



Dromaeosaurs—the sickle-clawed “raptors” close to the origin of birds—remain at the center of fast-moving research, with 2024–2025 studies reshaping ideas about their anatomy, behavior, and family tree. Laser-stimulated fluorescence (LSF) work on the iconic Microraptor has revealed far richer wing architecture than previously appreciated: new specimens preserve layered primaries and secondaries plus propatagial and postpatagial soft tissues that tie the feathered wing together, strengthening the case that some dromaeosaurs were capable of sophisticated aerodynamic behaviors. Companion work on Microraptor’s hindlimbs documents detailed leg-feather organization and even asymmetry in long metatarsal coverts—features with implications for hind-wing function during early flight evolution. ([BioMed Central](#))

On the taxonomy front, a striking new velociraptorine from Mongolia, *Shri rapax*, was described in 2025. *Shri*’s unusually robust hands and inferred strong bite suggest niche partitioning among Late Cretaceous velociraptorines, hinting that “raptors” occupied more diverse roles than the classic small-prey grapplers. The specimen’s murky, black-market history also underscores ongoing ethical challenges in provenance and repatriation of Mongolian fossils. ([ResearchGate](#), [Smithsonian Magazine](#))

In Gondwana, unenlagiines—long-snouted southern “raptors”—are again in the spotlight. A 2024 paper named *Diuqin lechiguanae* from Patagonia, filling anatomy and time gaps for this group. Even more provocative, a 2025 phylogenetic analysis argues Unenlagiidae may actually nest within Avialae (the bird lineage), which, if borne out, would reframe how we discuss “dromaeosaurids” versus early birds in the Southern Hemisphere. These debates

illustrate how sensitive paravian relationships are to new data and analytical choices. ([BioMed Central](#), [ResearchGate](#))

Behaviorally, a lively discussion has unfolded over whether some tiny dromaeosaurs (or close kin) engaged in flap-running, take-off, or landing behaviors. A 2024 PNAS study interpreted exceptionally long-striding didactyl tracks as indirect evidence of pre-avian aerial maneuvers; a 2025 technical comment disputed that inference on biomechanical grounds, followed by a published reply defending the original interpretation. Science in action: the same traces can yield different readings as models and assumptions are stress-tested.

Fresh trace fossil data are appearing elsewhere, too. Newly described didactyl footprints from the mid-Cretaceous Candeleros Formation (Argentina) likely made by small unenlagiine dromaeosaurs include impressions of the hyper-mobile second-toe claw resting on the substrate—rare snapshots of how that famous talon contacted the ground. ([Scup](#))

Microfossils and eggshells are filling out the ecological picture. A 2025 survey of isolated teeth from China's Nenjiang Formation reports both dromaeosaurine and velociraptorine morphotypes, extending the documented ranges of these clades in the Late Cretaceous Songliao Basin. Meanwhile, a 2024 description of *Gannanoolithus yingliangi*—an ootaxon likely laid by a dromaeosaurid—notes paired eggs in a clutch, consistent with paired oviducts inferred for several maniraptoran lineages. And at the small end of the spectrum, the tiniest known Microraptor individual yet found refines growth and life-history inferences for this four-winged dromaeosaur. ([Wiley Online Library](#), [ScienceDirect](#), [Taylor & Francis Online](#))

Taken together, these studies portray dromaeosaurs as more anatomically varied, behaviorally flexible, and phylogenetically entangled with early birds than the textbook image suggests. As new specimens (and new imaging) continue to illuminate soft tissues and fine-scale structures, expect further surprises about how “raptors” lived, moved, and evolved. ([BioMed Central](#))

Sources & links

- Grossmougin et al. 2025, *BMC Ecology and Evolution*: Forelimb feathering and soft tissues of **Microraptor**.
<https://bmcecolvol.biomedcentral.com/articles/10.1186/s12862-025-02397-5>
([BioMed Central](#))
- Chotard et al. 2025, *BMC Ecology and Evolution*: Hind-limb feathers and metatarsal covert asymmetry in **Microraptor**.

<https://bmcecol.evol.biomedcentral.com/articles/10.1186/s12862-025-02372-0>
(BioMed Central)

- Moutrille et al. 2025, *Historical Biology*: **Shri rapax**, a robust-handed velociraptorine. https://www.researchgate.net/publication/393657154_A_new_bird-like_dinosaur_from_the_Upper_Cretaceous_of_Mongolia_with_extremely_robust_hands_supports_niche_partitioning_among_velociraptorines (ResearchGate)
- Coverage of **Shri rapax** and provenance context (Smithsonian). <https://www.smithsonianmag.com/smart-news/paleontologists-identify-a-rapacious-velociraptor-relative-with-powerful-hands-and-a-strong-bite-180987078/> (Smithsonian Magazine)
- Porfiri et al. 2024, *BMC Ecology and Evolution*: **Diuqin lechiguanae**, new unenlagiine from Patagonia. <https://bmcecol.evol.biomedcentral.com/articles/10.1186/s12862-024-02247-w> (BioMed Central)
- Motta et al. 2025, *Journal of Systematic Palaeontology*: Unenlagiids recovered within Avialae. https://www.researchgate.net/publication/394849191_Phylogenetic_relationships_of_Unenlagiidae_among_Paraves_Dinosauria (ResearchGate)
- Dececchi et al. 2024, *PNAS*: Trace-based evidence for pre-avian aerial behavior; with 2025 comment & reply. <https://www.pnas.org/doi/10.1073/pnas.2306639121> ; <https://www.pnas.org/doi/10.1073/pnas.2412641121> ; <https://www.pnas.org/doi/10.1073/pnas.2419978121>
- Heredia et al. 2025, *Lethaia*: Didactyl dromaeosaurid tracks from the Candeleros Fm. <https://www.scup.com/doi/full/10.18261/let.58.3.4> (Scup)
- Yu et al. 2025, *Acta Geologica Sinica (Eng. Ed.)*: New dinosaur teeth from the Nenjiang Fm. <https://onlinelibrary.wiley.com/doi/10.1111/1755-6724.15288> (Wiley Online Library)
- Wu et al. 2024, *Cretaceous Research*: **Gannanolithus yingliangi**, putative dromaeosaurid eggs. <https://www.sciencedirect.com/science/article/abs/pii/S019566712400082X> (ScienceDirect)
- Wang & Pei 2024, *Historical Biology*: Smallest known **Microraptor** individual. <https://www.tandfonline.com/doi/abs/10.1080/08912963.2024.2385604> (Taylor & Francis Online)

