

IDENTIFICATION OF *LITHOBIUS MELANOPS* (NEWPORT) & *LITHOBIUS TRICUSPIS* (MEINERT)**A.D. Barber¹ and Steve J. Gregory²**¹ 7 Greenfield Drive, Ivybridge, Devon, PL21 0UG, UK.E-mail: abarber159@btinternet.com² 4 Mount Pleasant, Church Street, East Hendred, Oxfordshire, OX12 8LA, UK.E-mail: stevejgregory@btopenworld.com

One of the best ways of distinguishing the common *Lithobius melanops* from the much more restricted *Lithobius tricuspis* is to examine a female and check the gonopod spurs (Barber, 2009), which are usually 2+2 in the former and 3+3 in the latter (hence its name). However, in two recent volumes of the BMIG Bulletin (Robinson & Barber, 2014; Barber & Owen, 2015), a female *L. melanops* with 3+3 spurs and a female *L. tricuspis* with 2+2 were described. Here we report another example of a female *L. melanops* with 3+3 gonopod spurs (Fig. 1). This specimen was collected by Nicola Garnham on 20.i.2019 from under tree bark in a copse near Arkholme, Lancashire (SD 572 706, VC 60).



Figure 1: *Lithobius melanops* female from Lancashire showing 3+3 gonopod spurs

Note that these seem to fit the description “conical” (*L. melanops*) better than “spinous” (*L. tricuspis*) (Barber, 2019) (Image Nicola Garnham)

Although not included in *Centipedes of the British Isles* (Eason, 1964), curiously, as the same author points out (Eason, 1965), Brölemann (1930) included “Grande-Bretagne” in his description of *L. tricuspis*. When the species was first definitively described as British by Ted Eason (Eason, 1965), he described features that also help to distinguish the two species (including males) such as the appearance

of the forcipular coxosternite, differences in spinulation and differences of tergite shape. It seems that it might be useful to try to summarise some of these differences.

Occurrence in Britain: *L. melanops* is widespread from the Channel Islands and Scilly to Shetland and similarly in Ireland from Cork and Kerry to Donegal and is recorded from all but three British and Irish vice-counties. The original discovery of *L. tricuspis* in the UK was made in the Dartmoor area and most subsequent records have been from a limited area in South Devon. It has also been reported from the Isle of Wight (specimen and details no longer available), probably incorrectly from Dorset and from a cave in Somerset (specimen not checked). In the light of both the somewhat doubtful nature of these latter records, the relative difficulty in separating males of the two species and what we now know about the occasional presence of 3+3 female gonopod spurs in *L. melanops*, these latter records are at best to be treated with caution. More recently a second area of occurrence, in South Wales, was discovered by Christian Owen. It is therefore possible that it might be found elsewhere in south west Britain such as in Somerset or Gloucestershire. It has also been recorded from the Channel Islands and is widespread in France.

Habitats: *L. melanops* was first described from a garden and gardens and disturbed sites (as well as upper shore and sand dunes) are typical of it, but it does seem to favour a variety of situations. *L. tricuspis* was first found in oak litter & under stones in a rural situation and its apparent (restricted) area of occurrence here suggests an animal of rural areas. Although typically found in woodland it is apparently not confined to this.

Appearance in the field: Whereas many of our *Lithobius* species are a medium or dark chestnut brown in colour, *L. melanops* is typically quite a light brown colour but with a broad darker longitudinal stripe along its body. *L. tricuspis* is typically a uniform medium to dark brown colour. The two species are of comparable size (up to 17 mm in *L. melanops*, 14 mm in *L. tricuspis*), both have posterior projections on tergites 9, 11 and 13 and both have a double claw on the last legs.

Forcipular coxosternite: In *L. melanops* this has relatively small teeth and very prominent lateral shoulders. In *L. tricuspis* it has rather robust teeth and lacks these definite shoulders lateral to the paradental spines.

Shape of tergites: Eason (1965) described the shape of the tergites as a useful differential diagnosis. Broad blunt projections on T9 and generally more concave posterior borders and more rounded angles of the larger tergites in *L. melanops*. This compares with sharper projections on T9 and generally less concave posterior borders and more angulated posterior angles in *L. tricuspis*. He did, however, qualify this with the fact that this applies to British examples and the fact that the tergites of French specimens were variable in this respect.

Female genitalia: *L. melanops* usually has two (sometimes three on one or both sides) conical spurs on each side whereas *L. tricuspis* is described as having 3+3 somewhat slender, gently tapered, spinous spurs; the internal being smaller than the others and often partly hidden by the intermediate spur when examined from the underside. The gonopod claw of *L. melanops* is described as “trifid” with a larger dorsal and slightly smaller denticle on each side. In the case of *L. tricuspis*, Eason (2005) refers to the dorsal denticle being distinct or reduced and there being no ventral denticle i.e. it is more or less distinctly bifid or more or less single. He also discusses variability in the species and a number of named forms that have been described by various authors including some with two distinct denticles on the female genital claw. Brölemann (1930) describes forms with one or both denticles but his picture is of an animal with a simple claw. It does seem, at the present time, that it would not be wise to put too much reliance on structure of the gonopod claw alone as the only way of separating the two species.

Spinulation: Eason (1965) discusses spinulation in *L. tricuspis* and notes that one of his specimens lacks the spine 15VaC (which is not present in *L. melanops*). However, Brölemann (1930) in his key to lithobiomorphs and, more recently, Iorio & Labroche (2015) & Iorio & Voigtländer (2019) use the presence of this spine as a key character separating *L. tricuspis* / *L. agilis* from *L. macilentus* / *L. melanops* etc. It may, therefore, be best to regard the presence of 15VaC as a good indicator of *L. tricuspis* but maybe its absence should not rule that species out altogether.

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