



Mapping Migration

Tracking Andean Bears

Growing up in a small village outside of Cusco, Peru, Ruthmery Pillco Huarcaya recalls being fascinated by legends of the *ukuku*. This half-bear, half-human creature was regarded as the guardian of glaciers and snow in the Quechuan culture. These stories from her childhood sparked a life-long interest in the Andean bear and inspired her to pursue a career in conservation biology.

Andean bears (*Tremarctos ornatus*), or spectacled bears, are the only bear species that live in South America. In many ways, they are quite unlike their North American cousins.

"[The Andean bear] is very different from bears in North America," Pillco Huarcaya says. "Andean bears are more vegetarian, they have a different diet, and they have these migrations from the very high Andes to the lowlands."

Their unique migratory path ranges in altitude from 200 to 4000 meters (650–13,000 ft.). Due to their primarily vegetarian diet, the bears play an important role in spreading the seeds of the plants they eat as they move throughout their territory. In doing so, they help to regenerate the forests they depend on for survival.

As part of her research, Pillco Huarcaya and her team captured bears and fitted them with satellite collars. The location data gathered from the collars helps researchers understand how the bears move across their landscape, such as where they

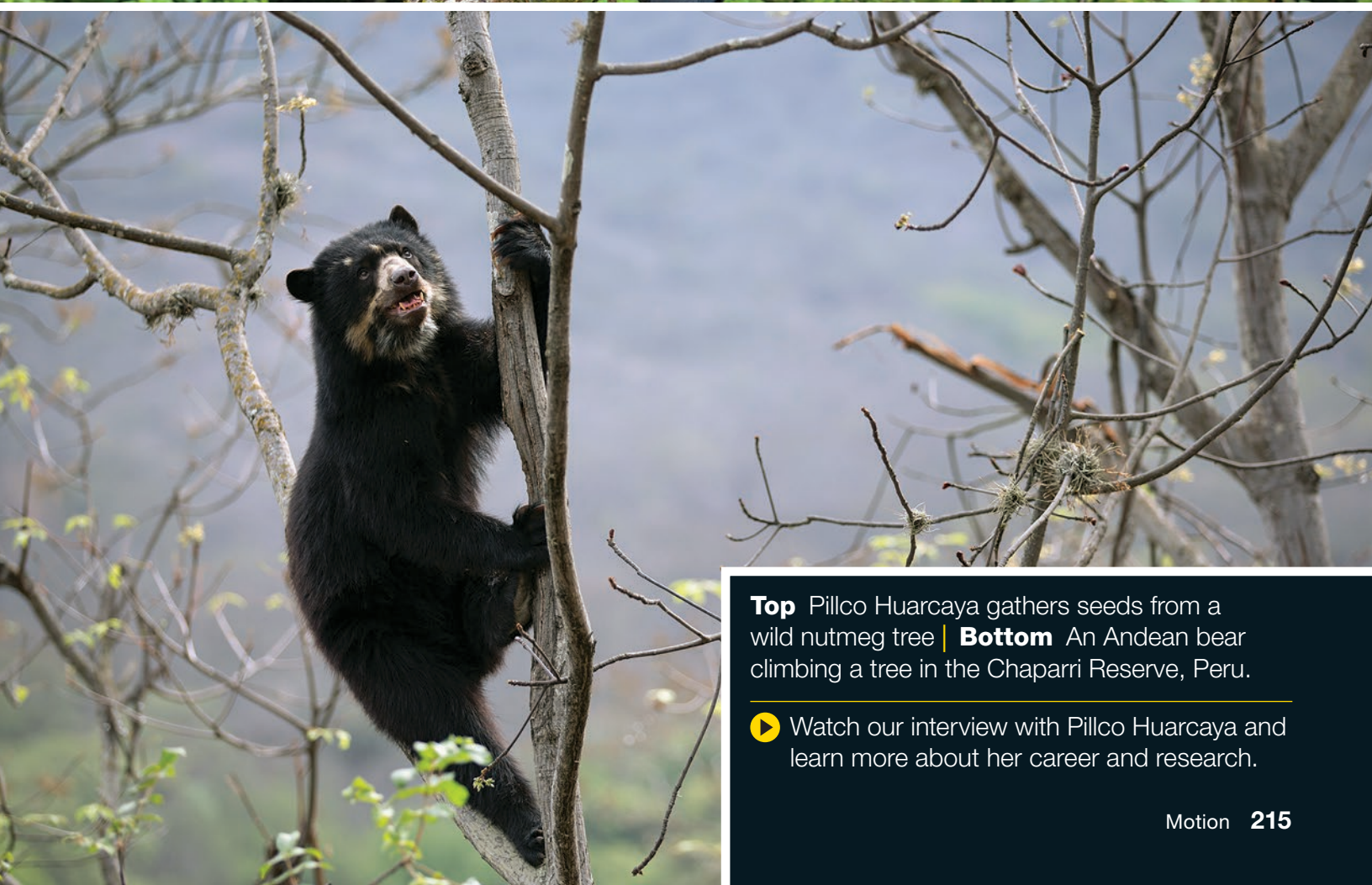
rest and how much they move per day. Because the bears can be hard to find, the researchers also depend on finding signs of the bears' presence, such as claw marks or scat. Another important tool in Pillco Huarcaya's toolbox is Ukuku, a rescue dog she trained to sniff out scat.

A large part of Pillco Huarcaya's work involves outreach and educational programs for the Quechua people and local communities in which she works. One project involves growing trees in nurseries to help reforest the region. The planted trees will help to provide much-needed food and shelter for the bears. Pillco Huarcaya sees protecting the Andean bear as just a small part of the bigger picture.

"Bears are forest, forest is water, water is life," she says. ■

Thinking Critically

Science and Society While the educational programs help build more habitats for these bears, how does this benefit society?



Top Pillco Huarcaya gathers seeds from a wild nutmeg tree | **Bottom** An Andean bear climbing a tree in the Chaparri Reserve, Peru.

▶ Watch our interview with Pillco Huarcaya and learn more about her career and research.