

Cross cats



Fotolia

Liger



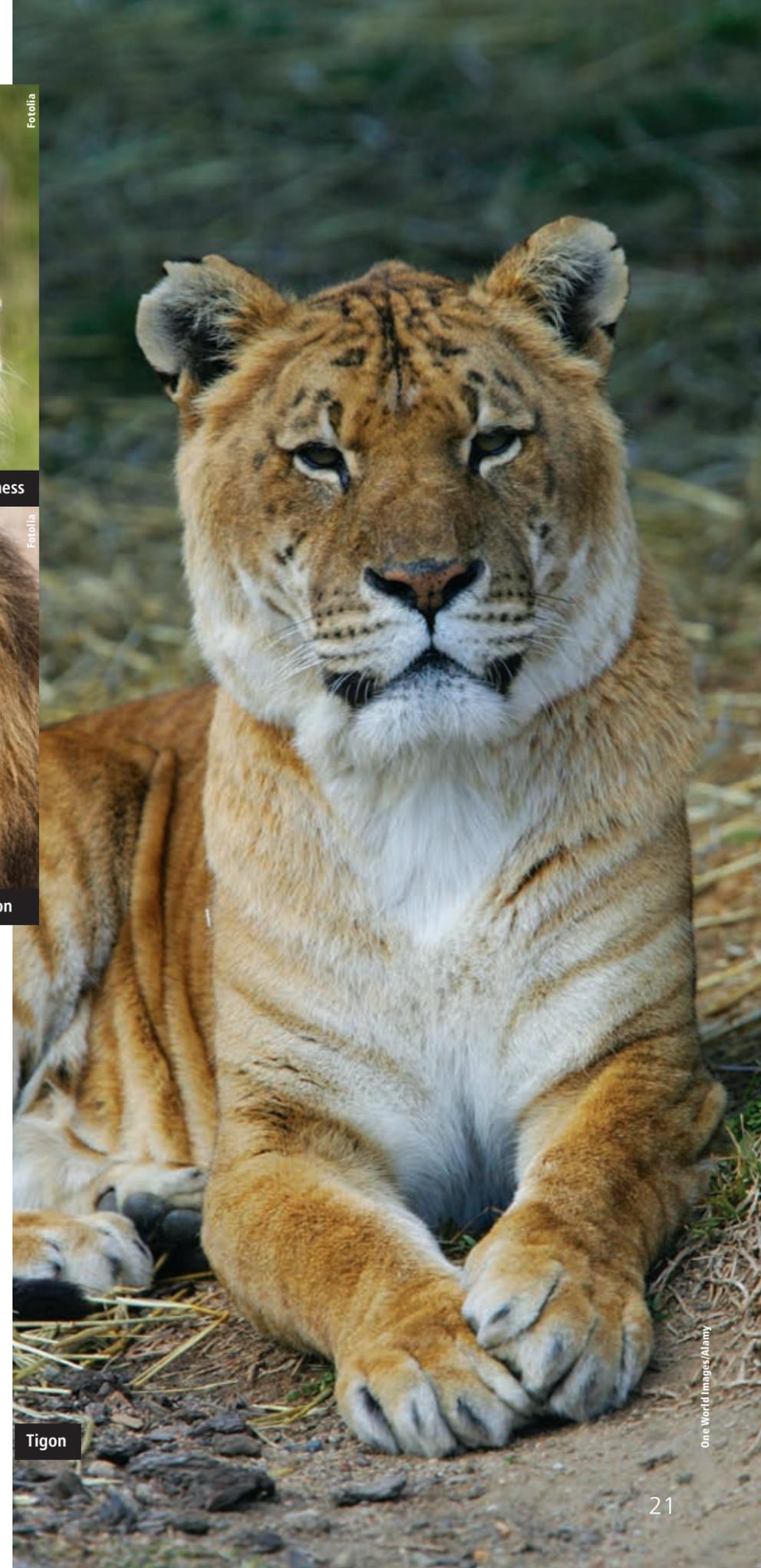
Tiger



Lioness



Male lion



Tigon

These photos show lions (*Panthera leo*) and tigers (*Panthera tigris*) and their hybrid offspring — ligers and tigons. Tigons are the result of mating a male tiger with a lioness, and ligers result from mating between a male lion with a tigress.

The liger is the largest of all the big cats at 3.0–3.5 metres long and weighing around 400kg. In comparison, a male lion can weigh up to 190kg and be up to 2m long. A Bengal tiger is larger, at up to 221kg and up to 3m long. Tigons are around the same size as their parent species.

The large size of ligers is due to the absence of a process called genetic imprinting controlling growth hormone production. Normally, the male lion's gene for a growth factor is switched off during development by genes inherited from the lioness. However, in a liger the male lion's gene is not switched off by

the tigress genes, causing an abundance of the growth hormone and therefore the offspring is much larger.

This example of genetic imprinting has evolved in lions due to their mating behaviour. Lions are social animals where a female will breed with more than one male. The male wants to ensure his embryos receive the maximum amount of resources so wants his offspring to grow quicker than any rival's. The female, however, will try to ensure all her embryos receive equal resources.

In contrast, tigers are solitary animals and a female mates with only one male so there is no advantage for the male tiger's offspring to produce more growth hormone. Correspondingly there has been no evolutionary advantage favouring the production of genes that switch off this hormone in females.