

LOUSE WARS: DATA SET INCONGRUENCE AND THE PROBLEM OF AVIAN LOUSE PHYLOGENY

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Recent studies based on different types of data (i.e., morphology and molecular) have supported conflicting phylogenies for the genera of avian feather lice (Ischnocera: Phthiraptera). I analyse new and published data from morphology and from mitochondrial (12S and COI) and nuclear (EF1-_) genes to explore the sources of this incongruence and explain these conflicts. Character convergence, multiple substitutions at high divergences and ancient radiation over a short period of time have contributed to the problem of resolving louse phylogeny with the data currently available. However, these data serve to highlight several highly unusual aspects of louse morphological and molecular evolution that make them distinct from other insect groups. I conclude that the high level phylogenetic relationships within avian Ischnocera remain extremely problematic. However, consensus between data sets is beginning to converge on a stable phylogeny for avian lice, at and below the familial rank.