

## The embryonic development of the Egyptian cobra *Naja h. haje* (Squamata: Serpentes: Elapidae).

### Abstract:

The Egyptian cobra, *Naja h. haje*, is the largest of the African cobras and is a member of a successful and medically important species complex found throughout Africa, north and south of the Sahara, as well as across the Arabian Peninsula to Oman. Although its phylogenetic position and venom characteristics have been well studied, its development has not. Here, we present a normal staging table for *N. h. haje*, based on external features. Comparison with firstly the Asian monocled cobra, *Naja kaouthia*, and then with the small number of other oviparous snake species, allowed us to examine whether differences between two species in the same genus were of the same type and magnitude as those between unrelated genera. In fact, at least with respect to external features, we found a similar level of disparity. *N. h. haje* embryos lagged behind those of *N. kaouthia* in body and head scale development, size *in ovo* and hatchling length, despite having a slightly shorter incubation period and a somewhat larger adult size. Some of these differences may have been the result of differing incubation temperatures. Nonetheless, there does appear to be a broadly conserved pattern of *in ovo* development in at least macrostomatan snakes.