CARNIVORES · BEHAVIOUR & SOCIETY

Spotted Hyenas: The Female-Led Clan

Dominant females, a famous anatomy, cubs born ready to fight — and why the hyena is a hunter, not just a scavenger.

SERIES **SAFARI NOTES** FORMAT **FIELD & GUIDING NOTES** PUBLISHED BY **THE SAFARI SHOW**

> Few animals are as misunderstood as the spotted hyena. Far from being a cowardly scavenger, it's a skilled hunter living in a complex society run by females, where your rank is decided by who your mother is and who has your back.

01 A society run by females

Spotted hyenas live in **clans** that share and defend a territory and a communal den. Stable clans contain anywhere from about **8 to 80** animals, and territories range from around 9 km² to more than 1,000 km², probably depending on how much prey is available.

In most mammals, males dominate. In spotted hyenas, **females are usually in charge**. Females tend to weigh more than males, so it's tempting to assume size is the answer — but a 21-year study of 748 hyenas in the Ngorongoro Crater found it isn't.

WHAT REALLY DECIDES WHO WINS

In a dispute, the hyena that can rely on **more social support** wins — regardless of sex, body mass or aggressiveness.

Females usually have more support because they **stay in the clan they were born into**, surrounded by relatives and allies, while most males leave to join another clan and lose those bonds. Female dominance is strongest in clans with many immigrant males; where many males have stayed home, the sexes are roughly co-dominant.

02 Rank is inherited from mother

A cub learns its place by watching its mother. She backs it up against lower-ranking hyenas and defers to higher-ranking ones. As a result, offspring usually take a rank **just below their mother's**. Mothers give the most support to their **most recent litter**, so the youngest cubs end up outranking their older sisters.



Each family slots in below its mother. Males that joined from other clans rise in rank the longer they stay. Real clans vary — see section 01.

Rank matters. High-ranking hyenas get **first access to food, mates and shelter**, which usually means they live longer and raise more young.

03 The famous anatomy

Female spotted hyenas have no external vaginal opening. Instead, the clitoris is enlarged into an **erectile "pseudo-penis"**, similar in size to the male's penis, and there is a **false scrotum** made of fatty tissue. A single canal runs through the pseudo-penis, and the female **urinates, mates and gives birth** through it. This anatomy is behind the old myth that hyenas are hermaphrodites — they are not.

It has big consequences:

- **Mating needs the female's full cooperation.** Her anatomy makes forced mating physically impossible, so females choose their partners.
- **The first birth is dangerous.** A 1995 University of California report estimated that up to 10% of first-time mothers and over 60% of first-born cubs die during that first delivery — figures from early research that may not hold for every wild population. The canal stretches and tears at the first birth, so later births are usually much easier.

Scientists have proposed at least six different hypotheses for why this anatomy evolved.

04 Hormones and a head start

A study published in *Nature* in 2006 found that **high-ranking mothers have higher levels of androgens** ("male" hormones) during late pregnancy than low-ranking mothers. Cubs exposed to higher androgen levels before birth grew up **more aggressive**, and young males mounted more often. In effect, dominant mothers give their cubs a hormonal head start in a society where aggression and rank matter.

05 Born ready to fight

Unlike most carnivore young, spotted hyena cubs are born **with their eyes open and their teeth — including canines — already through**, weighing about 1.5 kg. Litters are usually one or two cubs.

- **Twins fight from the start.** Fights in the first weeks set up a dominance order between them that usually stays fixed.
- **Food decides how serious it gets.** In the Serengeti, where mothers may be away for days following migrating prey, the dominant twin can monopolise the milk and the subordinate may starve (**siblicide**). In

the Ngorongoro Crater, where prey stays close and mothers nurse often, researchers have never seen a cub starve this way.

- In mixed-sex twins, the **female is more often the dominant** one.

Mothers give birth at an isolated den — sometimes an old aardvark burrow — and move cubs to the clan's **communal den** at 2–5 weeks old. Its tunnels are about 40 cm wide, too narrow for adults. Milk is their main food for **most of the first year**, and cubs are often not fully weaned until 12–18 months old. Hyena milk is extremely rich: about 14.9% protein and 14.1% fat.

06 Why males leave home

Females often stay in their birth clan for life; most males leave. Research in the Ngorongoro Crater found that **female mate choice** drives this:

- Young females prefer males who were born or joined the clan **after they were born** — which avoids mating with fathers and older brothers.
- Older females prefer males they have a long, friendly relationship with.
- Young males do best by joining the clan with the **most young females**. With eight clans in the Crater, that's rarely their own — so about **85% of young males** move to another clan to breed.

Males that do stay home, backed by their mothers, can reach high rank and start fathering cubs younger than males that leave (Davidian et al. 2016).

07 Hunter, not just scavenger

Spotted hyenas do scavenge, especially when carrion is plentiful and their preferred prey is scarce, but they are effective hunters. In studies, hunting made up **25–60% of observed feeding events**, and in one Masai Mara population hunting supplied about **95% of the food eaten** over a year.

~95%
FOOD FROM HUNTING

Estimated share of annual food biomass hunted by one Masai Mara population.

< 15 min
FEEDING SPEED

Time for a group of 21 hyenas to eat a 100 kg yearling wildebeest.

20–250 kg
TYPICAL PREY

Larger prey is tackled by bigger groups of about 8–25 hyenas.

~4,500 N
BITE FORCE

Measured in one captive animal; likely higher in the wild. Strong enough to crush large bones.

08 Bones, white droppings and latrines

Hyenas eat almost every part of their prey, including bone, cracking it with powerful cheek teeth. All that bone makes their droppings rich in calcium and turns them **white**. Clans use communal **latrines**, often along paths and near territory edges, for years; white droppings can stay visible for up to 14 months. A South African study of spotted and brown hyenas found their dung held **1,000 to 20,000 times** more calcium and phosphorus than the local soil — hyenas move nutrients from carcasses into the landscape.

09 Whoops, giggles and greetings

LONG DISTANCE

The whoop

Audible to people more than 5 km away. Whoops can identify the caller and are used to call for support.

CLOSE RANGE

The “laugh”

Giggles happen in conflict or stress — at a contested carcass or when chased off by lions. A 2010 study found they carry information about the caller’s **age, identity and social status**.

BONDING

Greeting ceremony

Clan members of every sex, age and rank greet by approaching cautiously and sniffing each other, including the genitals. It has no sexual meaning.

SCENT

Pasting

A habit unique to hyenas: they smear a whitish, fatty secretion from their anal glands onto grass stalks to mark territory.

AT THE SIGHTING — HOW TO SAY IT

“Here’s something most people don’t expect: in hyena society, the females run things — and they tend to be heavier than the males. But it’s not just size: a hyena wins a fight if it has more friends to back it up, and females have their whole family around them. A cub takes its rank straight from its mother, just below hers.”

IF YOU HEAR A GIGGLE

“That ‘laugh’ isn’t happiness — it’s a stressed hyena, often one being pushed off food. And researchers have found that giggle carries clues to how old it is and where it sits in the pecking order.”

10 Key terms

Clan	A group of spotted hyenas that share a territory and a communal den.
Matriarch	The top-ranking female in a clan.
Pseudo-penis	The female’s enlarged, erectile clitoris, through which she urinates, mates and gives birth.
Androgens	Hormones such as testosterone that are usually higher in males.
Siblicide	The death of a young animal caused by its sibling — in hyenas, usually through starvation when one twin monopolises milk.
Dispersal	Leaving the group you were born into to join or found another.
Pasting	Scent marking with anal-gland secretion smeared onto grass stalks.

In summary

- Spotted hyenas live in clans of about 8–80 in which **females usually dominate**.
- Dominance comes mainly from **social support**, not size; cubs take a rank **just below their mother**.
- Females **urinate, mate and give birth** through a pseudo-penis; first births are risky.
- High-ranking mothers have higher **androgen** levels late in pregnancy, linked to more aggressive cubs.
- Cubs are born with **eyes open and teeth through**; twins fight, sometimes fatally when food is short.
- They are **skilled hunters**; bone in their diet makes their droppings white.
- IUCN lists the spotted hyena as **Least Concern** (assessed 2014, published 2015), with a tentative estimate of 27,000–47,000 in the wild.

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