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**Japanese Journal of Limnology (Rikusuigaku Zasshi)**

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[\[PDF \(635K\)\]](#) [\[References\]](#)**Life cycle of the burrowing mayfly *Ephoron shigae* (Ephemeroptera, Polymitarcyidae) in Hino-yosui population of the Tama-gawa River basin**[Kazuki SEKINE](#)<sup>1)</sup>, [Daizaburo TSURUDA](#) and [Koji TOJO](#)<sup>2)3)</sup>

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**Abstract**

*Ephoron shigae*, a mayfly distributed widely in Japan, displays some characteristics of interest to evolutionary biologists. However, detailed ecological research covering the full life cycle of this mayfly has so far been considered extremely difficult. We commenced our ecological research in the Hino-yosui, a small agricultural flume carrying water from the Tama-gawa River, which these mayflies inhabited at a high density, during 2005. Here we report some results of a study we conducted there during that time. It was revealed that the hatching period lasted mainly from late February to late March (with further minor activity until April), and that the emergence period ran from August 30th to September 20th with the peak of synchronized mass emergence on September 3rd and 4th. Some eggs (embryos still in the diapause stage) were observed to remain unhatched throughout the following year. It is thought that since those diapause-stage eggs had not yet completely achieved the break-diapause stage in the current spring. They would continue in the diapause stage until spring of the following year or later. One possible reason for this characteristic may be that the eggs of this mayfly might have an 'egg bank' which is a storage mechanisms of the kind found in some branchiopod crustaceans and insects.

**Key Words:** [quatic insects](#), [mayfly](#), [Ephoron shigae](#), [life history](#), [egg bank](#), [diapause](#)

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