



**ON THE COVER:** Over 4,600 species of living mammals exist today, about 6% of which are marsupials. Along with kangaroos, the koala is one of the most recognizable marsupials in the world. Usually referred to as the “koala bear,” for its superficial resemblance to bears, this species is most closely related to wombats. The koala is the sole member of a monotypic family; it is the only extant species in the family Phascolarctidae. Male koalas are larger than females, and may weigh up to 12.5 kg, which makes them one of the largest arboreal browsers. Among their distinctive morphological features, koalas have the longest cecum relative to body size of any mammal—4 times longer than the length of their body. This huge cecum, the site of intestinal microbial fermentation, enables the koala to survive on a specialized, poor-quality diet—the stems, leaves, flowers, and bark of various species of *Eucalyptus*. Koalas have adapted to life in eucalypt forests of eastern Australia—and to the limited energy and nutrition provided by these plants—in part by reducing their activity. Koalas move slowly and may be inactive for up to 20 hours per day. They do not build nests or dens, but instead rest in the forks of tree branches.

Along with bandicoots and bilbies, koalas are the only marsupials that have a chorioallantoic placenta, but it lacks the chorionic villi of eutherians. Gestation is only about 35 days, and as in other marsupials, most of the development of young takes place during extended periods of lactation. Other features include a pouch (marsupium) that opens posteriorly, almost no external tail (unusual for a species that spends almost all of its time in trees), and sperm that are uniquely shaped. Thus, the koala reflects many fascinating aspects of mammalian structure and function, phylogeny and adaptive radiation, behavior and ecology, and conservation issues—together comprising the subject matter of modern mammalogy—and covered in this second edition of *MAMMALOGY: Adaptation, Diversity, Ecology*.

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