

# **PALAEOCOLOUR AND THE EVOLUTION OF DISPLAY AND CAMOUFLAGE IN DINOSAURS AND BIRDS**

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The discovery of melanin in fossil feathers and integument has opened up for studying novel aspects of ancient life—their ecology and appearance. Melanin preserves as chemical residues and as melanosome organelles that reveal aspects of both melanin based colouration and even structural colour. Birds employ a wide variety of colour patterns for display and camouflage, and with preserved melanosomes it has been possible to elucidate how dinosaurs utilised their skin and plumage for such a purpose. In this talk I will summarise work on fossil pigments in dinosaurs and especially how countershading gradients reveal aspects of the habitats that dinosaurs lived in and ancient predator-prey dynamics. Derived theropods evolved colourful display evidenced by melanosomes generating iridescent structural colouration. Was this an adaptation due to their more complex feathers or a consequence of their new life style?