

Table 6 Data of 64 queens of *Leptothorax sordidulus saxonicus* and of 20 queens of *L. sordidulus sordidulus*. Given are the arithmetic mean, standard deviation and extreme values of several morphometric data and of the discriminant D(4).

	saxonicus (n=64)			sordidulus (n=20)		
	mean	SD	range	mean	SD	range
D(4)	1.2958	0.1426	1.046-1.656	0.8119	0.1187	0.644-1.066
ML	1300.8	50.3	1162-1393	1358.6	34.0	1269-1420
SPBA/ML	0.2412	0.0103	0.216-0.262	0.2341	0.0089	0.216-0.250
SPTI/ML	0.2361	0.0111	0.206-0.264	0.1981	0.0119	0.178-0.219
ML/HS	1.7207	0.0294	1.668-1.790	1.7686	0.0297	1.713-1.828
ML/HW	1.7511	0.0359	1.660-1.839	1.8191	0.0364	1.767-1.904
ISP	1.637	0.124	1.42-1.93	1.402	0.123	1.24-1.67

Figs. 13 and 14 show the average differences of both taxa in the shape and surface structures of propodeum, petiole and postpetiole. The queen of *saxonicus* shows in dorsal view more pointed, spines with a narrow base, more distant spine tips and a more trapezoidal postpetiole. Further, the sculpture on the propodeum, on the propodeal slope and in the spine region is clearly less pronounced compared to *sordidulus*. The darker overall pigmentation of *sordidulus* is normally a good discriminating character. In *sordidulus* the antennal club is darker than the other funicular segments while in *saxonicus* the whole funiculus is equally pigmented in a light yellowish brown.

A perfect morphometric separation of *sordidulus* and *saxonicus* workers is not possible. Characters with highly significant differences are HL/HW and SPTI/SPBA (both $p < 0.0001$) as well as HS ($p < 0.001$) and PP/HS ($p < 0.002$). The overlap, however, of these characters is large even if considering nest sample means and no powerful discriminant function was found. So the most obvious separating character is the lighter coloration of the *saxonicus* worker, in particular on mesosoma. This character seems to be more or less stable throughout the range in Sachsen, Bohemia, Moravia, Slovakia, E Austria and Bulgaria. However, one worker nest series from a locality deeply within the range of *saxonicus* (Central Slovakia, SPR Boky, leg. P. Werner, 1987.07.20) shows a coloration as found in the *sordidulus* specimens from NE Italy and W Austria. The workers of *saxonicus* give the impression that the reticulate microsculpture on the petiole sides is weaker. This refers not to the diameter of the meshes, which is in both taxa 10 - 12 μm , but *saxonicus* seems to have weaker relief differences.

It is difficult to decide whether the new taxon *saxonicus* must be considered as good parapatric species or as subspecies of *sordidulus*. The differences in the morphology of the queens quote for a parapatric species pair but the situation in the workers is more compatible with the view that *saxonicus* is nothing but a distinct eastern subpopulation of *sordidulus*. The distinctness of the populations was most probably generated by a splitting up during the Pleistocene. One population surely survived in a S Appennine refuge area (*sordidulus*) and the other in a S Balkan refuge area (*saxonicus*). To which degree both taxa exchange genetic material in their present contact zone is unknown. This question can possibly be answered after an examination of much more samples from E Austria (Kärnten, Steiermark), Slovenia and the eastern border of Serbia. The treatment of *saxonicus* as subspecies as done here is provisional.

Finally, a comment must be given to *Leptothorax* samples collected by A. Schulz in the Grand Canyon du Verdon/Provence and in NE Turkey. These are very similar to *sordidulus* in overall morphology but differ considerably in at least one character.

The 3 nest samples with 9 workers from the Provence have a pigmentation pattern similar to *saxonicus* but show a ratio of FR/HW of 0.3535 ± 0.0040 . The one queen studied shows a ratio of FR/HS of 0.321. Consequently, the frontal carinae are in both castes much more approximated than in *sordidulus*, *saxonicus*, *nylanderi*, *slavonicus* and *normandi* (compare with Tab. 7, Tab. 8). This is a rather outstanding character.

The 7 nest samples with 25 workers from NE Turkey are by morphometry and pigmentation most similar to *sordidulus* but show a ratio of PE/HS of 0.2738 ± 0.0095 . The same ratio was 0.334 in the one queen studied. These data are much larger than in *sordidulus*. The taxonomic treatment of both the populations from the Provence and NE Turkey is unclear and needs further investigation.