

Table 1 Distribution of nest sample means of 204 nests samples of *Leptothorax nylanderi nylanderi* and 231 nest samples of *L. nylanderi slavonicus*. Given are the arithmetic mean, standard deviation and extreme values of several morphometric data and of the discriminant D(2).

	slavonicus (n=231)			nylanderi (n=204)		
	mean	SD	range	mean	SD	range
D(2)	1.0634	0.0377	0.980-1.181	0.9384	0.0266	0.850-0.998
HS	660.1	24.6	569-711	664.4	21.4	596-711
HL/HW	1.0524	0.0147	1.005-1.103	1.0553	0.0124	1.030-1.087
ISP	2.2006	0.1285	1.862-2.527	1.8902	0.0912	1.737-2.063
SPBA/HS	0.3049	0.0133	0.274-0.344	0.2689	0.0101	0.238-0.293
SPTI/HS	0.3781	0.0149	0.342-0.416	0.3353	0.0112	0.296-0.363
SPBA _{cor}	1.0635	0.0433	0.966-1.209	0.9356	0.0337	0.833-1.017
SPTI _{cor}	1.0632	0.0408	0.956-1.169	0.9411	0.0298	0.839-1.017

A sufficiently good discrimination of the queens of *slavonicus* and *nylanderi* was possible on the individual level and without allometric corrections. A linear discriminant D(4) to separate the queens was calculated as

$$D(4) = 6.11 \text{ SPBA/ML} + 6.00 \text{ SPTI/ML} - 0.75 \text{ ML/HS} + 0.10 \text{ ISP.}$$

The discriminant D(4) and other morphometric data of individual queens of *slavonicus* and *nylanderi* are shown in Table 2. All means shown in the table are significantly different for $p < 0.0001$. The *slavonicus* population from the S Bulgarian mountains has smaller ISP (1.710 ± 0.080) and SPTI/ML (0.2633 ± 0.0077) as usual for this taxon and was not considered in Table 2. This decrease of ISP and the lowered distance of spine tips is also found in the workers from this region ($\text{ISP } 1.836 \pm 0.118$, $\text{SPTI/HS } 0.3441 \pm 0.0182$).

Table 2 Data of 141 queens of *Leptothorax nylanderi nylanderi* and of 212 queens of *L. nylanderi slavonicus*. Given are the arithmetic mean, standard deviation and extreme values of several morphometric data and of the discriminant D(4).

	slavonicus (n=212)			nylanderi (n=141)		
	mean	SD	range	mean	SD	range
D(4)	1.0577	0.0324	0.982-1.135	0.9404	0.0269	0.867-1.011
ML	1171.6	35.8	1034-1284	1193.1	43.9	1018-1274
SPBA/ML	0.2864	0.0128	0.260-0.330	0.2487	0.0098	0.216-0.270
SPTI/ML	0.2902	0.0134	0.249-0.324	0.2490	0.0098	0.230-0.274
ML/HS	1.5714	0.0288	1.488-1.672	1.6109	0.0300	1.519-1.689
ISP	1.9730	0.1381	1.59-2.46	1.7735	0.1506	1.40-2.23

4.4. The contact zone of *slavonicus* and *nylanderi* in Germany

Fig. 19 shows the distribution of *slavonicus* and *nylanderi* in the German countries Sachsen, Sachsen-Anhalt and Thüringen. In this region, the distributional border between both taxa is more or less parallel to the Elbe river. It goes from SE to NW in Sachsen and turns north in Sachsen-Anhalt. The distribution in Mecklenburg-Vorpommern and Niedersachsen is poorly studied. The few records of *nylanderi* from the western part of Mecklenburg-Vorpommern suggest that the distributional border could approximately run from Magdeburg north to Schwerin. The basic picture of distribution of *nylanderi/slavonicus* in Germany shows similarities to such avian examples as *Corvus coronelC. cornix* and *Luscinia megarhynchos/L. luscinia* or to such as the house mouse siblings *Mus musculus/domesticus*. This suggests to common traits in the distributional history of all these taxa during the Pleistocene and the postglacial period.