The taxonomic status of *Lithornis nasi* (Aves: Palaeognathae) from the Lower Eocene North Sea Basin

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The extinct family Lithornithidae constitute the earliest, well-known clade of palaeognathous birds. They were an important and diverse constituent of the Northern hemisphere avifauna in the Palaeocene – Lower Eocene, represented by at least three genera with a total of six species. Fossils of Lithornithidae are currently restricted to deposits in the North America, and the North Sea Basin, and the group appears to have become extinct at the border between the Lower and Middle Eocene.

Although Richard Owen described the first taxon, *Lithornis vulturinus*, in 1840, fossil specimens now recognised as belonging to the group, were subsequently erroneously referred to other clades such as landfowl, birds of prey, turacos, tube-nosed seabirds, rails and spoonbills. The Lithornithidae were not recognised as a distinct group until Peter Houdes work on the group in the 1980'es.

A new specimen (Moler Museet FU 135+145) of *Lithornis nasi* from the Lower Eocene Fur Formation of Northwest Jutland, Denmark prompted a re-examination of the lithornithid material from the North Sea Basin. The holotype (Natural History Museum, London, BMNH A5200) was originally described as a rail, but re-described as a lithornithid by Peter Houde in 1988. Originally, the species *nasi* was differentiated from other species of *Lithornis* purely based on size. Re-examination of the original holotype and the new fossil from the Fur Formation, has allowed an improved diagnosis of the species. *L. nasi* can be differentiated from other species within the genus *Lithornis* by the possession of the following diagnostic characters: (1) Very narrow foramen present on the anteroventral base of the processus transversalis of thoracic vertebrae; (2) lateral condyle of femur more caudally directed than medial condyle and (3) presence of a distinct trochlea fibularis of lateral condyle. The combination of characters (2) and (3) is not found in other lithornithids from the North Sea Basin, but is present in the much larger lithornithid *Paracathartes howardae* from the Lower Eocene of North America.

The presence of the above-mentioned character complex in the genus *Paracathartes* combined with its absence in other species of the genus *Lithornis*, makes it possible that the species *nasi* may have to be removed from the genus *Lithornis*. This issue cannot be resolved, however, until an exhaustive computer-assisted phylogenetic analysis of all taxa currently assigned to the clade has been made.