

Table S1 The number and proportion of rare alleles (allele frequency < 0.05) in 13 nine-spined stickleback populations

using 109 microsatellite markers.

| Population | Total number of alleles | The number of rare alleles | Proportion of rare alleles |
|------------|-------------------------|----------------------------|----------------------------|
| Hel (M) | 760 | 399 | 0.53 |
| Sbol (M) | 757 | 392 | 0.52 |
| Lev (M) | 765 | 395 | 0.52 |
| Kro (L) | 647 | 267 | 0.41 |
| Ska (L) | 266 | 45 | 0.17 |
| Por (L) | 397 | 159 | 0.40 |
| L1 (L) | 266 | 68 | 0.26 |
| Rah (L) | 524 | 245 | 0.47 |
| Byn (P) | 240 | 39 | 0.16 |
| Pyo (P) | 164 | 25 | 0.15 |
| Rbol (P) | 656 | 299 | 0.46 |
| Ryt (P) | 253 | 62 | 0.25 |
| Mat (R) | 507 | 146 | 0.29 |

M, marine; L, lake; P, pond; R, river. The population abbreviations are defined in Table 1.