

Chameleons

Chris Mattison & Nick Garbutt 2012.

Natural History Museum, London, 112 pp



On receiving 'Chameleons' I was taken aback by the striking photograph of the male panther chameleon (*Furcifer pardalis*) on the front cover. The photographer has produced a crisp focus on the animal's eye, which almost jumps out of the page. This coupled with the brief but informative introductory page, produces a good insight into the book's potential and would compel any wildlife lover to pluck the book off the shelf and be delighted by its content.

The book is comprised of seven chapters; however, within this review it is difficult to detail every section to its full extent. Therefore I will single out the more significant chapters.

Chapter one concerns 'Evolution and classification' giving insight into the rise of chameleons. It flows into a transitory explanation of defining chameleon characteristics that separate them from all other lizard species, for example, their fused toes that produce a pincer-like structure that bestows on them great agility. The authors continue with the origins of chameleons, highlighting the distinct characters that have allowed them to adapt and survive, and the divisions between the smaller, drab, floor-dwelling species (leaf chameleons) and their more arboreal, brighter coloured relatives ('true' chameleons). A table on page eleven breaks

down the subfamilies.

Chapter one provides details of chameleon species distribution and their habitats. The authors emphasise the abundance of species that thrive on the island of Madagascar and their ability to integrate themselves into many ecological niches on the island, producing an array of shapes, sizes and behaviours. A nice contrast are the species on the African mainland, where the authors explain a variety of adaptations to a mosaic of environments. For instance, the varying altitudes, in the case of the large Meller's chameleon which occurs from sea level in Tanzania to 1,500 m in Malawi. The gem in this chapter is the Namaqua chameleon (*Chamaeleo namaquensis*), which has abandoned an arboreal lifestyle and adapted to the harsh environment of the Namib Desert.

The immediately noticeable aspects of chapter two 'Size and shape, colour and markings' are the pictures shown of Parson's chameleon (*Calumma parsonii*) on page eighteen and the pygmy leaf chameleon (*Brookesia minima*) on page nineteen, that demonstrate the conformed body shape of chameleons and the startling size differentiation that occurs. The chapter brings together pertinent information that covers the exceptional qualities and attributes that have evolved within this unique reptile. These range from their bizarre independently rotating eyes to their outstandingly accurate long tongue. The chapter as a whole is very informative, but there are two sections that stand out the most, namely 'Head ornamentation' and 'Colours'. The only addition that could have enhanced the chapter more would have been to insert some detailed annotated diagrams within the eye and colour sections, which would give a visual aspect to the information provided.

Chapter five 'Reproduction and development' provides some of the most interesting pictures and educational information within the book. The authors highlight the chameleons' general antisocial behaviour in the majority of species and that the only time these magnificent creatures come together is when it is time to breed. Emphasised further is the communication through colour and body language during this sensitive time, with females advertising their receptiveness, for instance, on pages 64 and 65. Two photos give an

elaborate contrast of colours between a receptive female (page 64) and a non-receptive female (page 65) that has already mated and has developing eggs. The reader is taken through the various courtship behaviours of chameleon species and the reproductive section is particularly informative, providing details such as the lack of parental behaviour within chameleons, the various clutch sizes and the differing gestation periods between species. Of interest here is the rapid growth and time to maturity within many chameleons, often only taking a few months to reach breeding age. In contrast, Labord's chameleon (*Furcifer labordi*), has an extremely short life cycle.

Chapter 6 'Chameleons and humans' is a chapter crammed with pertinent information. The chapter begins with amusing and enlightening information on the folklore surrounding chameleons within various cultures. However, the chapter moves onto the constraints of living around humans, including the devastating habitat loss due to agriculture, coupled with their often specific habitat needs and lack of adaptability to change. This section makes the reader aware of the difficulties these lizards face in the wild.

The authors also describe some of the least known effects of humans activities, such as the manipulation of chameleons by natives for ecotourism but also the equally devastating pet trade that may have a serious impact on many of the specialised species. On a lighter note, the chapter moves on to describe many of the hotspots to find chameleons. This section dominates the chapter and gives information on specific places to visit within Madagascar (heavily sub-categorised into parks and reserves), East Africa, Southern Africa and other areas and the likely species to be seen there. This section is especially informative for Madagascar. However, the reader is warned, and I whole heartily agree, that undue disturbance of the chameleons within their habitat is unacceptable and should be avoided at all cost.

The chapter ends with a short but precise section on chameleons as pets; the authors underline the fact that the section is not a detailed account, just a brief guide on the needs of chameleons in captivity. The authors emphasize correct husbandry and the use of captive bred animals rather than wild caught

species. The book ends with a chapter detailing 'Chameleon genera' giving an 'overview' of the subject but it is crammed full of information.

Chris Mattison, Nick Garbutt and associated authors have excelled themselves by putting together a sound piece of work with balanced information. However, the book is not without a few minor omissions. In chapter 4, 'and Oustalet's' is duplicated on page 57 from page 55 and on page 89, the number of species is different in the main text (shown as 31) compared to the side box where the number of species is shown as 26. Even so, this book is a marvel to read and will encourage others to delve deeper into the lives of chameleons.

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