

2023 MAMMALS

April 5, 2023

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CHAMPIONSHIP BATTLE OKAPI vs. WOLVERINE

The distinctive posterior stripes of Okapi (*Okapi johnstoni*) are sometimes called "follow me stripes" to help baby Okapi follow their mothers through the forest after the nesting period (and not defecating for 2 months!). The Congo rainforest is dense and dark with thick vegetation. "Follow me stripes" and prominent white socks help Okapi visually find each other in the dark forest. But compared to closely-related giraffes, Okapi have poor eyesight and rely more on hearing and olfaction in a low-light environment. Often under

-recognized as a conservation issue, human conflict and warfare is a major source of stress and poaching on wild animals. For Okapi, the leading threat is the presence of armed groups in the areas of the "forest giraffe."

The Wolverine (*Gulo gulo*), a "blocky and bear-like mammal has been bestowed colorful names such as devil bear, devil beast, and skunk bear" (Beauvais & Johnson 2004). Skunk Bear 'may be the most fitting because of the broad yellow-brown lateral stripes that sweep from the

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neck to the rump and the anal musk glands that produce the pungent odor typical of mustelids' (Beauvais & Johnson 2004). The period of exploratory independence from mom's territory can be a particularly dangerous period for lethal attacks from other wolverines, wolves, and cougars for young wolverines. Wolverine Dad's tolerance of subadult offspring may be an important way for wolverine subadults to develop survival skills under Dad's protective umbrella.

Tonight's randomized battle habitat is the ephemeral wetland. Specifically in the foothills of the Sierra Mountains in the Sequoia National Forest, currently under emergency closure restrictions from late March until late April due to winter damage and in anticipation of the perilous BIG MELT. The 2022-23 winter snowpack eases, but does not solve, the ongoing California drought and is an indicator of global warming "climate whiplash." Due to short-sighted water management decisions in the 1900s, the Big Melt is expected to cause widespread devastation this spring. Now early April, in the Southern Sierra foothills, with warming temps and above freezing in the nighttime, the melt has begun. Just yesterday, the California Department of Water Resources, California Department of Forestry and Fire Protection, and California State Parks released a Public Service Announcement: "As the temperature rises, snowmelt-fed waterways can

quickly induce incapacitating cold-water shock to even the strongest swimmers. We encourage everyone to follow the advice of public safety officials and avoid entering waterways if asked... Be aware of fluctuating water levels" and "Rising water levels in rivers and streams will be very cold, very fast and can easily overwhelm those that aren't prepared." In the Sierra foothills, an ephemeral wetland has formed, a combination of rain and beginning snowmelt. Jumbled logs, "coarse woody debris" uprooted by past mudslides, make a log jam that slows water flow & deepens the vernal pool (Harmon et al 1987).



Wolverine once roamed the Sierras, but became locally extinct in the mid-1900s from trapping, poisoning, and extirpation of other large carnivores whose kills were essential for



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wolverine scavenging. One Wolverine dispersed into Northern California in ~2008, making the California Sierras their lonely home for a decade and efforts are ongoing to bring back the Wolverine throughout its historical range. MMMagic delivers Okapi to the squishy margins of the ephemeral wetland in a meadow surrounded by ponderosa pine-mixed conifer forest. The meadow is colder than Okapi's preference and she quickly shelters in a stand of pine trees to block the breeze. Through the tree trunks, Okapi gazes in wonderment at a small, fuzzy mammal with black, brown, and streaks of golden fur... unlike anything she has ever seen in the dense Ituri forest of equatorial Africa, her home habitat. With little of the foliage she prefers to browse in the understory, Okapi vigilantly watches the lumbering... seems to be a carnivore? Unbeknownst to Okapi, this carnivore is currently the very top of the local food chain. The carnivore stumbles... and leans against a tree trunk... with eyes partially closed.



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Wolverine is also watching the *young black bear cub* lean against the tree trunk, as tonight MMMagic fictitiously contributes to Sierra Wolverine reintroduction efforts, delivering Wolverine to cling part-way up a coniferous tree trunk. The black bear cub-of-the-year, recently emerged from the winter natal den and is just 8lbs having grown exclusively on mother's milk. Baby mammals are one trophic level above their mothers because moms are, in part, liquifying their own bodies to synthesize milk and nourish young. Soon the bear cub perks up and playfully does a summersault roll beyond the line of sight of Wolverine! Okapi shifts slightly and the waning sunlight illuminates a large scar on her haunch... evidence of a close encounter, but successful escape, from a leopard, Okapi's primary source of natural mortality. Indeed many Okapi in the wild carry such leopard scars.

Wolverine climbs a few feet up his tree trunk to a snagged deadfall tree, to better view the ursid

FINAL BATTLE: OKAPI vs. WOLVERINE

version of veal. Wolverine winces slightly as his climbing rips the slowly healing wounds from golden eagle talons even of the Final Roar. Moving into the broken tree snag, Wolverine startles the tree's resident, a great gray owl (North America's largest owl!) with a unique population in the Sierra Nevada. Great gray owl, disinclined to build their own nests, instead make use of other animal's nests, and this one has co-opted the nest of a Western gray squirrel, to lay eggs. The unexpected Wolverine momentarily drives the owl from the tree. Wolverine is ravenous having eaten little during the 2023 MMM tournament, and has an injury that takes energy to heal. Wolverine quickly snarfs the owl eggs as Great Gray Owls are most aggressive in defense of nearly fledged nestlings (as per Solheim et al. 2023, the first ever documentation of wolverine predation on great gray owl nests).



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Below the action in the trees, Okapi extends her tongue 25cm, 3/4ths a stoat, beyond her snoot to wipe some fallen pine needles from her eye. Wolverine, while ravenous, is not ENTIRELY reckless, and quickly shimmies away from the owl nest, down the tree trunk only a few feet from Okapi... But without a snowpack for Wolverine to use for the high ground advantage to ungulates sunk into the snow, Wolverine ignores Okapi, he has other, easier prey in his sights.

Wolverine, skirting the vernal pool, lumbers toward the black bear cub bewitched by a rapidly-trilling cedar waxwing getting ready for spring-time migration north to nesting grounds. Wolverine, body quivering from muscle tension to unleash predatory attack... when MAMA BLACK BEAR anti-predator charges from the forest in defense of her cub! Bolting in panic from the charging mama bear, Okapi and Wolverine are now in the deep vernal pool! The water depth is chest-deep for Okapi, so she can breathe freely but Wolverine is several stoats deep. Wolverine surfaces and swims toward some coarse woody debris avoiding the shore where mama bear is standing on back legs threat grumble-huffing, before bear stiff-legged walks away with her cub.

Okapi's bolt into the vernal pool has landed her trapped amongst the log debris. She can't wade through the tangled trunks and all attempts to



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climb onto the unstable logs fail. Okapi's 275kg weight can not be supported as the wedged logs become dislodged and she keeps collapsing back into the water. Indeed, Okapi actively avoids the "large swampy areas of the forest" in her home habitat (Bodmer & Rabb, 1992). Maybe Wolverine doesn't need a snowpack to have the high ground for some fresh Artiodactyl meat after all! Wolverine scampers along the log jam and onto the wedged logs that can easily support his 17kg body weight. Coming up on Okapi's flank, Wolverine's claws slash across Okapi's leopard scar and Okapi gives her "bellow of acute distress" (Bodmer & Rabb 1992). Rearing back Okapi uses the anti-predator defense of her girrafid kind but Wolverine dodges the striking hooves. Wolverine skitters across the wet logs to dash in and sink his jaws into Okapi's haunch with an estimated maximum bite force of 844 Newtons. Okapi flails and rolls the pine log, plunging Wolverine into the vernal pool! Underwater Wolverine is trapped by broken bough stumps pushing him deeper as the pine trunk rolls. Okapi heaves with all her might against the tangled trunks. Underwater, a broken bough nubbin grinds and gouges in Wolverine's leg, pinning him to the silty bottom of the vernal pool as air bubbles come from the thrashing Wolverine. Okapi, adrenaline coursing into her body tissues, turns and power pushes into the surrounding logs. Okapi breaks through the tangled trunks!

In the roiling vernal pool, the pine log slowly rolls... BWUGH! GASPING WOLVERINE IS CLINGING TO THE PINE LOG! Wolverine claws his way onto the resettling coarse woody debris and watches the wounded Okapi dash from the vernal pool into the forest... OFF THE FIELD OF BATTLE! WOLVERINE OUTFLANKS AND OUTLASTS OKAPI! WOLVERINE IS THE 2023 MMM CHAMPION! Narrated by Drs. Jessica Light, Jessica Popescu, Chloe Josefson, and Katie Hinde.



Jessica Popescu
@JessPopescu

#2023MMM CHAMPIONSHIP E



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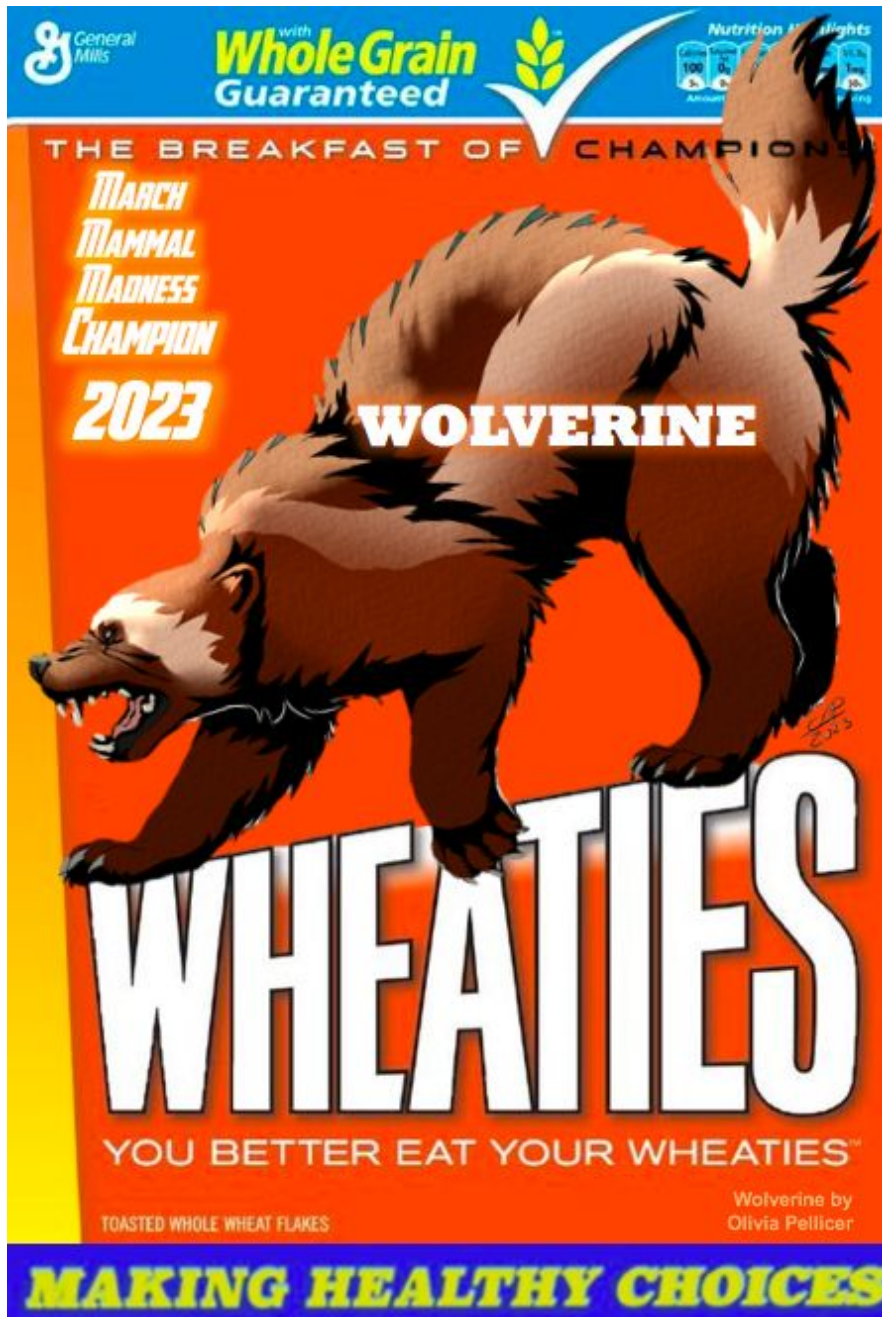
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