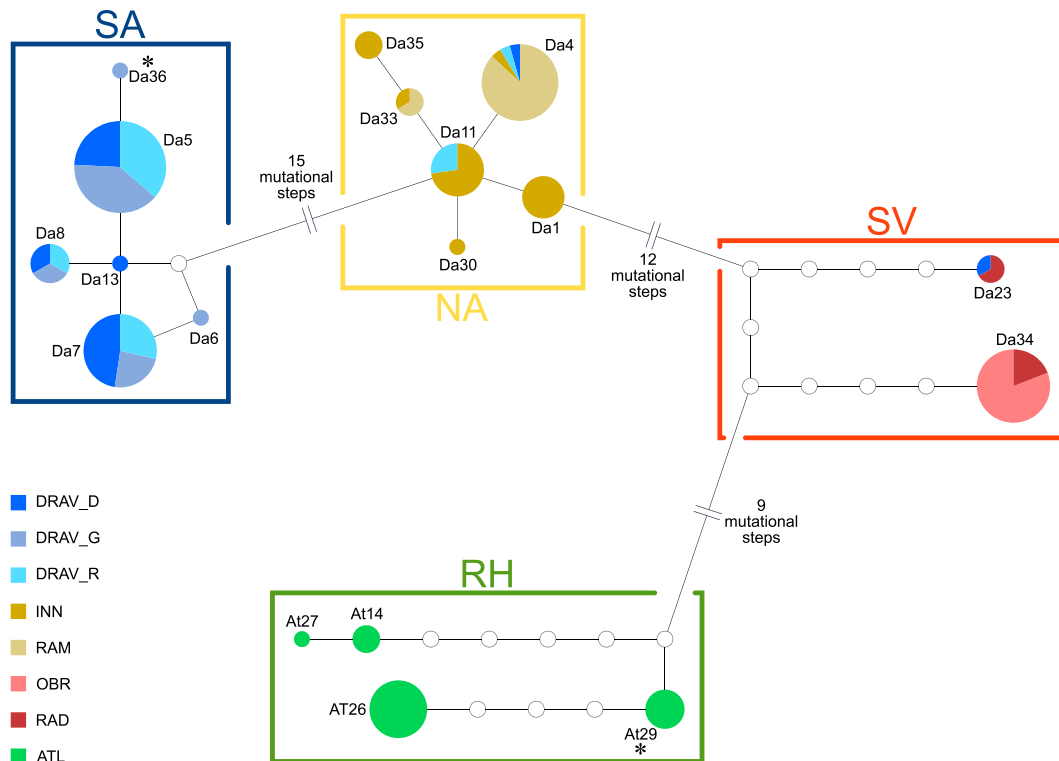


Online Material

Figure Online resource 1

TCS network (Clement et al., 2000) built on the 1101 bp alignment of mtDNA CR haplotypes, considering gaps as a 5th state. Each circle represents a different mtDNA haplotype, with size proportional to the number of individuals sharing that particular haplotype and colors referring to the geographic distribution of a particular haplotype in the investigated sampling sites. Empty circles represent haplotypes undetected in the present study; each segment joining two haplotypes represents a single mutation. The star symbol (*) highlights new haplotypes, described for the first time in the present study.

**Online resource 2**

Summary statistics, fixation index and analysis of molecular variance of four grayling samples (two adult and two fry samples) from the Adige River, Northern Italy, based on the same 15 microsatellite loci used in the present paper.

All statistics were calculated in ARLEQUIN v3.5.1.2 (Excoffier and Lischer, 2010).

Table 1 OR

Sample description, drainage system, basin, age class, mean number of alleles (A) as well as expected (H_G) and observed (H_O) heterozygosities, including standard deviation.

Sample name	N.	Drainage	Basin	Age class	Standard genetic indices		
					A. (SD)	He (SD)	Ha (SD)
ADI_a	26	Adige River	Adriatic	(sub)adult*	6.93 (4.06)	0.63 (0.20)	0.49 (0.24)
ADI_b	23	Adige River	Adriatic	(sub)adult*	7.40 (4.15)	0.65 (0.22)	0.51 (0.25)
ADI_fry_a	24	Adige River	Adriatic	fry**	6.53 (3.93)	0.63 (0.21)	0.57 (0.30)
ADI_fry_b	17	Adige River	Adriatic	fry**	7.00 (3.95)	0.67 (0.20)	0.52 (0.23)

* specimens >300 mm standard length.

** young of the year, sampled from May to June.

Table 2 OR

Fixation index (F_{ST}) below diagonal and respective p -values above diagonal.

	ADI_a	ADI_b	ADI_fry_a	ADI_fry_b
ADLa		0.45	0.51	0.83
ADI_b	0.004		0.17	0.36
ADI_fry_a	0.002	0.008		0.39
ADI_fry_b	-0.001	0.007	0.005	

Table 3 OR

Analysis of molecular variance (AMOVA). Two groups were defined according to the age class of the respective sample, i.e. adult vs. fry samples.

Source of var.	Sum of square	Variance comp.	% var.	Fixation index	p-value
among groups	5.409	-0.002	<i>V_a</i>	-0.050	1.000
among pops. within groups	11.224	0.003	<i>V_b</i>	0.060	0.414
among fish within pops.	471.278	0.809	<i>V_c</i>	17.330	0.00
within fish	347.500	3.861	<i>V_d</i>	82.660	0.00
Total	835.411	4.671		100.000	