

A COMPARISON OF THE GROWTH PATTERNS IN BRITISH AND IBERIAN POPULATIONS OF *LITHOBIUS VARIEGATUS* LEACH (CHILOPODA, LITHOBIOMORPHA)

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INTRODUCTION

Eason (1964) assigned specimens of *Lithobius variegatus* Leach to a post-larval stadium on the basis of the number of pores on the coxae of leg pairs 12, 13, 14 and 15. In the first post-larval stadium there are two pores on each coxa of the twelfth pair of legs and one pore on each of legs 13, 14 and 15. This is denoted 2,1,1,1. In the second post-larval stadium there are 3,2,2,2, and so on. In British populations adults are 16 to 24 mm long and there are usually 6,5,5,5 and never more than 7,6,6,6 coxal pores (Eason & Serra, 1986). Stadium 5 is the matus junior and stadium 6 the matus senior.

Eason and Serra (1986) further reported that on the west coast of Ireland in the neighbourhood of Clew Bay, County Mayo specimens are 24 to 30 mm long with 7,6,6,5; 7,6,6,6; 7,7,7,6; or 8,7,7,6. Furthermore, Iberian specimens from northern Portugal are also larger than the corresponding stadia of the British form and adults have 7,6,6,6; 8,7,7,7; 9,8,8,8 or 10,9,9,9 coxal pores or numbers approximating to these formulae. This suggested further post-larval stadia in addition to those found in British *variegatus*.

The collection of 24 specimens of *Lithobius variegatus* in Galicia, Spain and adjacent northern Portugal during the British Myriapod and Isopod Group field trip in March 2004 has allowed a more detailed comparison of the size of stadia in British and Iberian populations.

MATERIALS AND METHODS

Body lengths and head widths were measured of the 24 Iberian specimens and 49 British specimens from West Somerset and East Devon. The Spanish specimens were collected from Puerto de Moncelos 23.03.04; Oia Harbour, Pontevedra 24.03.04; Baiona, Pontervedra, 24.03.04; Gondomar, Pontevedra; 24.03.04; below Ninos de Corbo nr, La Guardia (A Guarda), 25.03.04; Camposancos, nr. La Guadia (A Guarda), Pontevedra, 29.03.04 and the Portuguese specimens from Camhino, Viana do Castelo 27.03.04, Castanheira, Viana do Castelo 28.03.04 and Vascoes, Viana do Castelo 28.03.04. British specimens were collected from nr Leigh Farm, 2km N Wimbleball Lake, 27.05.91; Triscombe, Quantock Hills, 07.03.91; Dead Woman's Ditch, Quantock Hills, 07.03.91; between Withypool and Tarr Steps, 29.10.87; Wooten Courtney 15.10.93 (all from Somerset) and 1.2 km SE Churchinford, E. Devon, 30.08.93.

RESULTS

Figure 1 compares the body lengths of the Iberian and British material. In the British material there are only six post-larval stadia. In the Iberian material there are eight although Eason and Serra (1986) recorded 10,9,9,9 coxal pores (i.e. nine post-larval stadia) in their Portuguese material. At each stadium the Iberian specimens are larger than the British ones and, in addition, sizes diverge progressively through the stadia. Figure 2 shows the data for head width, regarded as a better indication of size as body length may vary with the degree of contraction of preserved specimens. The results are similar to those for body length and again show greater divergence between the later stadia of British and Iberian populations.

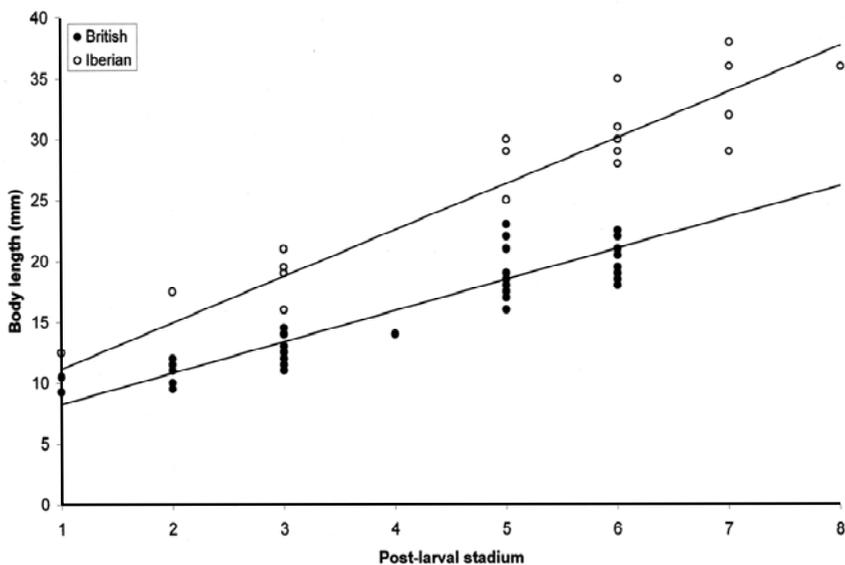


Figure 1: Body lengths of British and Iberian populations of *Lithobius variegatus* with lines of best fit

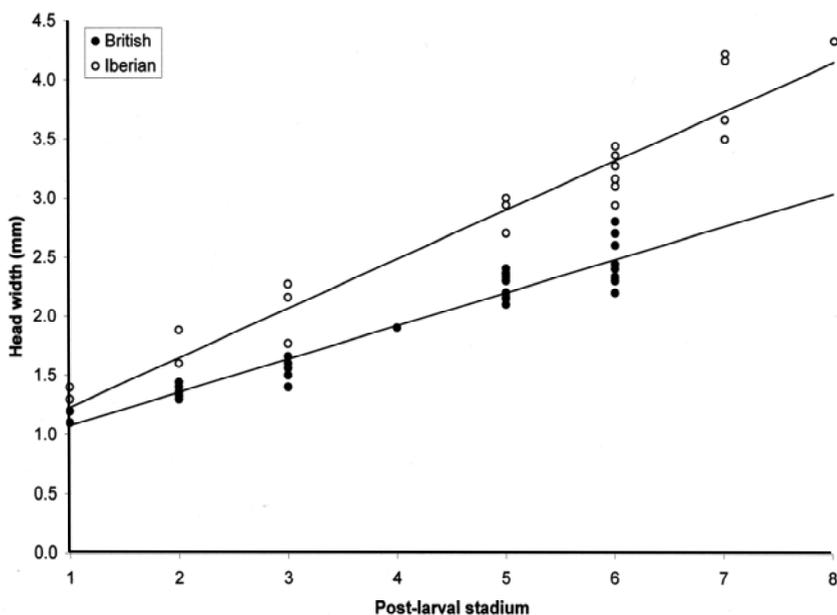


Figure 2: Head widths of British and Iberian populations of *Lithobius variegatus* with lines of best fit

DISCUSSION

Eason and Serra (1986) pointed out that the Iberian specimens are rather larger than the corresponding stadia of the British form but the results here presented indicate that this difference increases through the stadia. The apparent similarity in size between the early post-larval stadia of the two forms suggests that the eggs and larval stadia may be of much the same size. The larger size of the Iberian form is achieved by more growth during each stadium than in the British form, as well as the production of additional stadia.

If the Iberian forms mature at post-larval stadium 5 and 6 as do British specimens and in addition go through stadia 7 and 8 and perhaps stadium 9, there will be four or five mature stadia. If, as seems probable, the eggs of the two forms are of similar size and if the rate of egg production similar, then there will be a major difference in fecundity, it being much higher in the Iberian specimens. This suggests that rates of mortality are much higher in Iberian populations.

ACKNOWLEDGEMENTS

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