areas. Wilson therefore rejects the trinomen as leading to confusion and synonymizes, wherever possible, all races and varieties including the various supposed hybrids of Forel.

One of the commonest of these in the literature is *niger* var. *alieno-niger* Forel, which was erected to cover supposed hybrids between *niger* and *alienus*, but has been largely used by subsequent writers to include forms that were apparently intermediate in pilosity between the two species. In fact neither Staercke (1944), who examined Forel's specimens standing under that name, as well as much other material, nor Wilson ever found examples of nest series that could be said to be hybrid between the two species. Moreover it would probably be difficult to recognize such a hybrid did it occur, while in the whole of ant literature there are no records of natural cross-matings between like species nor any information on authentic hybrid populations even artificially contrived. In the writer's collection, ants formerly regarded as representing this variety have in most instances turned out to be *niger* with reduced appendage pilosity, rubbed, badly mounted specimens or more rarely *alienus* with one or two standing tibial hairs and he is indebted to Dr. W. L. Brown for attempting to sort out some of these specimens. Yarrow (1955) has fully discussed Forel's hybrid names in connection with ants of the *Formica rufa* group, where they have been the source of much confusion.

The case of *umbratus* var. *mixto-umbratus* Forel is very different in that a range of gradations between *umbratus* and *mixtus* do actually occur and are nearly as common as the extreme types, as was noted by many earlier writers including Donisthorpe (1927). After examining copious material Wilson has concluded ". . . there is no single character or combination of characters that can be used to separate *umbratus* and *mixtus* as species." The various characters that have been used to separate them, such as degree of pilosity, head width, or length/breadth ratio of funicular segments in both queen and worker caste, have been found to intergrade evenly and show a strong allometric trend with some degree of correlation with total body size.

It would thus appear that *umbratus* is morphologically an enormously variable species in all three castes, although Wilson does not give much attention to the similarly variable males. It will be a simplification to accept this synonymy on the evidence presented, but the matter is somewhat more controversial than with many recent nomenclatorial suggestions and should not pass without further comment. The extreme types of *umbratus* and *mixtus* are very dissimilar, at least as much so as any pair of similar but distinct species. Variability does not appear to occur in single colonies, which are usually very homogeneous even when apparently of intermediate type. Males, queens and workers from a *mixtus* colony show all the characters associated with this form consistently—reduced dentition, scarcity of eye hairs and shining body in the male, absence of standing hairs on tibiae and scapes and short funicular segments in the females. According to Wilson's study these characters are correlated with reduced body size in N. European populations. This certainly appears to be the case with males and queens, but not necessarily so with workers. The writer has examples of hairy workers from Sherwood Forest and from Surrey that are considerably smaller than *mixtus* from various sources in his possession.