The following supplement accompanies the article

Temporal, spatial, and interspecific variation in geochemical signatures within fish otoliths, bivalve larval shells, and crustacean larvae

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Supplement. Selected methods of the studies from which data were used (Table S1) and importance of elements used to discriminate among sites, sampling years, and sampling seasons (Fig. S1).

Table S1. Selected methods for the original studies referenced in Table 1 in the main text. All studies used common trace-elemental analysis techniques such as sterile preparation, acid-washing of all materials that come in contact with samples, instrument calibration, and blank-subtraction of all samples. Because of significant differences in analytical methods and laboratories, all comparisons among studies were done using non-parametric rank order (ranks within each study). No direct comparison of analyzed values was made. ICP-AES: inductively coupled plasma atomic emission spectroscopy, ICP-MS: inductively coupled plasma mass spectrometry, NIST: National Institute of Standards and Technology, UC: University of California

Species	Common name	Study	Laboratory	Instrument	Model	Induction method	Standards	Mean reproducibility (%) (all elements)	Life stage	Sample collection	Sample years	Sample months	Sample sites	Mean sample size per site
Hypsypops rubicundus	Garibaldi	Cook (2011)	UC Santa Barbara	Thermoquest Finnigan ICP-MS	Element 2	Laser ablation	NIST glass (612), $CaCO_3$ (MACS3)	6.2	Embryonic otoliths	Benthic nests	2008, 2009	May–Aug	7	27 larvae
Ostrea lurida	Olympia oyster	Carson (2010)	UC Davis	Agilent ICP-MS	7500 series	Laser ablation	NIST glass (612), $CaCO_3$ (MACS2)	10.2	Brooded larval shells	Inside adults	2006, 2007	May–Aug	8	7 broods (larvae as sub-samples)
Musculista senhousia	Asian mussel	López-Duarte et. al. (unpubl.)	Scripps Inst. Oceanogr.	Thermoquest Finnigan ICP-MS	Element 2	Laser ablation	NIST glass (612)	4.1	Larval shells	Outplanted 'homes'	2008	May, Nov	8	19 larvae
Mytilus californianus	California mussel	Becker et al. (2007), Carson et al. (2010)	Scripps Inst. Oceanogr.	Thermoquest Finnigan ICP-MS	Element 2	Laser ablation	NIST glass (612)	8.5	Larval shells	Outplanted 'homes'	2003–2009	May, Nov	9	17 larvae
Mytilus galloprovincialis	Bay mussel	Becker et al. (2007), Carson et al. (2010)	Scripps Inst. Oceanogr.	Thermoquest Finnigan ICP-MS	Element 2	Laser ablation	NIST glass (612)	8.5	Larval shells	Outplanted 'homes'	2003, 2005–2009	May, Nov	16	17 larvae
Mytilus spp.	Mussel	Becker et al. (2005)	Scripps Inst. Oceanogr.	Thermoquest Finnigan ICP-MS	Element 2	Laser ablation	NIST glass (612)	27.9	Juvenile shells	By hand	2001, 2002	Jan–Sep	1	56 juveniles
Mytilus spp.	Mussel	Fodrie et al. (2011)	Scripps Inst. Oceanogr.	Thermoquest Finnigan ICP-MS	Element 2	Laser ablation	NIST glass (612)	6.9	Juvenile shells	By hand	2002	Jan–Apr	2	90 juveniles
Pachygrapsus crassipes	Lined shore crab	DiBacco & Levin (2000)	Scripps Inst. Oceanogr.	Perkin-Elmer ICP-AES	Optima 3000XL	Solution	External standard solutions	2.4	Stage 1 zoea	Plankton net & pump	1997, 1998	Jun–Sep	15	25 larvae
Paralichthys californicus	California halibut	Fodrie & Levin (2008)	Scripps Inst. Oceanogr.	Thermoquest Finnigan ICP-MS	Element 2	Laser ablation	NIST glass (612)	11.8	Juvenile otoliths	Trawls and seines	2003, 2004	Oct, Nov	14	25 juveniles

Fig. S1. *Mytilus californianus* and *M. galloprovincialis*. Importance of elements used to discriminate among sites (diamonds), sampling years (squares), and sampling season (triangles). The SIMPER analysis was further divided between open coast (OC: filled symbols) and bay and lagoon habitats (Bay: open symbols). Percent contributions sum to 1 for each series of symbols