

Supplemental Table S1. Genbank IDs for all loci used for molecular tree generation. We were unable to obtain genetic information from *C. ixoides*.

	16S	COI	18S	28S
<i>A. argentata</i>	FJ607446.1	FJ607554.1	FJ607480.1	FJ607519.1
<i>A. trifasciata</i>	MK420199.1	FJ525316.1	FJ525386.1	MK425972.1
<i>C. akermani</i>	PP377646	PP359446	PP377642	PP377644
<i>C. akirai</i>	PP355199	AB820892.1	AB910450.1	AB910481.1
<i>C. bufo</i>	MK420214.1	AB820871.1	AB910451.1	AB910482.1
<i>C. nagasakiensis</i>	MK420216.1	MK420096.1	AB910457.1	AB910488.1
<i>C. yunoharuensis</i>	MK420217.1	MK420097.1	AB910459.1	AB910490.1
<i>G. cancriformis</i>	FJ525354.1	FJ525321.1	FJ525391.1	FJ525373.1
<i>L. cornutus</i>	MK420237.1	FJ525322.1	EU003349.1	JN816940.1
<i>M. hutchinsoni</i>	MK420246.1	MK420131.1	MK426129.1	MK426009.1
<i>P. walleri</i>	PP377647	PP359447	PP377643	PP377645
<i>T. clavipes</i>	MK420256.1	MK420140.1	MK426138.1	MK426047.1
<i>T. versicolor</i>	FJ525350.1	FJ525317.1	FJ525387.1	FJ525369.1

Supplementary Figures:

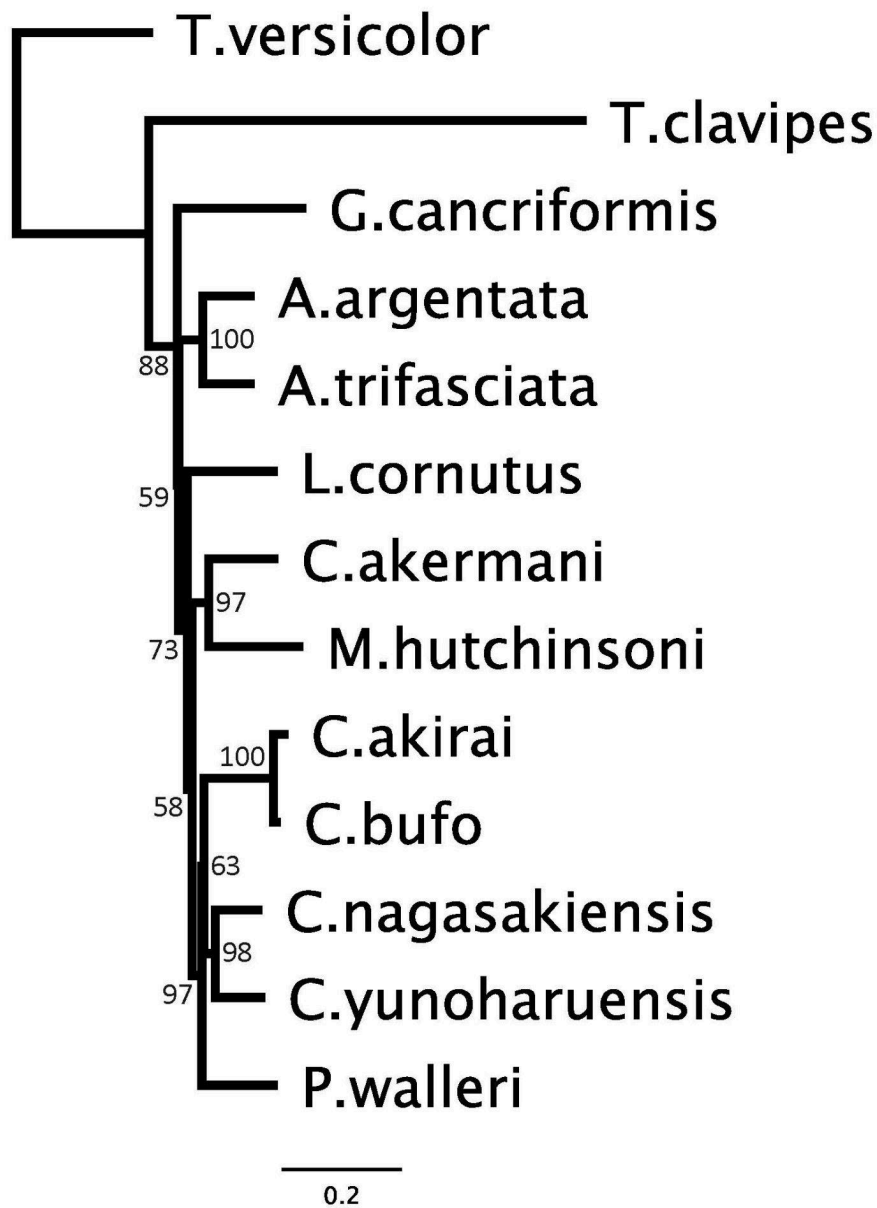


Figure S1. Phylogenetic tree. Relationships were generated from 16s, COI, 18s, and 28s loci (see Table S1). Genetic material from the moth-specialist species were collected as part of this study, while generalist species were taken from previous studies [43, 49, 50, 51]. We were unable to obtain genetic information from *C. ixoides*. *T. versicolor* was used as an outgroup in this tree; since its aggregate glue was not studied, it was not included in the main set of figures.

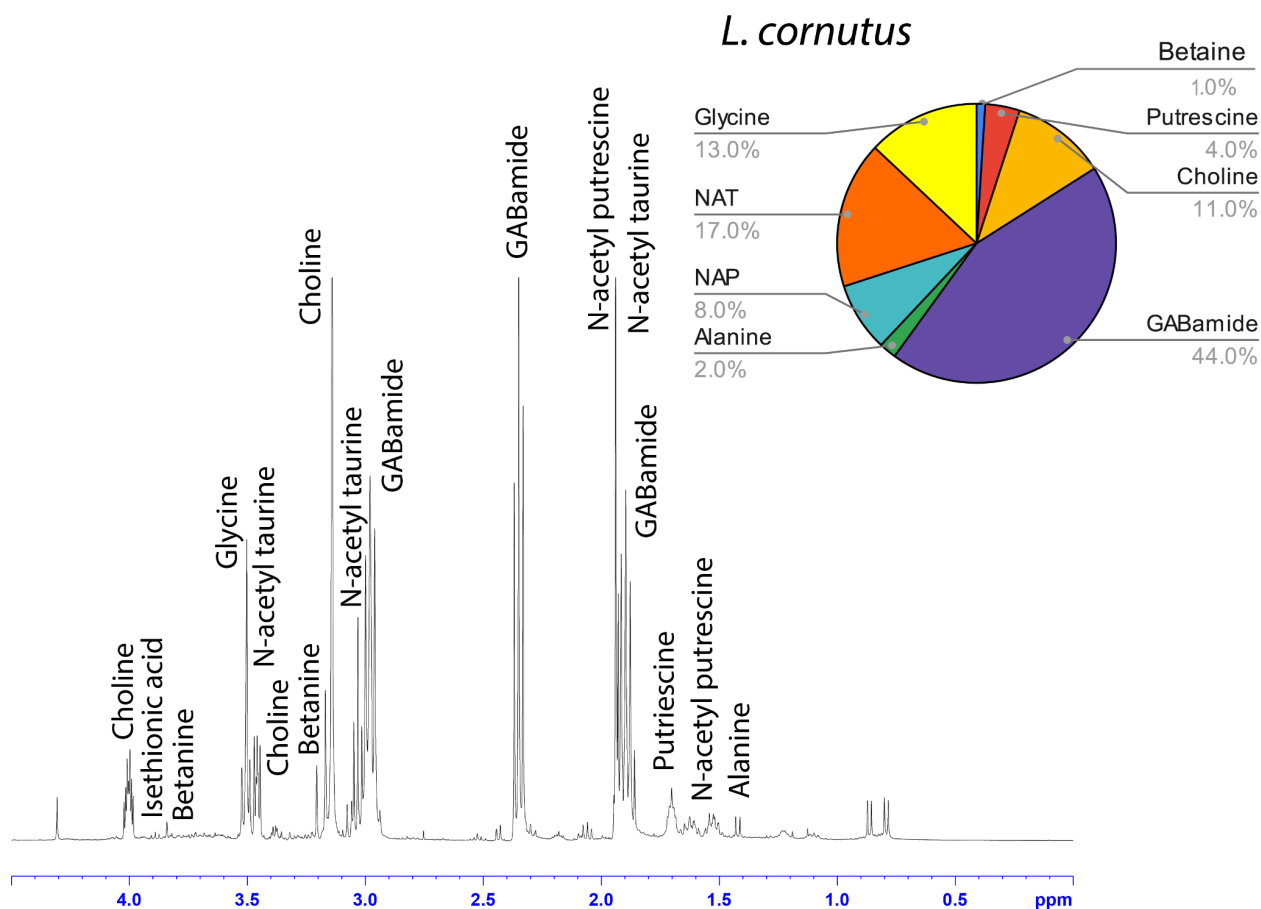


Figure S2. ¹H solution state 400-MHz NMR spectrum of water soluble LMMCs dissolved in D₂O from the aggregate glue of *L. cornutus*. Labeled peaks have been identified by comparison to Jain et al. (2018). The color-coded pie chart displays the relative abundance of each LMMC extracted from the aggregate glue. The abbreviation NAP stands for NAP, *N*-acetylputrescine and NAT stands for *N*-acetyltaurine.

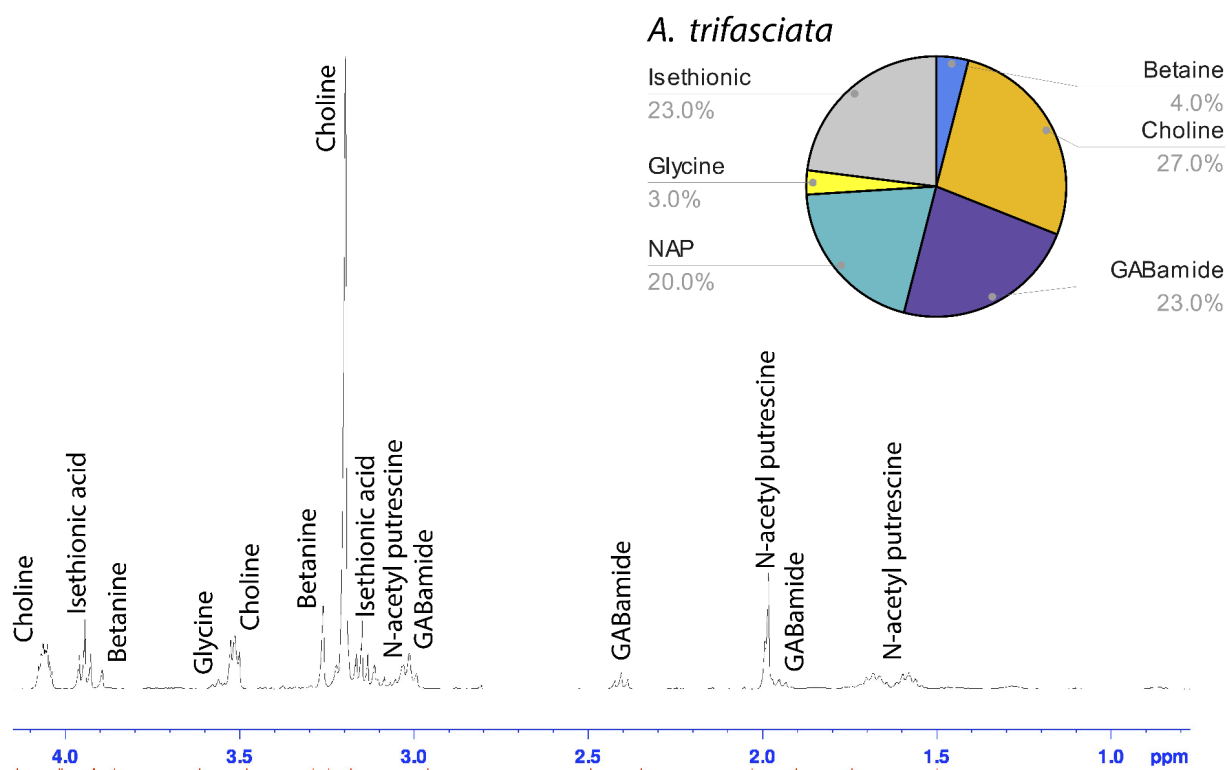


Figure S3. ¹H solution state 400-MHz NMR spectrum of water soluble LMMCs dissolved in D₂O from the aggregate glue of *A. trifasciata*. Labeled peaks have been identified by comparison to Jain et al. (2018). The color-coded pie chart displays the relative abundance of each LMMC extracted from the aggregate glue. The abbreviation NAP stands for NAP, *N*-acetylputrescine.

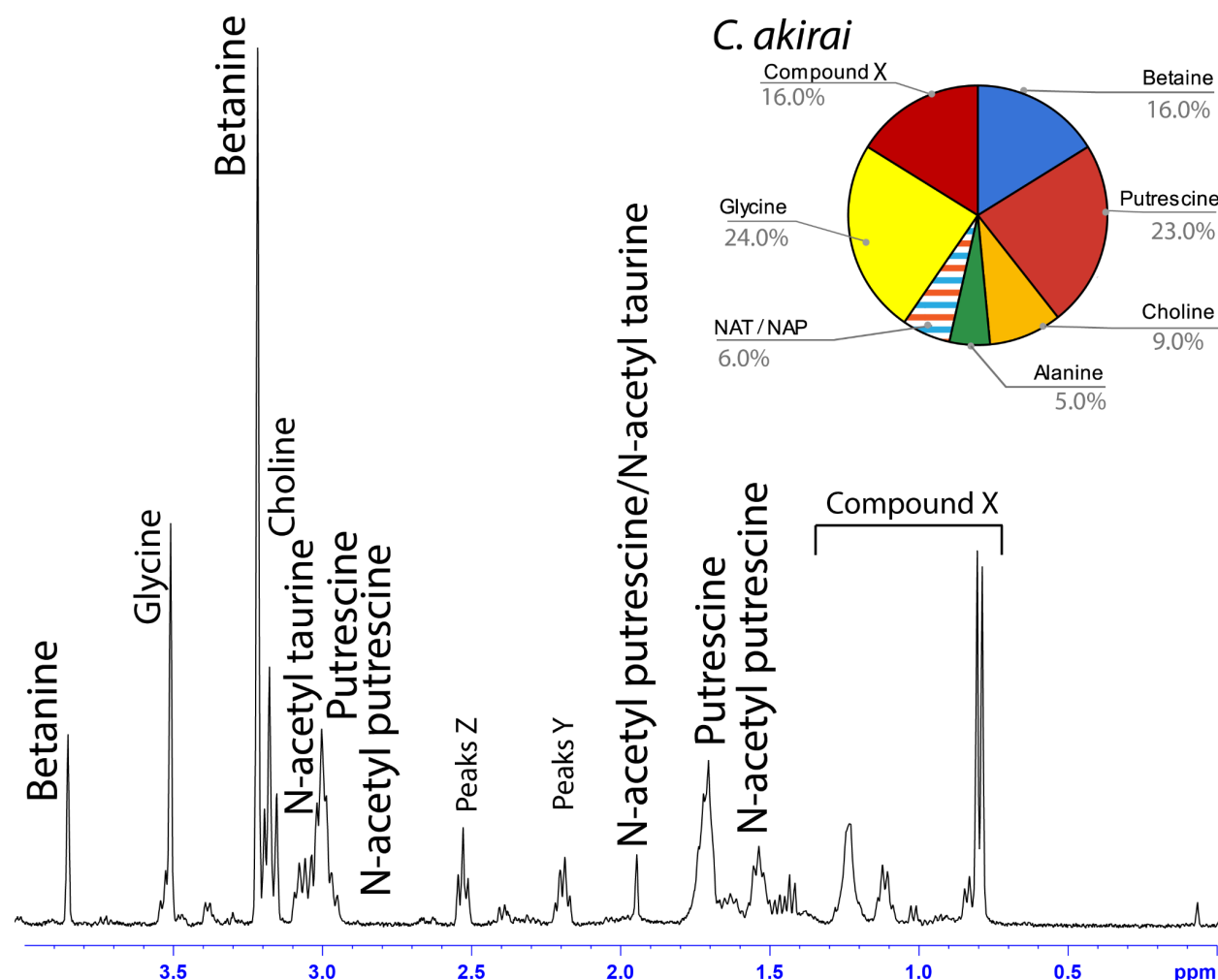


Figure S4. ^1H solution state 400-MHz NMR spectrum of water soluble LMMCs dissolved in D_2O from the aggregate glue of *C. akirai*. Labeled peaks have been identified by comparison to Jain et al. (2018). The color-coded pie chart displays the relative abundance of each LMMC extracted from the aggregate glue. We were unable to measure the percentages of peaks Y and Z. The abbreviation NAP stands for NAP, *N*-acetylputrescine and NAT stands for *N*-acetyltaurine. Due to peak overlap, we were not able to estimate NAT and NAP separately.

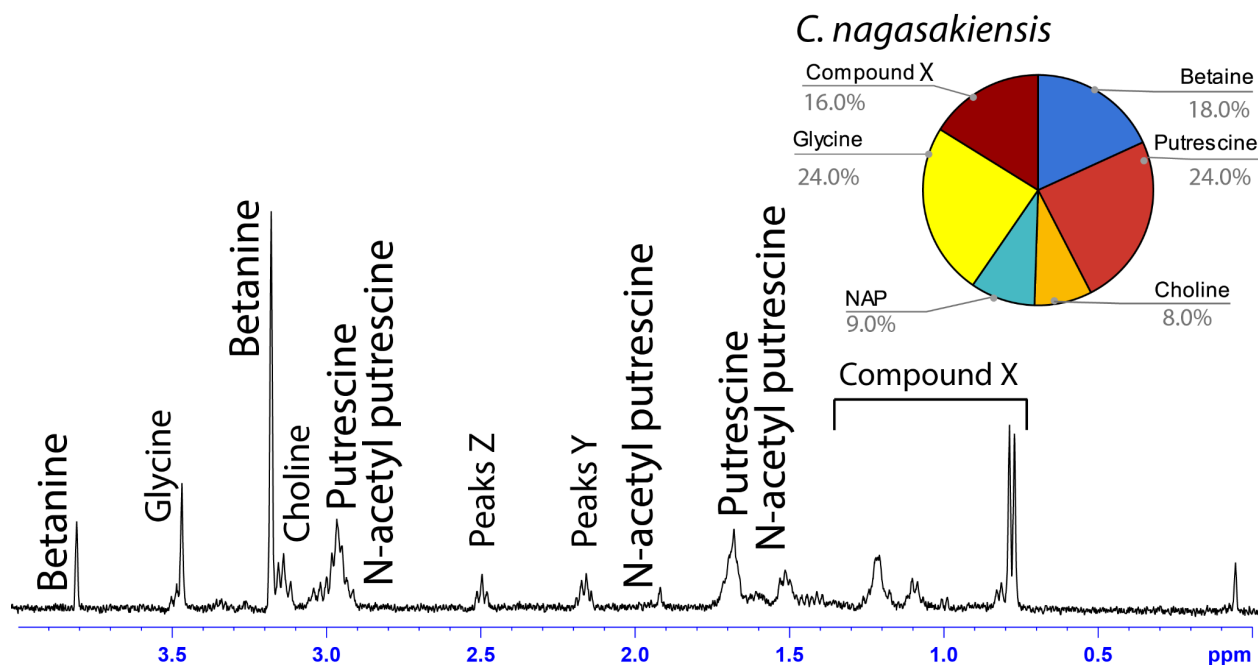


Figure S5. ^1H solution state 400-MHz NMR spectrum of water soluble LMMCs dissolved in D_2O from the aggregate glue of *C. nagasakiensis*. Labeled peaks have been identified by comparison to Jain et al. (2018). The color-coded pie chart displays the relative abundance of each LMMC extracted from the aggregate glue. We were unable to measure the percentages of peaks Y and Z. The abbreviation NAP stands for NAP *N*-acetylputrescine.

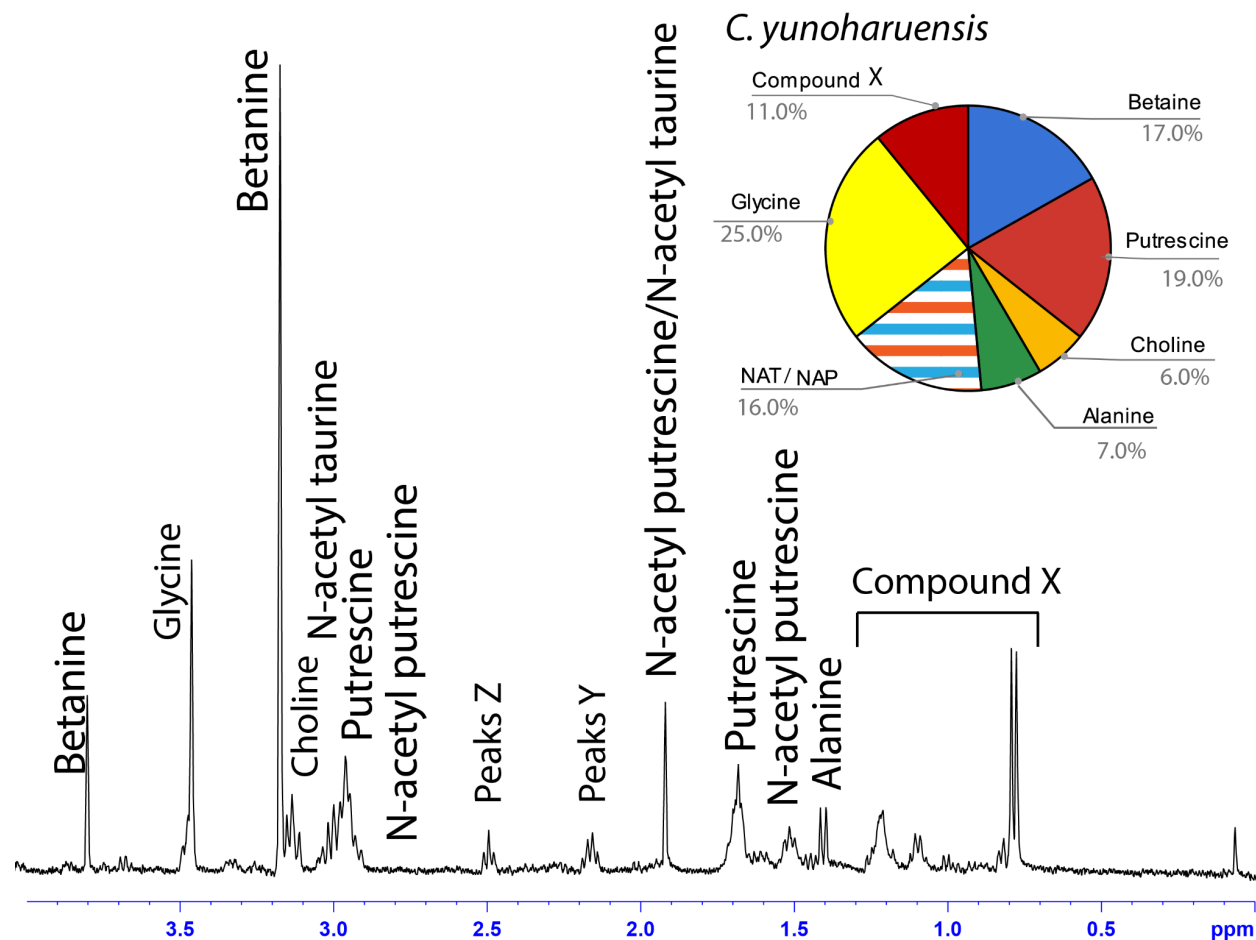


Figure S6. ^1H solution state 400-MHz NMR spectrum of water soluble LMMCs dissolved in D_2O from the aggregate glue of *C. yunoharuensis*. Labeled peaks have been identified by comparison to Jain et al. (2018). The color-coded pie chart displays the relative abundance of each LMMC extracted from the aggregate glue. We were unable to measure the percentages of peaks Y and Z. The abbreviation NAP stands for NAP, *N*-acetylputrescine and NAT stands for *N*-acetyltaurine. Due to peak overlap, we were not able to estimate NAT and NAP separately.

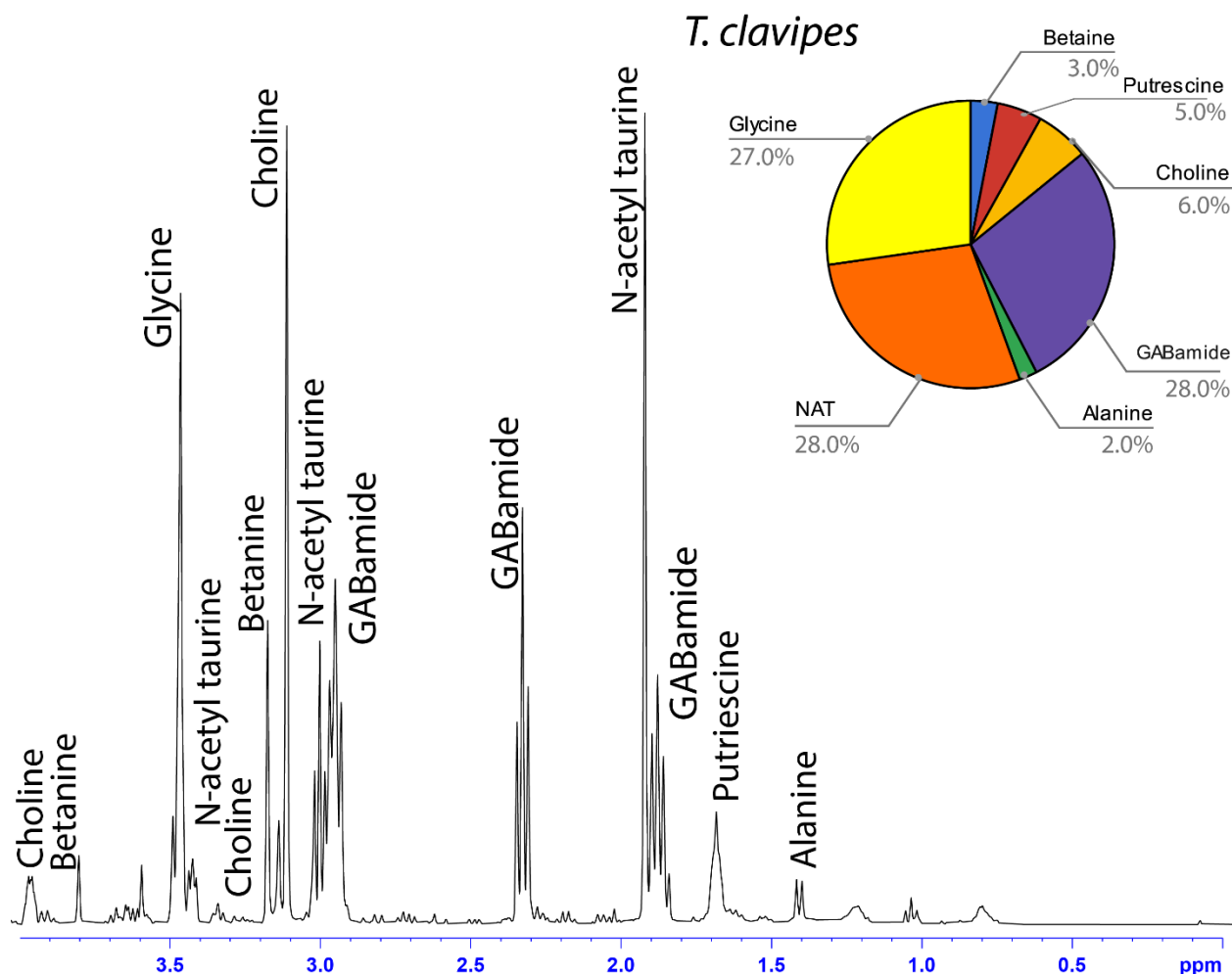


Figure S7. ^1H solution state 400-MHz NMR spectrum of water soluble LMMCs dissolved in D_2O from the aggregate glue of *T. clavipes*. Labeled peaks have been identified by comparison to Jain et al. (2018). The color-coded pie chart displays the relative abundance of each LMMC extracted from the aggregate glue. We were unable to measure the percentages of peaks Y and Z. The abbreviation NAT stands for *N*-acetyltaurine.

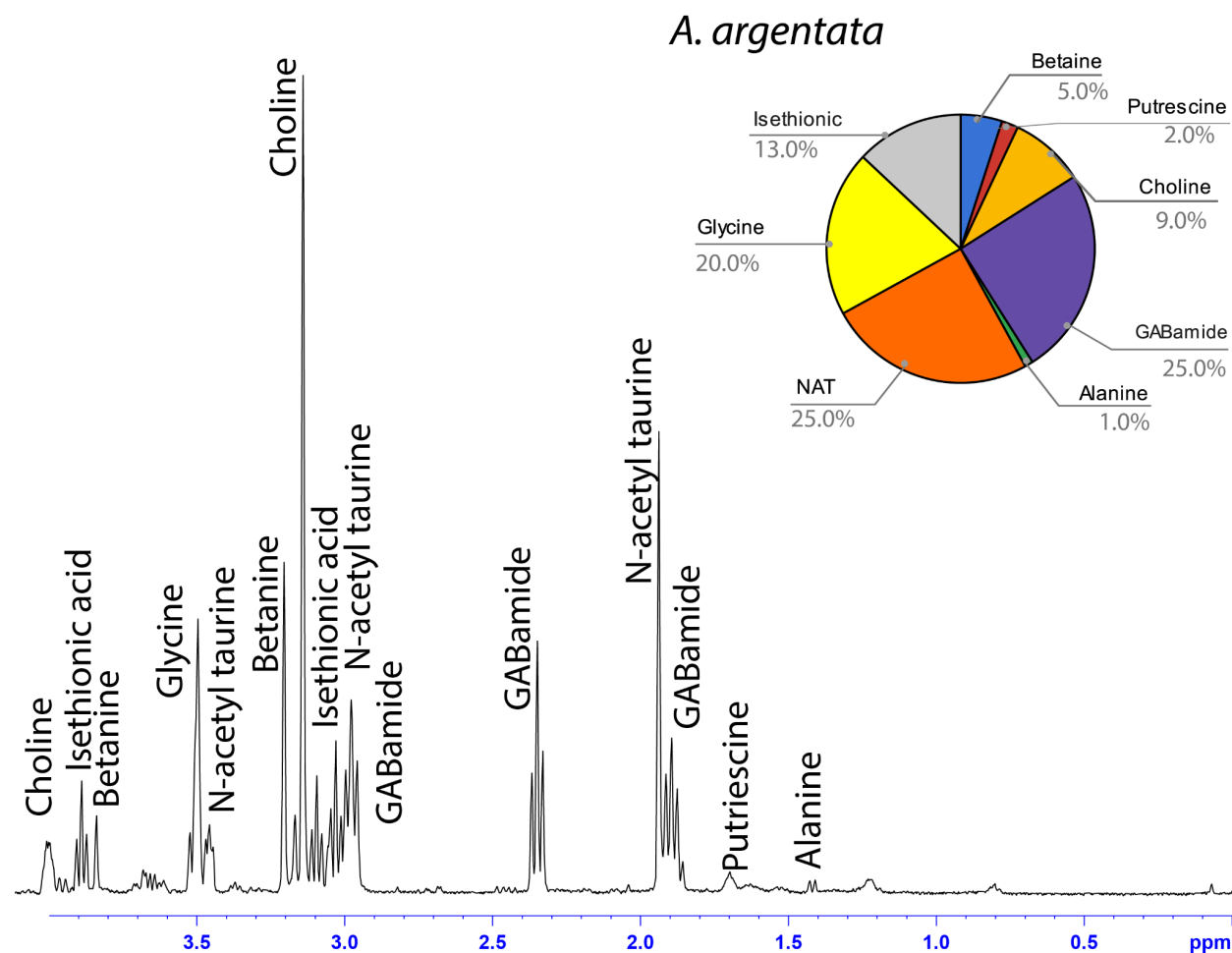


Figure S8. ¹H solution state 400-MHz NMR spectrum of water soluble LMMCs dissolved in D₂O from the aggregate glue of *A. argentata*. Peaks that have been identified by comparison to previously studied species are labeled. The spectrum is accompanied by a color coded pie chart that displays the relative abundance of each LMMC extracted from the aggregate glue. NAT, *N*-acetyltaurine.

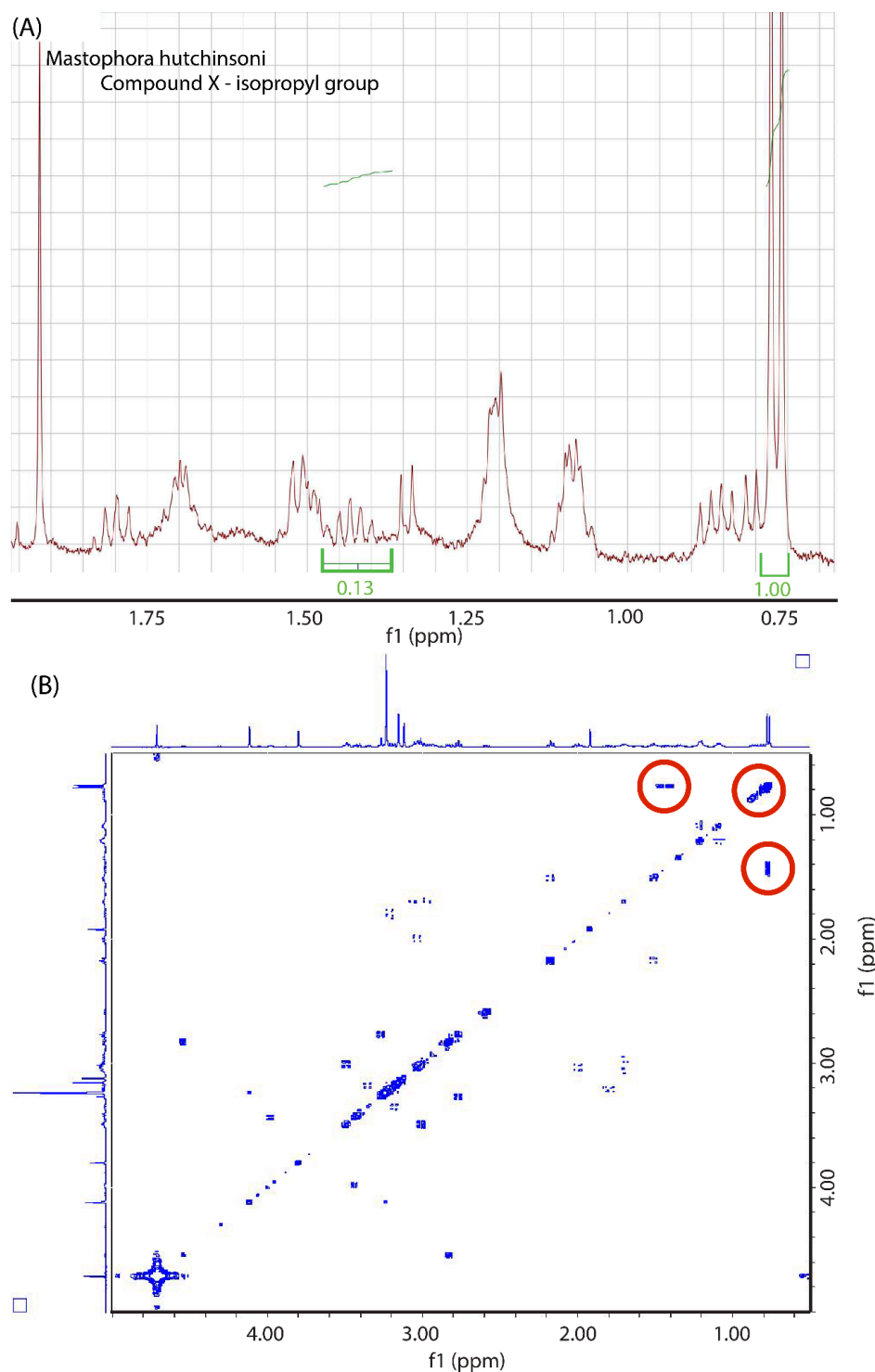


Figure S9. Identification of an isopropyl splitting/coupling pattern observed in the aggregate glue of *M. hutchinsoni*. (A) ^1H Solution State 400 MHz NMR spectrum of water soluble LMMCs dissolved in D_2O from the aggregate glue of *M. hutchinsoni* displaying the relative integrations of the coupled doublet and septet peaks located at 0.8 ppm and 1.5 ppm, respectively. (B) ^1H - ^1H NMR Correlation Spectroscopy 2D NMR spectrum of water soluble LMMCs dissolved in D_2O from the aggregate glue of *M. hutchinsoni*.