

as the true *Leptothorax nylanderi* Förster (the types of *nylanderi* are lost, but Förster's type locality is a clear indication). The eastern population, which has most certainly spread from a S Balkan refuge, is described here as *Leptothorax nylanderi slavonicus* subspecies nova. Known front lines where the two parapatric taxa are presently in contact go through East Germany and North Italy.

Certain xerothermous spots of deciduous woodland situated on south-exposed rock slopes in the region of Saxony/East Germany are inhabited by a *Leptothorax* species that is by morphology and habitat selection clearly different from both *nylanderi* and *slavonicus*. In previous papers this species has been referred to as *Leptothorax sordidulus* Müller, 1923 (SEIFERT 1986) and *Leptothorax* aff. *sordidulus* sp. Sax (SEIFERT 1993, 1994). Meanwhile there is evidence that this ant is a taxon different from *sordidulus*. *L. sordidulus* has certainly spread from a Pleistocene refuge area in the S Appenines while *L. saxonicus* is most probably of a S Balkan origin. *L. saxonicus* is described here as a eastern subspecies of *sordidulus*. The situation in the contact zone of *sordidulus* and *saxonicus* in E Austria, Slovenia and NW Serbia is poorly studied but it seems that intermediates are very rare.

## 2. Terminology and methods of morphological investigation

All measurements were taken using the stereomicroscopes Technival (Carl Zeiss Jena) and Wild M10 (Leica) at a magnification of 80 – 320x. The maximum possible magnification to keep a structure within the range of the ocular micrometer was used. A mean measuring error of  $\pm 1 \mu\text{m}$  is given for small and well-defined structures such as petiole width, but may reach 5  $\mu\text{m}$  for large measures with difficult positioning and high dependency from air humidity. To avoid rounding errors, all measurements have been recorded in  $\mu\text{m}$  even for characters where a precision of  $\pm 1 \mu\text{m}$  is impossible.

If not otherwise stated, statistic tests tested the equality of mean values: a **t** test was applied, when an **F** test proved the equality of the variances; otherwise a modified **t** test with corrected degrees of freedom according to WELCH (1947) was applied.

In order to reduce irritating reflexions of the cuticular surfaces and to get an improved visualization of the microsculpture, a plastic diffusor was positioned as close as possible to the specimen.

- FR width of frontal carinae immediately posterior of the scape insertion. (When the scape is directed strictly caudad, the inner corner of scape base is harboured in an excavation below the frontal carinae. The outlines of this excavation shine through the carinae and mark the measuring line for FR.)
- ISP propodeal spine index measured in lateral view: the distance from spine tip to the centre of the propodeal spiracle divided through the smallest distance between the centre of the spiracle and the margin of the infraspinal excavation.
- HL maximum head length in median line; the head must be carefully tilted to the position with real maximum
- HW maximum head width across eyes
- HS head 'size'; the arithmetic mean of HL and HW, used as a less variable indicator of body size.
- ML mesosoma length in the sexuals; measured in lateral view from the anteriormost point of the frontal face of pronotum to the posterior margin of the lateral propodeal lobe
- MW mesosoma width; that is, across the propodeum in the worker and immediately frontal of the tegulae in the sexuals.
- PE maximum petiole width
- PP maximum postpetiole width
- SL maximum straight line scape length excluding the articular condyle
- SPBA the smallest distance of the lateral margins of the spines at their base. This should be measured under conditions of transmitted-light and in dorsofrontal view, since the wider parts of the ventral propodeum do not interfere the measurement in this position.
- SPTI the maximum distance between the lateral margins of the propodeal spines. SPTI is often positioned near the spine tips but is found in a more proximal position in case of distally incurved spines. The ratio SPTI/SPBA is a measure of spine divergence.

## 3. Material studied

Of *L. n. slavonicus* a total of 1100 workers and 233 queens belonging to 275 samples was studied. 88% of this material came from East Germany and 12% from Bohemia, Austria, NE Italy, Slovenia, Bosnia, and Bulgaria.

Material of *L. nylanderi* (Förster, 1850) for comparison included about 1000 workers and 153 queens belonging to 215 samples (94% Germany, 6% North Italy and Sweden).