

TU037 POPs and OPEs in down feathers of nestling cinereous vultures (*Aegypius monachus*): associations with corticosterone levels. L.M. Anglada, Autonomous University of Barcelona; M. Lopez-Bejar, UAB; J. De la Puente, SEO BirdLife; A. Covaci, University of Antwerp, Toxicological Center / Toxicological Centre Dep of Pharmaceutical Sciences; V. Jaspers, Norwegian University of Science & Technology / Biology. Raptor feathers have been increasingly used to assess pollutants in ecotoxicological studies. However, the suitability of nestling down feathers to detect pollutants has not yet been investigated. In this study, concentrations of persistent organic pollutants (POPs) and organophosphate ester flame retardants (OPEs) were assessed in down feathers and were compared to levels of juvenile contour feathers in Spanish nestling (circa 73 days old) cinereous vultures (*Aegypius monachus*; n=16). In addition, corticosterone (CORT) levels were assessed in down feathers as a biomarker of chronic stress and the relationships with POPs and OPEs were explored (n=42). Down feathers showed higher detectability and concentrations of the most persistent POP compounds (PCBs: 1.30-6.16 ng g⁻¹ dw feather; PBDEs: 0.23-1.35 ng g⁻¹ dw feather; *p,p'*-DDE: 0.09-6.10 ng g⁻¹ dw feather) compared to juvenile feathers. Concentrations of OPEs were similar between the two types of feathers, except TCiPP that was higher in down feathers (0.86-48.96 ng g⁻¹ dw feather). However, the most volatile compounds, such as lindane (0.25-3.12 ng g⁻¹ dw feather), were higher in juvenile feathers. When exploring the relationship with CORT, the most persistent POPs (CB-170, -177, -180, -183, -187, -194 and *p,p'*-DDE) were associated with high CORT concentrations (range: 0.55-6.09 pg mm⁻¹ feather) (*p*=0.02), while no relationship was found when OPEs were tested (*p*>0.05). Overall, findings of this study indicate that down feathers may be useful for biomonitoring studies. Because these feathers grow during the first days of chick life, they probably reflect maternal concentrations transferred through the egg. In addition, results of this study indicate that POPs, but not OPEs, are associated with increased CORT concentrations in chicks, suggesting POPs could be a potential important environmental stressor.