

Ask an expert

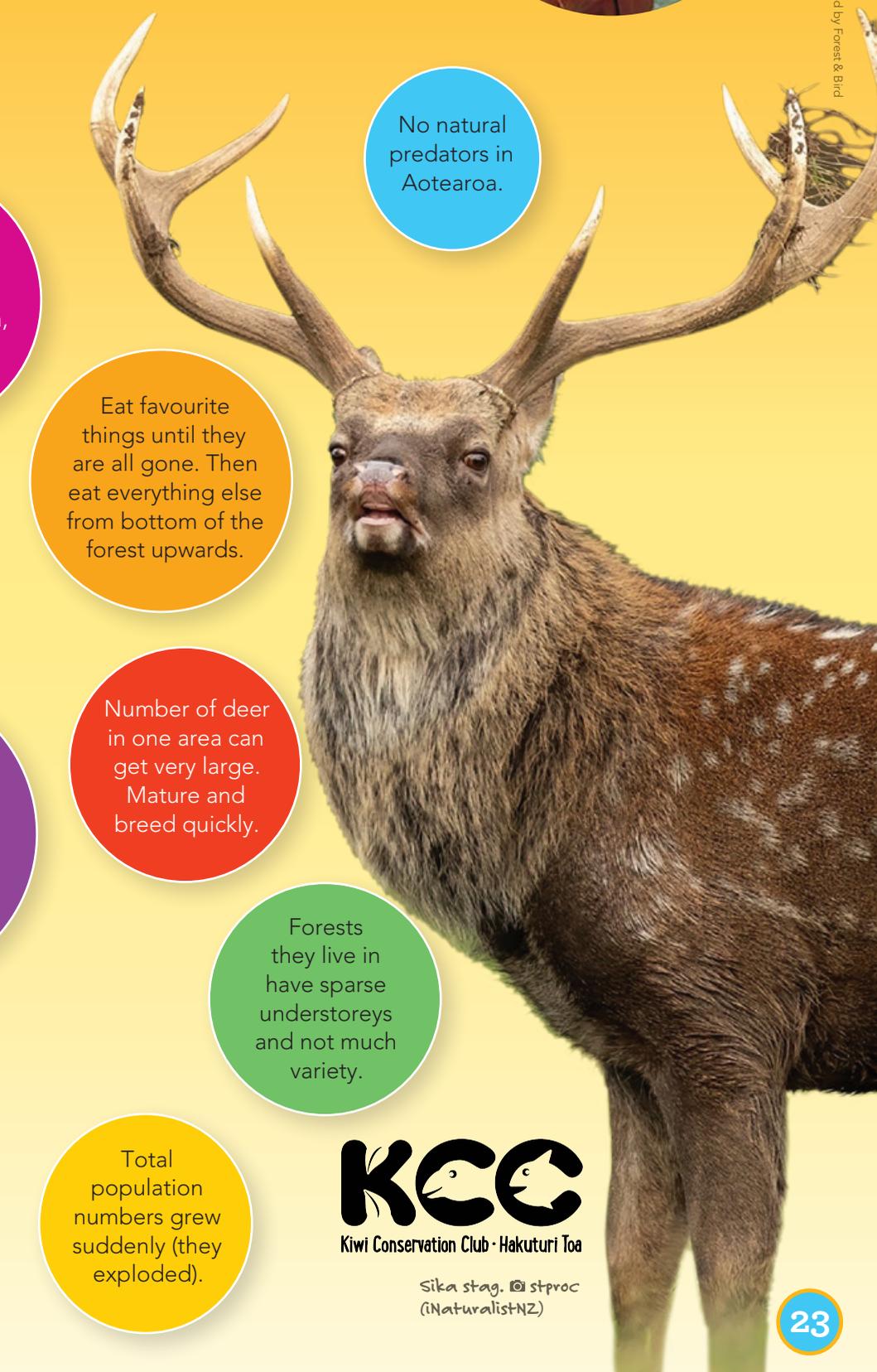
Deer and moa are both herbivores who browse/browsed for their food in our forests. Does that mean that deer are like moa?

Deer are not like moa. Their impact on our ngahere is very different. Let's compare them to see why...

We spoke to **Dr Nic Rawlence** from the Department of Zoology at Otago University. He's been studying prehistorical NZ, including moa and their diets, for 16 years!



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They were preyed on by pouākai | Haast's eagle and kērangī | Eyles' harrier.

Total population numbers grew slowly over time.

Nine species evolved here in Aotearoa.

Had large feet and toes spread their weight out. Feet didn't damage the forest floor.

Hooves dig into the forest floor, trampling it and causing lots of damage.

No natural predators in Aotearoa.

Seven different species were introduced here, coming from Asia, North America, and Europe.

Eat favourite things until they are all gone. Then eat everything else from bottom of the forest upwards.

Our native plants evolved with the tipuna/tupuna of moa. That means they had defences against them, like spikes, toxins, and thick interlaced branches.

Lived in small flocks. Matured into adults slowly. Bred slowly.

Our native plants are defenceless against deer.

Number of deer in one area can get very large. Mature and breed quickly.

Ate a varied diet. Didn't eat to excess (too much at once).

Research into their fossilised poo, and pollen and spore samples, proves the forests they lived in had dense understoreys (plant life under the level of the canopy) with lots of variety in species.

Different sizes, but they all browse in the same way using their teeth, lips, and their tongue which can twist and wrap around plants and pull.

Forests they live in have sparse understoreys and not much variety.

Had a gizzard and gizzard stones. This worked like a concrete mixer slowly grinding down and digesting their food.

Moa were different sizes, with different shaped beaks. They had different ways of browsing and different techniques in plucking leaves and snipping leaves (like scissors/secateurs).

Have a fermenting stomach. This means they can digest food quickly and eat less nutritious stuff like bark, seedlings, and leaf litter.

Total population numbers grew suddenly (they exploded).

Stout-legged moa. © Te Papa (S.044280)

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Sika stag. © stproc (iNaturalistNZ)