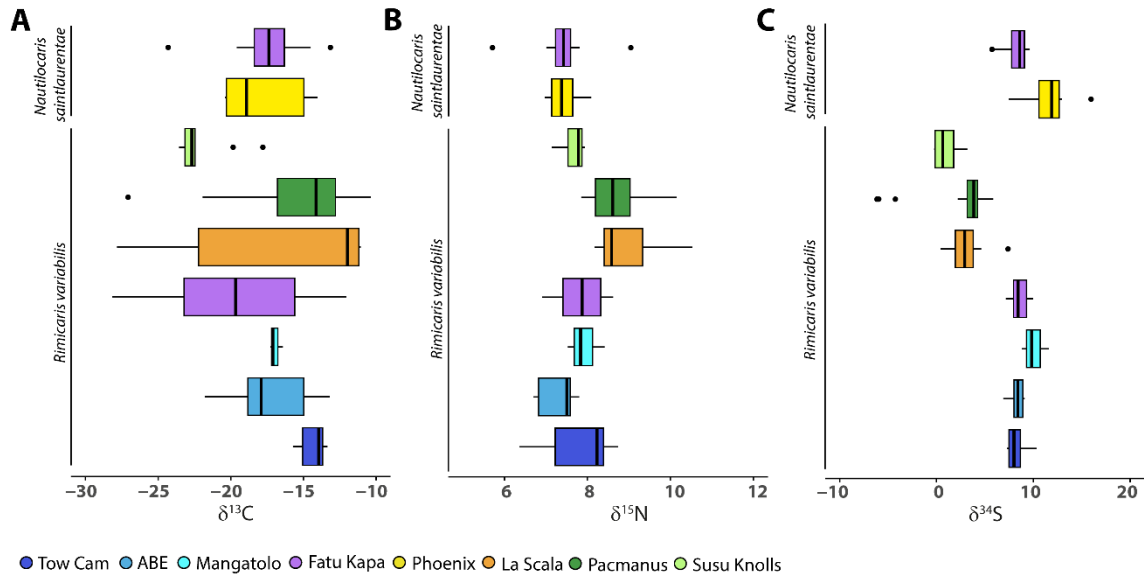
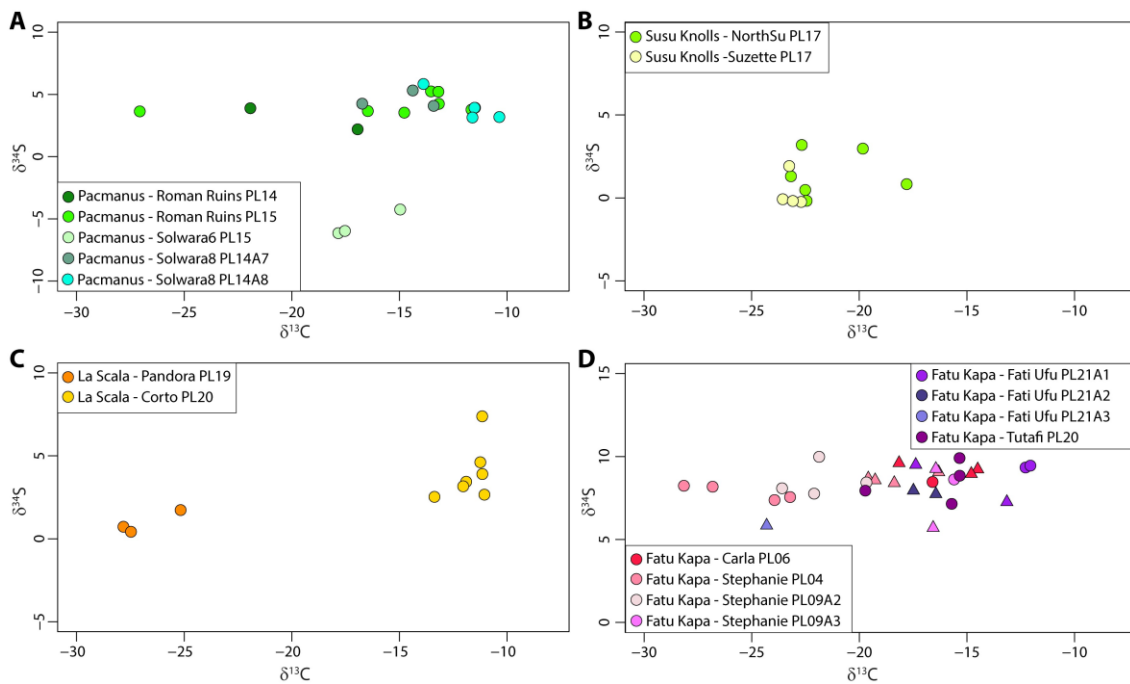


## Supplementary material



**Figure S1.** Isotopic ratios of alvinocaridids from Southwest Pacific basins for **A.** Carbon **B.** Nitrogen and **C.** sulfur.



**Figure S2.** Carbon and sulfur isotopic ratios of alvinocaridid shrimps highlighting sampling events at **A.** the Pacmanus field **B.** Susu Knolls field **C.** La Scala field **D.** Fatu Kapa field.

**Table S1.** Summary of alvinocaridid shrimp sampling and conducted analyses with individual GenBank Identifier.

**Table S2.** p-values of Dunn tests used for isotopic ratio comparisons ( $\delta^{13}\text{C}$ ,  $\delta^{15}\text{N}$ ,  $\delta^{34}\text{S}$ ) among alvinocaridid species and vent fields.

**Table S3.** Results from ANOVA-like permutation tests for RDA by term with 999 permutations for each hosting organs.

**Table S4.** Results from PERMANOVA tests of isotopic ratios with 999 permutations for each hosting organs.

**Table S5.** Best Blast hit results of Firmicutes ASVs from hosting organs of SW Pacific alvinocaridid shrimps.