

Johnson, K. P., R. J. Adams, and D. H. Clayton. 2001. Molecular systematics of Goniodidae (Insecta: Phthiraptera). *Journal of Parasitology* **87**:862-869. 3223

Abstract:

The higher level phylogenetic relationships within the avian feather lice (Insecta: Phthiraptera: Ischnocera) are extremely problematic. Here we investigate the relationships of I family (Goniodidae), sometimes recognized as distinct within Ischnocera, using parsimony and likelihood analyses of nuclear and mitochondrial DNA sequences. These data support monophyly for a restricted definition of traditional Goniodidae, but recognition of this family would result in paraphyly of the large heterogeneous family Philopteridae. We show that the New World *Chelopistes* is not related to other members of Goniodidae, despite similarities in morphology, but rather is the sister taxon to *Oxylipeurus*. Within Goniodidae, genera are divided into those occurring on Galliformes (the *Goniodes* complex) and those occurring on Columbiformes (the *Coloceras* complex). Within the well-sampled *Coloceras* complex, or Physconelloidinae, several groups are identified. However, traditionally recognized genera such as *Coloceras* and *Physconelloides* appear to be paraphyletic. Whereas the phylogeny of Goniodidae reflects some aspects of host relationships, biogeography also influences coevolutionary history.