

## Accepted Manuscript

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PII: S1055-7903(17)30083-0

DOI: <http://dx.doi.org/10.1016/j.ympev.2017.06.010>

Reference: YMPEV 5851

To appear in: *Molecular Phylogenetics and Evolution*

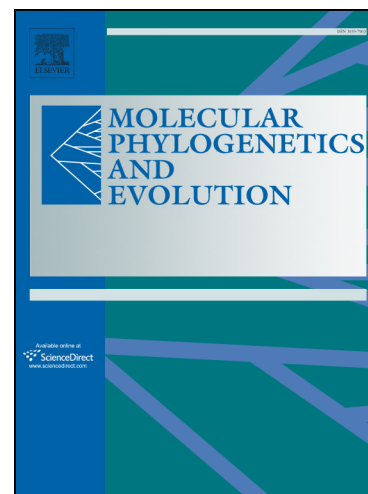
Received Date: 27 January 2017

Revised Date: 17 May 2017

Accepted Date: 4 June 2017

Please cite this article as: Masonick, P., Michael, A., Frankenberg, S., Rabitsch, W., Weirauch, C., Molecular phylogenetics and biogeography of the ambush bugs (Hemiptera: Reduviidae: Phymatinae), *Molecular Phylogenetics and Evolution* (2017), doi: <http://dx.doi.org/10.1016/j.ympev.2017.06.010>

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**Molecular phylogenetics and biogeography of the ambush bugs (Hemiptera:  
Reduviidae: Phymatinae)**

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**Abstract**

The ambush bugs (Heteroptera: Reduviidae: Phymatinae) are a diverse clade of predators known for their cryptic hunting behavior and morphologically diverse raptorial forelegs. Despite their striking appearance, role as pollinator predators, and intriguing biogeographic distribution, phylogenetic relationships within Phymatinae are largely unknown and the evolutionary history of the subfamily has remained in the dark. We here utilize the most extensive molecular phylogeny of ambush bugs to date, generated from a 3,328 base pair molecular dataset, to refine our understanding of phymatine relationships, estimate dates of divergence (BEAST 2), and uncover historical biogeographic patterns (S-DIVA and DEC). This taxon set (39 species of Phymatinae and six outgroups) allowed reevaluation of the proposed sister group of Phymatinae and tribal-level relationships within the group, and for the first time proposes species-level relationships within *Phymata* Latreille, the largest genus of ambush bugs (~108 spp.). Available evidence suggests that *Phymata* originated in the Neotropical region, with

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