Abstract:
The higher level phylogenetic relationships within the avian feather lice (Insecta: Phthiraptera: Ischnocera) are extremely problematic. Here we investigate the relationships of the Goniodidae 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.