Tab. 1: Morphometric data of individual workers of *F. lugubris, paralugubris* and *aquilonia*. Given are the arithmetic mean, the standard deviation and the extreme values. CL/CW_{1750} is a size-corrected head length index which predicts the situation in a sample with all individuals having the same size of CL = 1 750 µm.

	Formica lugubris (n=197)		*Formica paralugubris* (n=184)		*Formica aquilonia* (n=116)	
	mean ±SD	[min, max]	mean ±SD	[min, max]	mean ±SD	[min, max]
CL	1847 ±205	[1341,2219]	1757 ±125	[1341,2025]	1706 ±131	[1288,1935]
CL/CW	1.097 ±0.031	[1.026,1.195]	1.094 ±0.022	[1.041,1.156]	1.107 ±0.020	[1.056,1.159]
SL/CL	0.848 ±0.022	[0.796,0.901]	0.865 ±0.018	[0.815,0.909]		
mPNHL	103.9 ±14.3	[63.6,149.5]	76.6 ±13.0	[44.6,127.0]	40.8 ±13.2	[0,67.9]
nMET	10.36 ±2.79	[4,18]	6.46 ±2.23	[1,12]	1.88 ±1.47	[0,6.5]
METHL	188.2 ±25.1	[121,265]	151.9 ±18.2	[101,205]	89.8 ±50.3	[0,168]
nSC	2.29 ±3.27	[0,18]	5.63 ±5.73	[0,23]	0.14 ±0.39	[0,2.0]
nOCC	23.0 ±7.11	[5,40]	24.9 ±5.83	[9,39]	6.47 ±4.74	[0,21]
CL/CW_{1750}	1.108 ±0.019	[1.063,1.150]	1.094 ±0.018	[1.047,1.140]	1.103 ±0.018	

Tab. 2: Distribution of nest sample means of morphometric data of workers of *F. lugubris, paralugubris*, and *aquilonia*. $D_{L/P}$ = 0.53 mPNHLcor + 0.32 METHLcor + 0.20 nMETcor − 0.04 nSCcor and offers a perfect separation of the sibling species *lugubris* and *paralugubris*.

	Formica lugubris (n=37)		*Formica paralugubris* (n=38)		*Formica aquilonia* (n=23)	
	mean ±SD	[min, max]	mean ±SD	[min, max]	mean ±SD	[min, max]
CL	1859 ±133	[1439,2062]	1754 ±76	[1555,1861]	1706 ±66	[1570,1837]
mPNHL	104.9 ±9.8	[85.7,121.4]	76.6 ±5.4	[67.5,86.9]	40.7 ±9.7	[14.9,53.0]
nMET	10.55 ±1.88	[6.4,14.2]	6.37 ±1.53	[4.1,9.3]	1.86 ±1.00	[0.1,4.0]
METHL	190.6 ±16.6	[153.8,224.7]	151.7 ±9.8	[134.2,171.3]	89.5 ±33.0	[15.4,130.8]
nOCC	23.11 ±3.90	[15.6,32.0]	24.93 ±3.31	[18.2,31.6]	6.44 ±3.41	[1.0,12.2]
nSC	2.11 ±2.41	[0,12.4]	5.69 ±3.18	[0,12.2]	0.14 ±0.30	[0,1.2]
mPNHLcor	1.138 ±0.089	[0.974,1.320]	0.854 ±0.057	[0.751,0.966]		
nMETcor	1.156 ±0.153	[0.812,1.454]	0.759 ±0.168	[0.443,1.132]		
METHLcor	1.096 ±0.075	[0.935,1.336]	0.908 ±0.048	[0.836,1.025]		
nSCcor	0.548 ±0.617	[0,3.154]	1.314 ±0.865	[0,3.693]		
$D_{L/P}$	1.165 ±0.075	[1.031,1.339]	0.841 ±0.051	[0.711,0.979]		

3. Results

3.1. The numeric separation of *F. paralugubris* from *F. lugubris* and *F. aquilonia*

The separation of *F. paralugubris* from *F. aquilonia* seems to be a minor problem in both workers and queens. At least in the region of the Alps, the number of standing setae on occipital margin of head and the mean length of pronotal setae are very powerful discriminators. Within 23 nest samples of *F. aquilonia* workers, the maxima of nOCC and mPNHL are only 12.2 and 53.0 respectively. In contrast, within 38 nest samples of *paralugubris*, the lower extremes of nOCC and mPNHL are as big as 18.2 and 67.5. In queens, the individual values of nOCC range from 0 to 8 (3.04 ± 2.93) in *aquilonia* and from 9.5 to 39 (23.6 ± 6.0) in *paralugubris*. Additional characters, which may improve the separation, are given in the Tables 1–3.