his group has built up a huge database on individual animals.

When Peyton West arrived as a graduate student to work with Packer, she used this information to ask why lions have manes. Are they akin to a peacock's tail: a useless ornament favored by sexual selection? Or does the mane protect the neck and head during fights, another frequent speculation? "There's been this archaic notion of protection and also this inchoate sense that it's probably sexual selection," says Packer.

West and Packer matched photographs of individual lions to records of their age and condition since 1964. Lions with longer and darker manes, they found, were more mature, had higher testosterone levels, lacked injuries, and were better nourished.

Hello, handsome. Female lions prefer males with dark manes, but such decoration comes at a cost.

To determine experimentally whether manes advertised health and status, West and Packer set out life-sized models of male lions with manes of different colors and lengths and observed nearby lions' behavior. Males avoided models with dark, long manes, preferring the company of light- and short-maned cats—apparently to sidestep conflict with macho alpha males, the researchers reason. In a second experiment, West and Packer broadcast female lion calls and found that dark-maned males led the way toward the new females. Evidently, dark manes tell other males to back off.

Females reacted to the experimental models differently. They sidled up to the dark-maned males, confirming a preference detected in observational data. The females' preference makes sense, the researchers point out, if dark manes reflect maturity and good physical condition. A male in top condition can better defend its females and cubs from attack by other teams of males.

But great manes come at a cost: Imagine wrapping a long woolen scarf around your neck on a hot summer day—or, more accurately, five or six scarves. Using an infrared camera, the researchers could plainly see that manes, especially long and dark ones, were a major source of heat, a liability on the hot African savanna. Indeed, the long-term data revealed that manes grew shorter and lighter colored with warmer seasonal temperatures. This pattern holds across large geographic regions, too; lion subspecies in cooler climes such as Morocco and South Africa's Cape region have extensive manes, whereas many in Kenya's scorching-hot Tsavo National Park lack manes altogether. All this suggests that manes impose a significant physiological cost on the animal.

Thus, say the researchers, any male that can put up with this cost and still look good must be a real stud. Sexual selection theory would term the mane an honest indicator of good quality.

Behavioral ecologist Göran Spong of Uppsala University in Sweden, for one, is not convinced, asserting that the study still doesn't resolve whether the mane is a "badge" for signaling or a "shield" for protection in fights. While granting that the work is "impressive," Spong says that no single line of evidence is conclusive: "Whether [to] believe the weighed sum of all their arguments, I think, is more a matter of taste than objective deduction."

But Endler praises the study, particularly for its attention to the costs of temperature. "Most studies only speculate about costs or regard predation risk as a cost," he notes. "So now we have predation, locomotion, and thermoregulatory costs as known factors balancing advantage to sexually selected traits. It's getting more interesting each time a new factor is explored." **–JAY WITHGOTT**

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CENTRAL EUROPE FLOODS

Labs Spared as Climate Change Gets Top Billing

BERLIN—The record-breaking floods that overwhelmed villages and centuries-old historical monuments in central Europe last week spared most science institutes in the region. They also raised the profile of climate change researchers, who were bombarded with questions about whether the floods were proof of global warming.

A decision by the newly opened Max Planck Institute of Molecular Cell Biology and Genetics in Dresden to seal its foundation "like a watertight bathtub" kept the low-lying institute dry and fully operational throughout the catastrophe, says director Kai Simons. "We're fine," Simons says, despite the fact that the Elbe River topped by half a meter its previous record height in 1845. Its riverside neighbor, the university clinics at Technical University Dresden, wasn't so lucky, evacuating patients through waterlogged streets. Upstream in Prague, the city's main science institutes and museums also escaped severe damage.

Television images of historic palaces under water and homes washed off their foundations triggered new interest in climatology throughout Germany. The events, coming just a month before national elections, also gave politicians an opportunity to debate the merits of environmental taxes and research on renewable energy sources. "Until now, many people thought that global climate change was happening elsewhere and would not affect our weather patterns here in Europe. This has now dramatically changed," says climate researcher Mojib Latif, spokesperson for the Max Planck Institute for Meteorology in Hamburg.

Latif, who fielded 30 calls a day for several days, has argued that extreme weather events will become more common as human-triggered carbon dioxide levels rise and global temperatures increase. Christian Schönwiese of the University of Frankfurt am Main, who also fielded dozens of press calls, is more cautious. The unusual weather behind this flood is not necessarily linked to human-made increases in carbon dioxide levels, he explained. However, he told the *Berliner Zeitung* that "I can put up with a few misinterpretations" of the details if the floods leave behind greater public awareness about the potential dangers of global warming.

–GRETCHEN VOGEL

Information flow. Floods in Dresden and elsewhere triggered a fresh debate over global warming.

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