Dimarco RDD and Fordyce JA, 2017, Not all toxic butterflies are toxic: High intra and interspecific variation in sequestration in subtropical swallowtail. Ecosphere.

Appendix S1

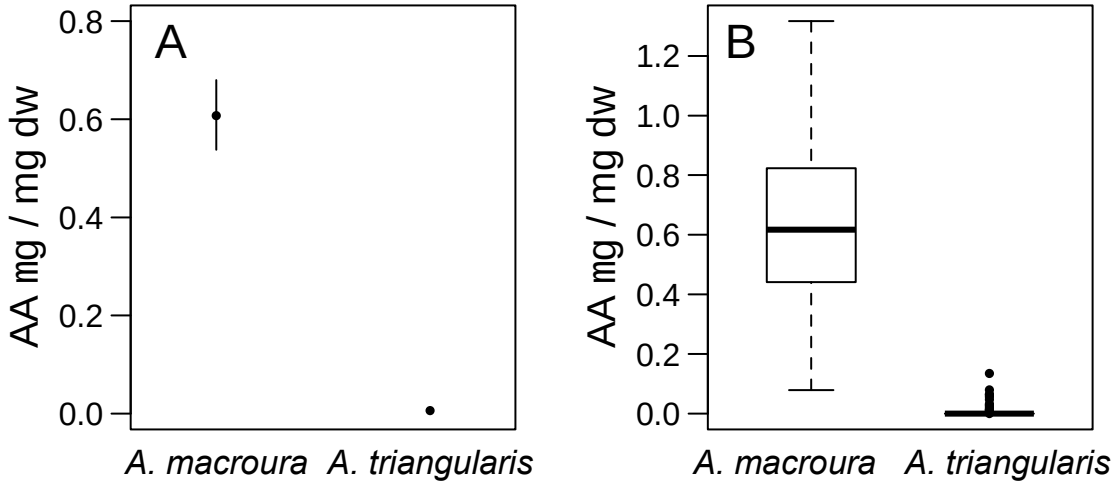
Ordinary least squares approach to analysis of aristolochic acid concentration in local Aristolochia spp.

Total aristolochic acid content was log(y+1) transformed. Concentrations of aristolochic acid that were too low to reliable quantify were treated as zero concentration. These data were fit to a linear model with species identity as a predictor of aristolochic acid content, followed by analysis of variance (ANOVA). *A. macroura* was more likely than *A. triangularis* to have quantifiable aristolochic acids ($\chi^2 = 53.929$, df = 1, $P < 0.001$). *A. macroura* had a significantly higher concentration of aristolochic acid compare to *A. triangularis* (Table S1; Fig. S1 A and B).

Table S1. ANOVA table.

Source	DF	SS	MS	*F*	P
Species	1	4.023	4.023	440.1	<0.001
Error	112	1.024	0.009		

Fig. S1. A. Mean (+/- SE) aristolochic acid concentration (back-transformed after calculating +/- SE on log(y+1) scale. B. Boxplot showing data.



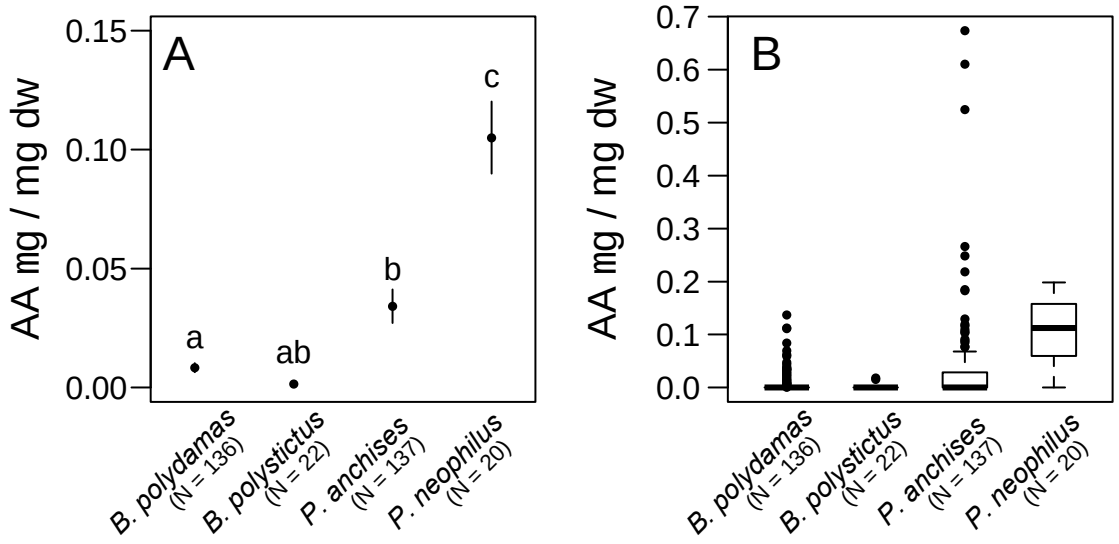
Ordinary least squares approach to analysis of aristolochic acid concentration in local troidine.

Total aristolochic acid content was log(y+1) transformed. Concentrations of aristolochic acid that were too low to reliable quantify were treated as zero concentration. These data were fit to a linear model with species identity as a predictor of aristolochic acid content followed by analysis of variance (ANOVA). Aristolochic acid concentration varied among *Battus* species (Table S2; Fig. S2).

Table S2. ANOVA table

Source	DF	SS	MS	*F*	P
Species	3	0.204	0.068	14.41	<0.001
Error	311	1.469	0.005		

Fig. S2 A. Mean aristolochic acid content of four Troidini species (back-transformed after calculating +/- SE on log(y+1) scale. Different letters indicate different AA concentration (α = 0.05) using Tukey's HSD. B. Boxplot showing data.



Ordinary least squares approach to sequestration ability of P. anchises and B. polydamas.

Total aristolochic acid content was log(y+1) transformed. These data were fit to a linear model with diet treatment and butterfly species identity as a predictor of aristolochic acid content followed by analysis of variance (ANOVA) (Table S3; Fig. S3). The effect of diet treatment for each species was analyzed separately following detection of a significant interaction term. Both *B. polydamas* and *A. anchisis* had significantly more aristolochic acid when feeding on *A. macroura* and *A. triangularis* supplemented with aristolochic acid compared to those feeding on *A. triangularis* ($F_{2,6}$ = 20.348, P = 0.002) and ($F_{2,25}$ = 35.042, P < 0.001) , for *B. polydamas* and *P. anchisis*, respectively). For both species, Tukey's HSD (honest significant difference) tests failed to find a difference in aristolochic acid content between individuals reared on *A. macroura* and *A. triangularis* supplemented with aristolochic acid. Both species sequestered more aristolochic acid when feeding on *A. macroura* and AA-supplemented *A. triangularis*, compared to control *A. triangularis* (etOH only). *P. anchisis* sequestered more aristolochic acids compared to *B. polydamas* when aristolochic acids were present in, or on the plant.

Table S3. ANOVA table.

Source	DF	SS	MS	*F*	P
Diet	2	0.014	0.007	35.91	< 0.001
Species	1	0.002	0.002	12.61	0.001
D x S	2	0.003	0.001	7.69	0.002
Error	31	0.006	0.0001		

Fig. S3. Mean aristolochic acid content (+/- SE). Open circles indicate *P. anchisis.* Closed circles indicate *B. polydamas*.

