

General ecology of Danish reptiles, with special reference
to *Lacerta vivipara*, *Lacerta agilis* and *Anguis fragilis*

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An autecological investigation has been made on Danish reptiles at the Mols Laboratory.

Growth, mating, sloping, population size, temperature, hibernation, food and reproduction were studied.

The animals were marked, lizards by toe clipping, snakes by scale clipping and slow-worms by filing scar on their backs. Food in Sauria were examined by examining the stomach content of killed animals, in snakes by cooling till they disgorged. Clutch sizes were found by keeping pregnant females indoors till after birth. For all species good relationship between size of clutch and female was found.

Main results as regards the different species are the following. All dates are in month and decade.

Lacerta vivipara was active from 4.1 to 9.3 for males and 4.3 to 9.3 for females. They mated in late April and May and gave birth from 7.2 to 8.1. Clutch size was 3-10 (mean 6.5). Length when newborn (S-V) 20 mm, 1 year male 42 mm and female 46 mm. Females matured at a size of 50 mm. 90 per cent of them reached this size in their second year. Principal food were Arachnida 43.6%, Cicadinea 13.7%, Isopoda 12.4% and larvae 7%. Optimal temperature was 32.9°C.

Lacerta agilis was active from 4.2 to 9.1 for males and 5.2 to 9.1 for females and to 10.1 for juveniles. They mated in May and the eggs were laid from 6.1 to 7.1. Clutch size was 5-17 (mean 9.2). One second clutch was observed. The eggs hatched in September. Length when newborn 25, and 1 year 59 mm for males and 64 for females. Females matured around 70 mm, and 34% reached this size around 20 months old. Main food was larvae 20%, Orthoptera 18%, Coleoptera 11%, Araneae 10%, Isopoda and Dermapthera 7%. Optimal temperature was 34.0°C.

Anguis fragilis mated in April - May and give birth from 8.3 to 10.1. Clutch size was 2-12 (mean 7.9). Length when newborn

41 mm, 1 year 70 mm, 2 years 96 mm and 3 years 128 mm. Maturity is reached at a size around 125 mm for females. Not all adults breed. Principal food was *Glomeris* 28%, small snails 24%, Lumbricidae 21%, slugs 18% and larvae 8%. Population density in two areas were 1 animal per 24 and 45 m².

Vipera berus was active from 3.1 to 9.3 for males and 4.1 to 10.2 for females. Mating took place in late April and May, after the animals had left their hibernation sites. The young were born in August. Clutch size was 1-14 (mean 9.3). Principal food was suckling mammals 27%, *Microtus* 23%, *Lacerta* 17% and *Sorex* 13%. Juvenile vipers eat mostly lizards and adults mostly mammals. Optimal temperature was 30.8°C.

Natrix natrix was rare and gave few informations. Clutch size was 10-27 (mean 18.1). Small females laid more slender eggs than bigger ones. Optimal temperature was 28.2°C.