

Wilson also synonymizes *affinis* with *umbratus* on the argument that the petiole shape in *umbratus* is too variable to warrant any distinction between them. However, *affinis* was regarded by some of the older writers, including André (1881) and Forel (1920), as a form of the distinct species *bicornis*. An important characteristic referred to by André (*loc. cit.*), Donisthorpe (*loc. cit.*) and Stitz (1939) is the greater length of the dorsal gastric hairs on the workers as compared with *umbratus*. This is also a feature shared by *bicornis*. The writer has examples of such workers from France with *affinis* petiole shape but long gastric hairs and flattened scapes as described by Wilson for *bicornis*. These characters are beyond the range diagnosed by Wilson for *umbratus* and the specimens in question cannot be keyed to either *umbratus* or *bicornis*. The variety *affino-umbratus* Donisthorpe (1927) from specimens taken in Pembrokeshire is according to Donisthorpe's own description only a form of *umbratus* and is synonymized under that species by Wilson.

Wilson distinguishes *rabaudi* Bondroit from *umbratus* on characters to be clearly seen only in the queen caste. The scape is said to be flattened so that the minimal mid-point width is less than 0.1 mm. At the same time the funicular segments of the antennae are at least 1.47 times as long as broad. The petiole outline is characteristically subquadrate. These features appear to overlap in the worker caste with the hairy form of *umbratus*, while the males are indistinguishable. According to Wilson the flattened scape in the queen caste is alone reliable but quite distinct from that of *umbratus* where the minimal mid-point width always exceeds 0.1 mm. Workers and queens of *rabaudi* have abundant standing hairs on the scapes and tibiae. In many respects *rabaudi* thus appears to form one extreme of the *umbratus* complex just as *mixtus* with its thicker semi-cylindrical hairless scape and broad funicular segments represents the other. The discontinuous variation of the scape character alone makes it possible to distinguish *rabaudi* as a separate species.

Wilson considers that *rabaudi* is probably a common palearctic species although hitherto seldom recognized and specimens have been so determined by him from Sweden, Holland, France, Austria, Switzerland, Yugoslavia and England (a queen labelled "Inghilterra Crawley" in the Finzi collection). Mr. J. A. Pontin has located more of Crawley's specimens in the Oxford University Museum and among them are series of queens, both unaccompanied and accompanied by males and workers from Surrey, Berkshire and Hampshire, which show all the *rabaudi* characters as described by Wilson. The writer is grateful to Mr. Pontin and to Professor G. C. Varley for the opportunity of seeing some of these specimens, all of which date to forty or more years ago. No recent specimens of English *rabaudi* are known at the present and much further information is required concerning the nesting habits and distribution of this species. *Rabaudi* does not appear to occur in the Midlands or N. Britain to judge from the writer's own collection and Pontin (personal communication) suggests that the species may be restricted to the heathlands of S. England.

Because of the great variation in characters in populations of *Lasius* from Eurasia and America as a whole Wilson's keys are somewhat involved and rely to a large extent on rather precise measurements. The couplet relating to *flavus* and *umbratus* on page 30 for example reads as follows: