

1116-VP-2579      **Jeffrey B Gaither\*** ([gaither.16@mbi.osu.edu](mailto:gaither.16@mbi.osu.edu)), Mathematical Biosciences Institute, The Ohio State University, Jennings Hall 3rd Floor, 1735 Neil Ave, Columbus, OH 43210. *Rooted triplets in species tree inference: some new results on construction and application.*

We present some results on triplet-based methods for the inference of species trees. A triplet is a species tree which includes exactly three leaves; when rooted, it tells us which of the three pairs of species shares the most recent common ancestor. We present some new findings on how triplets can be computed from raw genetic data, and also about how a species tree can be inferred once we have the triplets. Our methodology depends ultimately on the stochastic process which underlies nucleotide substitution, and draws on techniques from both Bayesian and non-Bayesian reasoning. (Received September 22, 2015)