

### Identification of *Bathyphantes gracilis* and *Bathyphantes parvulus*

These widespread and very common linyphiids are closely related and distinguishing them often causes problems. Because the distinguishing feature in males is on the lower margin of the palpal paracymbium, it is important to be able to position the specimen under alcohol in such a way that this is clearly visible. The use of fine glass beads ("ballotini") in the base of the dish in which the specimen is examined is a useful method of doing this.

In males of *B. gracilis*, the lower margin of the palpal paracymbium has a series of 3-4 long setae projecting forward and downward (Fig. 1A) while in *B. parvulus* these setae are completely absent (Fig. 1B). Although there are other small differences between the two species in the proportions of the different sclerites of the male palp, these are difficult to distinguish unless specimens of both species are examined side by side.

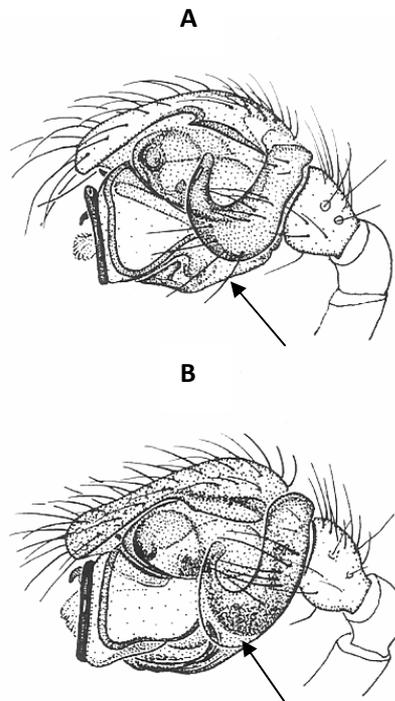


Figure 1A. Male palp of *Bathyphantes gracilis*, lateral view. 1B. Male palp of *B. parvulus*, lateral view. Arrows indicate ventral setae on paracymbium.

The general appearance of the epigynes of these two species is also very similar, with two slightly converging dark lines on a paler background and a small lobe between them on the posterior margin of the epigyne within which there is a minute circular depression. In *Bathyphantes gracilis*, the small lobe on the posterior margin of the epigyne is narrower and more or less rectangular in form (Fig. 1A) while in *B. parvulus* this structure is broader and has an evenly rounded margin (Fig. 1B). In *B. parvulus* the edge either side of the circular depression normally forms a clearly pigmented smooth plate, which is not evident in *B. gracilis*. There is a faint transverse ridge across the epigyne which in *B. gracilis* is almost

straight or slightly sinuous (Fig. 1A) but in *B. parvulus* has a central projection, giving it a more bow-shaped appearance (Fig. 1B). Finally, the whole epigynal area is relatively lightly pigmented in *B. gracilis* while it is usually heavily suffused with grey (occasionally almost black) pigmentation in *B. parvulus*, sometimes rendering details of the structures difficult to discern in the latter species.

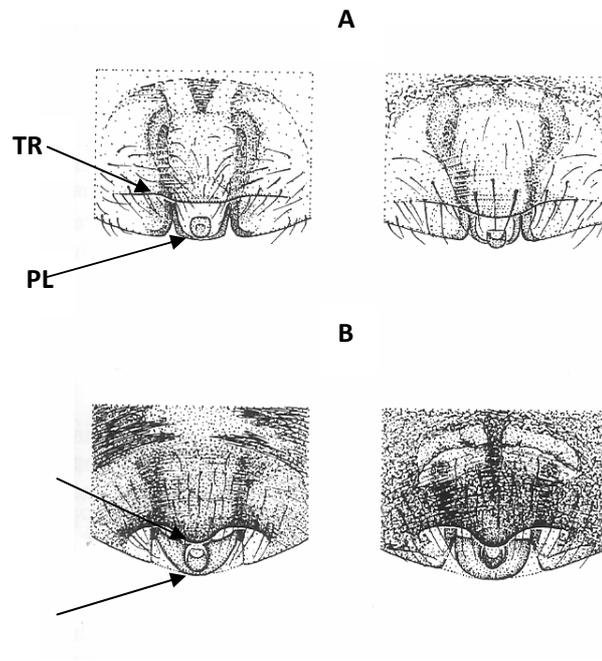


Figure 2A. *Bathyphantes gracilis*, female epigynes, 2B. *B. parvulus*, female epigynes. TR = transverse ridge, PL = posterior lobe.

An additional useful character in distinguishing these two species is that in *B. gracilis* the abdomen usually has a dorsal pattern of pale transverse bars on a grey background while in *B. parvulus* the abdomen is uniformly grey, normally without any distinguishable pattern. However, occasionally very pale specimens of *B. gracilis* lack a distinctive abdominal pattern.

**Habitats.** Both species are distributed throughout Britain and are common but *B. gracilis* has been recorded from roughly three times the number of 10 km squares as *B. parvulus*. Both species are found in a very wide range of habitats covering almost the full spectrum available but are most frequent in open habitats such as grasslands and wetlands. *B. gracilis* is a very common aeronaut and is one of the most frequent species in arable fields and other disturbed habitats.

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