Additional File 2. **Amino acid polymorphism in 40 unique partial *Pokey* transposase sequences.**

The sequences were derived from 53 *Pokey* elements obtained from members of the *Daphnia pulex* complex.Numbers at each position represent the number of sequences that carry this amino acid. Not all values sum to 40 as indels occurred in some sequences. The pink bar represents the amino sequence coded by the partial exon 1. The blue bar represents the amino sequence coded by exon 2. The dark blue regions with greek numbers represent estimated regions of recombination identified using maximum chi-square analysis (Additional File 3).

This figure is a position-specific residue (sequence conservation) alignment. Each column shows the dominant amino acid with its count (subscript) at the top, with less-frequent alternative residues and their counts listed below. Region markers (I, II, III and IV, V, VI) are labeled along the sequence.

Positions 5–40

$A_{40}F_{39}R_{40}V_{40}A_{40}S_{40}N_{40}Y_{40}H_{40}G_{40}S_{40}D_{26}I_{35}V_{40}K_{40}V_{40}R_{40}R_{40}K_{39}Q_{40}R_{40}D_{40}G_{40}S_{40}F_{40}R_{35}S_{35}K_{40}S_{40}C_{40}P_{40}K_{40}A_{40}I_{40}D_{40}Y_{38}V_{40}N_{40}N_{40}$

V_{1} $N_{4}\ L_{4}$ R_{1} $K_{4}\ T_{4}$

Positions 45–80

$M_{40}G_{40}G_{39}V_{40}D_{40}T_{40}A_{40}N_{40}Q_{39}L_{40}R_{40}S_{40}Y_{40}Y_{40}E_{40}R_{40}D_{40}R_{40}K_{40}A_{40}K_{40}K_{40}W_{40}W_{40}H_{39}R_{40}L_{40}L_{40}Y_{40}S_{40}L_{40}L_{40}E_{40}T_{40}C_{40}L_{40}V_{40}N_{40}S_{40}W_{40}$

R_{1} Q_{1}

Positions 85–120

$I_{40}C_{40}F_{40}N_{40}D_{40}M_{37}V_{40}E_{40}E_{40}N_{40}Y_{39}L_{40}E_{23}D_{17}F_{21}E_{40}V_{31}P_{40}M_{40}T_{40}F_{23}L_{40}E_{40}F_{40}K_{40}R_{40}N_{40}V_{39}T_{40}M_{40}G_{40}L_{40}L_{39}S_{40}H_{34}A_{23}L_{40}N_{40}E_{40}N_{23}$

I_{3} C_{1} $A_{14}A_{8}\ Y_{19}$ $L_{4}\ Q_{18}$ $P_{19}L_{17}$ A_{1} $Y_{4}\ S_{17}$ K_{17}

     $V_{3}\ S_{8}$ A_{3} Q_{2}

     N_{7} D_{2}

Positions 125–160

$K_{40}T_{19}Q_{21}A_{40}G_{40}R_{40}A_{40}G_{40}R_{40}M_{40}M_{25}P_{38}T_{34}I_{40}H_{40}P_{40}S_{40}A_{40}E_{39}P_{40}G_{40}A_{40}K_{40}R_{39}K_{40}S_{38}R_{39}L_{40}S_{40}V_{40}R_{40}D_{40}D_{25}I_{23}R_{40}F_{25}T_{24}G_{20}V_{40}$

$E_{10}K_{19}$ $K_{15}R_{2}\ S_{6}$ G_{1} R_{2} $Q_{8}\ F_{17}\ L_{15}S_{16}C_{19}$

V_{7} E_{7}

N_{4}

I

Positions 165–200

$G_{40}N_{19}H_{40}L_{40}P_{40}I_{39}F_{40}G_{40}E_{40}A_{40}R_{40}G_{40}R_{40}C_{40}E_{40}W_{40}C_{37}Q_{40}A_{37}T_{39}T_{33}P_{19}K_{28}L_{40}E_{40}S_{40}R_{40}P_{40}F_{40}S_{40}K_{39}C_{40}K_{40}Q_{40}C_{40}N_{40}V_{40}F_{40}L_{37}$

I_{15} F_{1} S_{2} $V_{3}\ A_{1}\ K_{7}\ G_{14}N_{7}$ V_{3}

L_{6} Y_{1} $K_{5}\ T_{5}$

     H_{2}

II

Positions 205–240

$C_{40}L_{40}G_{40}K_{40}K_{40}R_{40}N_{40}C_{40}F_{40}V_{40}E_{40}Y_{23}H_{40}D_{40}E_{26}N_{40}Y_{38}F_{16}Q_{16}S_{19}E_{40}E_{32}E_{5}A_{5}P_{40}L_{40}E_{20}E_{19}V_{40}E_{40}A_{40}V_{39}Y_{40}S_{40}A_{40}S_{39}E_{40}E_{40}S_{40}D_{40}$

F_{17} D_{14} C_{1} V_{15} D_{7} $D_{13}D_{17}$

     F_{5} G_{1} $A_{6}\ G_{3}$

     A_{1}

III and IV

Positions 245–280

$G_{40}Q_{40}A_{23}S_{40}D_{40}H_{40}E_{40}P_{40}T_{40}N_{40}K_{23}E_{40}C_{37}S_{40}S_{40}S_{39}S_{40}A_{40}D_{40}S_{39}D_{31}E_{31}L_{36}E_{39}D_{28}T_{16}D_{21}R_{4}R_{4}E_{4}G_{4}Y_{4}M_{4}I_{4}D_{4}D_{4}Y_{4}D_{4}D_{4}F_{4}$

V_{17} A_{15} F_{3} T_{1} $P_{1}\ Y_{9}\ G_{9}P_{4}\ D_{1}\ Y_{11}S_{12}N_{19}$

     E_{2} $H_{1}\ P_{10}$

       I_{1}

V   **VI**

Positions 285–295

$Q_{4}D_{4}R_{40}D_{32}G_{40}F_{21}V_{25}I_{39}D_{40}E_{31}Y_{40}D_{30}E_{25}F_{40}Q_{34}Q_{23}$

E_{8} $Y_{19}M_{8}F_{1}$ D_{9} $N_{10}D_{15}$ $L_{6}\ E_{17}$