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Mass extinctions, recovery and resilience

Second-coming of the dinosaurs: Rapid diversification of birds following the end-Cretaceous mass extinction

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Insights from the fossil record and molecular phylogenies have converged on a dramatic evolutionary narrative: after narrowly surviving the end-Cretaceous mass extinction, crown birds rapidly radiated early in the Paleogene to fill a panoply of vacant niche space. The pattern and tempo of this radiation were structured by instrinsic biological factors (e.g., genomic substitution rates, correlated life history parameters) as well as extrinsic variables such as rates of habitat recovery. A coherent portrait of the near-demise, and rapid rise, of birds has begun to come into focus, drawing on an ever-improving avian fossil record integrated with genomic, palynological, and climatic data. Here, we summarise recent advances in all of these areas to provide an updated account of the impact of the end-Cretaceous mass extinction event on avian evolutionary history.