

Poster 04

**Active acquisition of defensive toxins for endowment by gravid Japanese grass snakes**

KOJIMA, Yosuke

Lab. of Ethology, Dept. of Zoology, Kyoto University

*Rhabdophis tigrinus* sequesters bufadienolides (highly-bioactive cardiac steroids) from toads consumed as prey, and uses them for its own defense. In addition, females are capable of provisioning their offspring with bufadienolides while they are gravid. This maternal endowment of chemical defense might cause active foraging for toads by gravid females to acquire bufadienolides for provisioning because *R. tigrinus* feeds on a wide variety of amphibian species and the amount of bufadienolides hatchling snakes possess depends on the amount of toads their mother has eaten. To test this possibility, we conducted two researches. First, we conducted a radiotelemetric study to compare habitat use patterns between sexes. We predicted that gravid females use forests more frequently because toads generally occur in forests. As predicted, gravid females used forests more frequently than males. Second, we compared snakes' preference between the odor of toads and that of non-toxic frogs in a two-way choice experiment. Gravid females chose the odor of toads with significantly higher frequency than males. In non-gestation season, females' preference for toads decreased, and there was no significant sexual difference in the frequency to choose toads. These results supported the hypothesis that gravid females actively forage for toads to acquire bufadienolides for provisioning.