

Editorial

Being able to see the intricate details of myriapods and isopods is essential for the accurate identification of many specimens, especially when distinguishing those that are morphologically very similar. Our understanding of the total number of species has increased along with improvements in microscopy, enabling the earlier British pioneers such as Newport and Pocock to realise that details of their fine structure were important. Once it was realised that there were too many species to be described on the basis of a short, written description illustrations began to appear. These relied on the ability of the worker to accurately draw and recognise what they could see in addition to actually being able to see tiny details. Today species are being distinguished on the basis of their genetic composition but the ability to accurately identify specimens by their morphology is still necessary in advancing our knowledge of distribution and ecology. Today most people have ready access to a camera on their phone, and some of these can take exceptionally good images of small invertebrates. The ability to take photographs through a hand lens or down a light microscope boosts the magnification level and means even tiny structures can now be photographed without specialist equipment. This can enable many (although not all) of our British myriapods and isopods to be identified to species without the need to kill them. The combination of good quality images, bespoke apps like iRecord and an active network of verifiers has not only produced some important information about species but has also encouraged new people to get involved in biological recording and learning more about our species groups.

However, it is important to know the crucial parts of the animal to photograph to enable species identification and, for unusual species, or those found in an unusual places, the verifiers may need additional images or, ideally, to see the specimen to be sure. Scanning electron microscopy (SEM) is relatively old technology now but, unlike light microscopes, is still out of reach for most naturalists and many research institutes. However, having a better awareness of the structures you are trying to see with a hand lens or microscope can be very helpful, and SEM images can be hugely useful in this respect. Drawings depend on interpretation by the artist, and images down a light microscope can be subject to distortion, in contrast SEM images are three dimensional and it is easy to see the various structures. They can also be very beautiful and evoke a sense of wonder at details not visible to the naked eye and the seemingly endless variety of our animals.

Paul Richards had an opportunity to use an SEM and BMIG was pleased to give a small grant to enable him to mount and photograph a selection of millipedes from his collection. The results are shown in this edition of the Bulletin and will also be placed on the BMIG website under the relevant species. The images are not intended to be a comprehensive image library, but Paul concentrated on those features that are useful for distinguishing the species. The results will no doubt help all of us looking at small specimens and wondering about for example, the structure of the first pair of legs in males that are normally difficult to see, or the details of complicated gonopods in the Chordeumatida. The images are worth browsing for more general reasons too, the body rings in *Melagona* (Chordeumatida) are clearly very different to those of the Julida, the variation in setation in the Julida is easy to be seen and the limbus (hind margin of each body ring) is clearly crenulate in *Allajulus nitidus* and *Haplopodoiulus spathifer* compared to the other Julids.

This volume of the Bulletin also includes a report of an ecological project on the woodlice *Hyloniscus riparius* and *Trachelipus rathkii* in flood meadows along the River Avon. The former species has only been known from Britain since 2022 so it is great to be able to improve our understanding of the habitats it prefers and its ecological relationships with other woodlice. The authors also used an ingenious method of sampling using refugia in areas where timed sampling was difficult. There is scope for many more ecological projects to be carried out without specialist equipment and we would be delighted to consider reports on these for the Bulletin. We are a friendly editorial team and would be very willing to help if you have no prior experience of publishing in similar journals.

Here we also report on the extension in range for a common British species, *Philoscia muscorum* in Spain. One potential project could be to look in more detail at the ecological relationship between this species and *Philoscia affinis*?

The BMIG field visits have been well attended in recent years and we encourage newcomers to myriapods and isopods as well as those with more experience, and especially attendees from outside the British Isles. We include here a report of the 2023 meeting in Cannington, Somerset.