

SHORT COMMUNICATION

PRELIMINARY DATA TO THE CLUTCH-SIZE OF TRACHELIPUS
NODULOSUS C. L. KOCH IN DIFFERENT HABITATS

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(Received: January 20, 1988)

Isopods are known as being mainly interoparous animals, reproducing more times during their relatively short life-span (up to 5 years). The number of eggs/offsprings produced by different isopod species has been stated very often by several authors. It is a fact that the number of eggs/embryos can change between wide ranges not only in the case of different species but at the same species, too. Instead of a long list of data and authors see the latest and — up to this time — the most detailed review on "breeding pattern in isopods" by WARBURG (1987). He summarises 128 data of 51 authors for 62 species.

It is also generally known and accepted that the number of eggs per female within a population is in close linear correlation with the size of pregnant females (summarized by WARBURG et al., 1984). The problem of the above mentioned differences in clutch-size in the case of one species is a remarkable problem in connection with isopods' life-history strategies. The great geographical distances, different latitudes can be one of the main reasons because of their macrosynaptical characteristics (light intensity, day length, temperature, etc.) as it was stated by JUCHAULT et al. (1980) on *Armadillidium vulgare* LATR. But habitat parameters (microclimate, vegetation, shelter sites, etc.) may have the same importance, as well.

I have studied three populations of *T. nodulosus* at three altering habitats during nearly the same time period. All the three localities can be found in South-East Hungary, on the Great Plain, not in far geographic distances that is under the same macroclimatic conditions.

The habitats and their main characteristics:

1. Bugac — Kiskunság National Park (80 km NW from Szeged). It is a pasture, an open grassland with wind blown sandy soil, low soil moisture content (for detailed data see BODROGKÓZY and FARKAS, 1981; KÖRMÖCZI et al., 1981).
2. Ásotthalom — Emlékerdő (30 km from Szeged). The area has nearly the same abiotic conditions and plant associations (BODROGKÓZY, 1957) as Bugac, with a great difference: there are poplar patches with logs and a thin litter layer where isopods can aggregate and find hiding places.
3. Szeged — Szőreg (7 km from the city-centrum) can be characterised by a *Lolio-Plantaginaetum* plant association. Its soil is dense with a high moisture content in spring and early summer. There are a lot of stones, brick pieces which retain humidity and prove to be excellent shelters for cryptozoic animals.

The studied isopod species has two reproductive peaks in one breeding season (HORNING, 1984; in press). Its first breeding maximum was experienced in early June. The field observations were done during this period. All specimens found were caught, sexed, body length measured, and eggs/embryos counted. The data of the three investigated populations (*Table I.*) suggest that there are expressed differences in average egg number and body length of pregnant females even at this wide-spread, relatively modest species.

Table I. Data of pregnant females in different habitats (June, 1987) (Minimum-maximum values in brackets)

Habitat	Average body length (mm)	Average egg number in marsupium	Sex rate	Fecundity rate
Bugac	9.66	25.78 (14—40)	0.63	0.3
Ásotthalom	12.1	38.71 (25—75)	0.5	0.46
Szõreg	13.68	55.64 (15—106)	0.68	0.86

The investigated habitats can be arranged on a gradient from most favourable (Szõreg) to most unfavourable (Bugac) based on their environmental factors. The data of the three populations (*Table I.*) seem to be in close connection with habitat characteristics. The environmental conditions influence the size of specimens, clutch-size of females and also the survivorship, so the maintenance, spread limits of a population.

The raised question seems to be worth for further investigations, stating of effective environmental factors, needs more research at a series of various habitats and at different species as well.

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