

Book tells all about iconic Australian family and its relatives

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An engaging and accessible new book by one of Australia's foremost kangaroo experts is not afraid to tackle the controversies associated with control of kangaroo numbers.



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The glorious variety of Australia's kangaroos and their close relatives is on display in the full-colour book *Australia's Amazing Kangaroos* by Ken Richardson, a zoologist and veterinarian with over 30 years field experience and an extensive publication record.

There are beautiful photos not only of the iconic larger kangaroos and wallabies beloved of tourists, but also of lesser known members of the sub-order, Macropodiformes. These include the tree kangaroos of north-eastern Australia, reported to be able to leap more than 9 metres; and the small strictly nocturnal rufous rat kangaroos (bettongs) that occur on the east coast, from far north Queensland to northern New South Wales.

Richardson makes it clear that Australia's record for the conservation of our iconic kangaroo species is a mixed one.

Of the 46 species endemic to Australia most of the larger (over 20 kg) species have increased their range and populations. Among these are the familiar red kangaroo (*Macropus rufus*), the eastern grey (*Macropus giganteus*), the western grey (*Macropus fuliginosus*) and the common wallaroo or euro (*Macropus robustus*). In the arid rangelands, the increased availability of water (for domestic stock) has been one of the major drivers of these trends.

However, most of smaller species (under 5 kg) have severely reduced in numbers and range.

Major threats are habitat loss and predation from introduced animals such as foxes and cats. Among the threatened species is Australia's rarest mammal, the truffle-foraging Gilbert's potoroo (*Potorous gilbertii*). There are estimated to be fewer than 50 mature wild individuals remaining, all in an area of about 8 sq km in the Mt Gardner region of south-west Western Australia. Despite a relatively successful reintroduction program on nearby Bald Island and a captive population established at a national park, the outlook is still bleak due to low genetic diversity.

Australia's Amazing Kangaroos opens with a chapter covering each of the species endemic to Australia, discussing species characteristics and biology, threatening factors and management actions.

This is followed by chapters on the adaptations of kangaroos to their environments, conservation efforts, and a final chapter on the relationships between humans and kangaroos.

Among the fascinating adaptations of kangaroos are extensive morphological and physiological features supporting the characteristic upright bipedal hopping action – where only the hindlimbs are used – a highly efficient gait for speed and long-distance travel.

For example, the stomach and diaphragm have long attachments allowing them to move readily so that when a kangaroo propels itself upward at the beginning of a hop, inertia pushes the viscera backwards within the abdomen and air is forced out of the lungs. This piston-like action helps the animal breath in and out while hopping. During hopping the respiratory rhythm is phase locked with the rate of hopping in a ratio of 1:1.

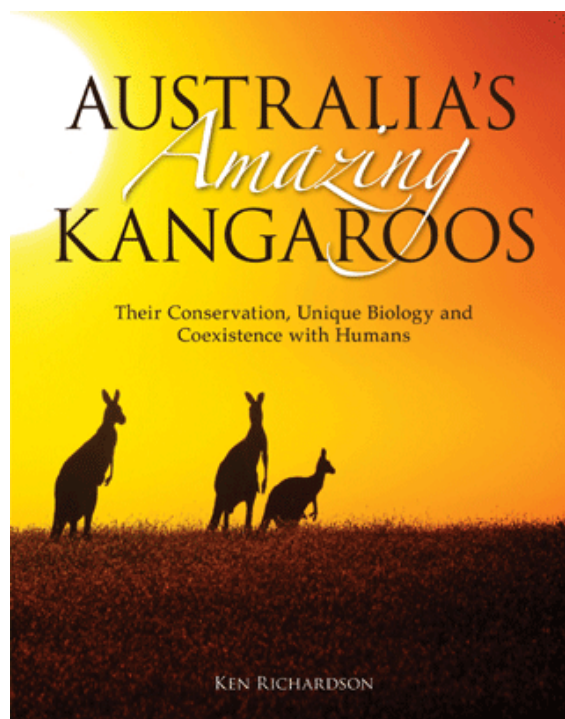
The book's final chapter deals extensively with the issue of control of kangaroos in areas where densities are high enough to impact negatively on native ecosystems, agricultural enterprises (particularly grazing) and on the survival of the kangaroo populations themselves.

Richardson discusses the often controversial management actions of culling and commercial harvest (harvest of kangaroos by the commercial kangaroo industry for meat and hide products) in the form of a debate, answering common objections to these practices.

It is interesting to note the changing tastes of consumers: since the late 1990s, demand for kangaroo meat for human consumption has been rising. Historically, most kangaroos were harvested for the pet food trade. Now 60 per cent of animals harvested are destined for human consumption.

Australia's Amazing Kangaroos is a valuable addition to the many published works about this iconic Australian species. It covers the biology of the animal in an accessible and engaging manner, and does a valiant job of addressing sensitivities surrounding our relationship with kangaroos.

As human impacts on the Australian environment intensify, such sober, realistic assessments of what is practical in terms of management options for our native wildlife are sorely needed.



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