

A STUDY ON THE DISTRIBUTION, MOVEMENT  
AND GROWTH OF CAPTIVE - RAISED RIVER TERRAPINS  
( *BATAGUR BASKA* ) AND WILD PAINTED TERRAPINS  
( *CALLAGUE BORNEOENSIS* ) IN SETIU RIVER

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**A STUDY ON THE DISTRIBUTION, MOVEMENT AND GROWTH OF  
CAPTIVE-RAISED RIVER TERRAPINS (*Batagur baska*) AND WILD  
PAINTED TERRAPINS (*Callagur borneoensis*) IN SETIU RIVER.**

**By**

**Soh Chong Leng**

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Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:

**A Study on Distribution, Movement and Growth of Captive-raised River Terrapin (*Batagur baska*) and Wild Painted Terrapin (*Callagur borneoensis*) in Setiu River.**  
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## LIST OF ABBREVIATIONS

SCL Straight Carapace Length

SCW Straight Carapace Width

CCL Curve Carapace Length

CCW Curve Carapace Width

C. L. Confident Level

$\chi^2$  Chi-square



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## ABSTRACT

The river terrapin (*Batagur baska*) in the Setiu River has been poorly studied and their numbers have been declining throughout the years. This study was conducted to examine whether head-started terrapins can adapt well to the environment after they have been kept in captivity for three to four years. Twenty 4 year-old river terrapins (average weight  $3.75 \pm 0.64$  kg;  $29.4 \pm 2.0$  cm for straight carapace length;  $24.1 \pm 1.5$  cm for straight carapace width) and 50 three year olds ( $2.52 \pm 0.48$  kg;  $25.7 \pm 1.8$  cm;  $21.4 \pm 1.7$  cm) were released in July and August 2003 in Setiu River. A total of 10 recaptures were recorded (14.3% of the terrapins released) in 10 weekly sampling events carried out from 1<sup>st</sup> August to 2<sup>nd</sup> October 2003. From the results obtained, there were positive growth for captive-raised *B. baska* after release (2.800 kg; 27.76 cm for straight carapace length; 23.53 cm for straight carapace width) compared to during captivity (2.738 kg; 27.18 cm; 22.65 cm). Three of the captive-raised river terrapins had been recaptured twice with a maximum-recorded distance of 4.72 km. The population size data on painted terrapins (*Callagur borneoensis*) in Setiu River was obtained by using the capture-mark-recapture method. 38 captures and recaptures of 4 painted terrapins were made (11 adult males and 23 adult females), resulting in a 1:2 male:female sex ratio. Using the Schnabel mark-recapture method, the population of *C. borneoensis* was estimated at 122 individuals for the Setiu River. As for the wild river terrapins, 5 captures were made but no recaptures were achieved (3 adult males and 2 adult females). This study indicated that the head-started river terrapins were able to feed on natural food and grew well in the wild after release. The population of wild adult *Callagur* appears viable in the Setiu River, but not wild adult *Batagur*. This reinforces the need for an urgent population restoration project for *Batagur*.

**KAJIAN KE ATAS PENYEBARAN, PERGERAKAN DAN  
TUMBESARAN TUNTUNG SUNGAI (*Batagur baska*) PELIHARAAN DAN  
TUNTUNG LAUT (*Callagur borneoensis*) LIAR DI SUNGAI SETIU.**

**ABSTRAK**

Pemuliharaan tuntung sungai (*Batagur baska*) amat kurang dikaji dan bilangan haiwan ini berkurangan tahun demi tahun. Kajian ini dijalankan untuk mengkaji sama ada tuntung sungai yang dipelihara selama 3 hingga 4 tahun ini dapat beradaptasi dengan sekeliling apabila dilepaskan kelak. Dua puluh ekor tuntung sungai berumur 4 tahun (berat purata  $3.75 \pm 0.64$  kg;  $29.4 \pm 2.0$  cm untuk panjang karapas lurus;  $24.1 \pm 1.5$  cm untuk lebar karapas lurus) and 50 ekor yang berumur 3 tahun (berat purata  $2.52 \pm 0.48$  kg;  $25.7 \pm 1.8$  cm;  $21.4 \pm 1.7$  cm) dilepaskan pada bulan Julai dan Ogos. Sepuluh ekor tuntung sungai berjaya ditangkap semula (14.3% daripada jumlah pelepasan) semasa 10 persampelan mingguan dari 1 Ogos hingga 2 Oktober 2003. Daripada keputusan yang diperolehi, terdapat pertumbuhan positif *B. baska* yang dipelihara selepas dilepaskan (2.800 kg; 27.76 cm untuk panjang karapas lurus; 23.53 cm untuk lebar karapas lurus) adalah lebih baik berbanding semasa kurungan (2.738 kg; 27.18 cm; 22.65 cm). Tiga ekor tuntung sungai peliharaan telah berjaya ditangkap semula sebanyak dua kali dengan rekod jarak pergerakan maksimum sejauh 4.72 km. Sementara itu, populasi tuntung laut (*Callagur borneoensis*) di Sungai Setiu diperolehi melalui kaedah tangkap-lepas-tangkap semula. 38 ekor ditangkap dan 4 daripadanya berjaya ditangkap semula (11 jantan dewasa and 23 betina dewasa) dengan nisbah jantan:betina 1:2. Melalui kaedah Schnabel, populasi *C. borneensis* dianggarkan sebanyak 122 individu di Sungai Setiu. Bagi tuntung sungai liar, 5 ekor ditangkap tetapi tiada penangkapan semula (3 jantan dewasa and 2 betina dewasa). Kajian ini menunjukkan bahawa tuntung sungai peliharaan dapat mencari makan secara naluri dan tumbesaran adalah baik selepas dilepaskan. Populasi tuntung laut liar adalah lebih baik berbanding tuntung sungai liar di Sungai Setiu. Fenomena ini menyebabkan keperluan untuk pemulaan projek pemulihan populasi untuk *Batagur*.