

**DETERMINATION OF THE LETHAL CONCENTRATIONS OF
STERNBERGIA LUTEA (L.) (ALLIACEAE, AMARYLLIDOIDEAE)
METHANOL EXTRACT ON GALLERIA MELLONELLA LARVAE (L.)
(LEPIDOPTERA: PYRALIDAE)**

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ABSTRACT

Sternbergia Waldst & Kit. is a genus of bulbous monocotyledons belonging to the family Amaryllidaceae. *Sternbergia* species with alkaloid content; properties such as antiviral, antioxidant, antimicrobial and antitumor activity are reported in scientific studies. Within these species, *Sternbergia lutea* (L.) Ker Gawl.exSpreng due to the alkaloids it contains, has various pharmacological effects. Also, its toxic and anthelmintic activities have been determined in previous studies. To compare the relative toxicity of various compounds and to direct the creation of exposure limits and regulatory standards, lethal concentration values are utilized. The Greater Wax Moth *Galleria mellonella* L. (Lepidoptera: Pyralidae) is a devastating pest of honeycomb in hives and causes significant losses in apiculture. It is also a model insect commonly used for toxicological investigations. In this study, it was aimed to determine the lethal concentration values of *S. lutea* methanol extract obtained from the underground part of the plant on *G. mellonella*. Lethal concentrations of *S. lutea* methanol extract for *G. mellonella* were determined by the probit analysis and it was determined as follows: $LC_{30}=290.54$, $LC_{50}=464.77$, $LC_{70}=639$, and $LC_{90}= 890.56 \mu\text{g}/10\mu\text{l}$. Our results indicated that *S. lutea* methanol extract has a toxic potential for insects.

Key Words : *Galleria mellonella*, Lethal concentration, *Sternbergia lutea*.