

BWARS workshop 2nd October 2011 – “*Myrmica* scapes”

Objective: to clarify an additional method of separating U.K. species allied to *Myrmica scabrinodis*, mainly *M. scabrinodis* from *M. sabuleti* and *M. specioides*, in worker and queen castes. NB: This method does not replace other diagnostic characters for these species, but complements them, either for primary or secondary use.

Background: Bernhard Seifert first defined and illustrated the spatial position of the basal scape process (as opposed to its form) as an additional specific diagnostic character, in his taxonomic revision of *Myrmica* in 1988. The character depends on the angular relationship of the scape process to the scape dorsum. This angle is of a more constant value, intraspecifically and geographically, than are the shape and size of the process, which can vary significantly, sometimes even within a single nest. In all his subsequent *Myrmica* keys, Seifert has continued to illustrate scapes from three defined viewpoints – dorsal, caudal (posterior) and frontal, which show the angular position of the process. Seifert’s own view, as to why the feature seems not to be more widely used in aiding determination, is that it may be thought difficult to visualise by would-be users (Seifert, pers. comm. to PJ Attewell).

In the Autumn, 2006 BWARS newsletter, the author wrote an article detailing the method and its background, and of his own successful use of it in separating the three species mentioned (see copy included with workshop handouts). Mike Fox has also found the character useful, and presented a BWARS workshop about it a few years ago.

Method: Use of the character as described here involves a simple observational technique, without any measurement, and is very easy once learnt. The points below are essentially for a first-time use. It is assumed you have worker or queen specimens (preferably mounted) of *scabrinodis*-like species.

- Refer to the photo sheet supplied.
- Note the viewpoint onto the scapes shown in the photographs, and carefully position your specimen to replicate the view shown. The scape process is angled towards the posterior, so view the specimen from behind (and slightly above) the head.
- Exact positioning is crucial – the dorsum of the scape is defined as being the surface perpendicular to the plane of movement (hinge) of the funiculus, so the scape must be viewed square-on to the funicular hinge as accurately as possible, as in the photographs.
- Assess whether the process presents an angle of about 45° to your view, or clearly much less than this. Compare with the examples on the photo sheet. Differences are mostly very obvious.

- In Britain, a nominal rotational angle of ca. 45° will mostly indicate *M. scabrinodis*. The much rarer *M. vandeli* has a similar angle, but can be readily distinguished by other characters (see references in BWARS Autumn 2006 article).
- Where the scape process is only slightly rotated off the dorsum, indicated British species include *M. specioides*, *sabuleti* and the rare, (Scotland-only), *lonae*. These three are easily separated by the shape of the scape process, as well as by other characters.

With a very little practice, it will be found easy to make the assessment even on unmounted specimens.

Phil Attewell, September 2011