  $W = 0.008TL^{3.064}$  ( $r^2 = 0.940$ ) for total fish,  $W=0.007TL^{3.107}$  ( $r^2 = 0.946$ ) for females and  $W=0.010TL^{3.003}$  ( $r^2 = 0.930$ ) for males. The relative condition factor (K) of male and female was 1.090±0.067 and 1.116±0.102 respectively. The max of GSI was in June for male and female. The spawning season was found all year round with three peaks: January, June, and August. Estimated fecundity of mature ovaries ranged from 220 to 3,500 eggs. The estimated average fecundity was 1404.55 ±651.51 eggs. The relationships between fecundity and total length revealed  $F= 121.1TL-2100$  and relationships between fecundity and weight revealed  $F= 4.535 + 128.78$ . The results from studies can be further applied to the economic culture, conservation, and management of the Brook trout in Northern, Thailand.

**Keywords :** reproductive biology, *Neolissochilus stracheyi*, Northern Thailand, Brook trout

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