The world’s richest mangrove restricted avifauna is located in Australia and New Guinea, yet the history of their evolution and differentiation remain poorly understood. Here, I will present an overview of the Australo-Papuan mangrove habitat, and its biogeographic history and significance for avian evolution within the region. Recent systematic revisions of three avian families illustrate the complex and multifaceted histories of constituent lineages currently found in mangroves, especially considering scenarios of insular taxa that have diversified from continental ancestors, and have back-colonized the mainland in recent time frames. Additionally, I will highlight the patterns and processes that have shaped the intraspecific phylogeographic structure in 8 passerines endemic and associated with mangrove habitats. Lastly, I will exemplify and emphasize the continuing need to combine field-based sampling efforts with novel datasets derived from next generation sequencing, remote sensing, ecological niche modeling, and specimen morphometrics to elucidate the evolution of the most diverse avian lineages endemic to Australasia.