**Supplemental Data S2.** List of ISSR primers tested and used for the two focal crayfish species. Numbers listed under ‘ISSR primer name’ correspond to the UBC Primer Set 9 names (paper available on GitHub [www.github.com/btsinn/ISSRseq](http://www.github.com/btsinn/ISSRseq)). N/A = primers that did not yield polymorphic loci or reproducible gel phenotypes.

|  |  |  |  |
| --- | --- | --- | --- |
| ISSR primer name | Primer sequence (5’ to 3’) | Utility in this study | Number of loci scored |
| 844 | [CT]8RC | *F. erichsonianus* | 19 |
| 845 | [CT]8RG | N/A |  |
| RCG3 | [CA]8KC | N/A |  |
| RCG4 | [CA]8KG | N/A |  |
| RCG5 | [AAG]5YC | *F. validus* | 13 |
| RCG6 | [AAG]5YG | N/A |  |
| RCG7 | [CCT]5RC | N/A |  |
| RCG8 | [CCT]5RG | *F. validus* | 11 |
| RCG9 | [CAA]5SC | *F. erichsonianus* | 16 |
| RCG10 | [CAA]5SG | N/A |  |