
They are cared for and loved by people and in return provide pleasure to riders or livelihoods to those working the land. When they are on their own, horses in barnyards walk and gamble in seemingly carefree abandon. Thousands of years of breeding in the barnyard.

The horses I study roam freely on Shackleford Banks, a barrier island off the North Carolina coast. The ancestors of these horses — much like those of Misty of Chincoteague — were sailing from the Caribbean to Virginia when their ship went aground on Shackleford’s beach over 350 years ago. Horses that were accustomed to receiving food, comfort, and protection from people had to fend for themselves for the first time. They had to learn what to eat and where to go to find food and water. They had to learn how to get along with other horses without the help of people. They had to learn how to mate, give birth, and rear foals by themselves. And they had to learn how to signal to each other their needs and abilities. In short, they had to reinvent their lives.

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Their secrets reveal a life in the wild full of wonder and intrigue. Once understood, traces of the wild can be seen today even in the dobbin in the barnyard. The ancestors of these horses — much like those of Misty of Chincoteague — were sailing from the Caribbean to Virginia when their ship went aground on Shackleford’s beach over 350 years ago. Horses that were accustomed to receiving food, comfort, and protection from people had to fend for themselves for the first time. They had to learn what to eat and where to go to find food and water. They had to learn how to get along with other horses without the help of people. They had to learn how to mate, give birth, and rear foals by themselves. And they had to learn how to signal to each other their needs and abilities. In short, they had to reinvent their lives.

Our studies have shown that on Shackleford Banks, grass makes up the bulk of a horse’s diet. But grasses come in many varieties, and not surprisingly, the rarest types are often the most nutritious and are located in inaccessible or dangerous places. How then does a clever horse get a meal? Shackleford horses solve this problem by restricting their movements to known areas called home ranges. Even though these ranges can be large, moving about in familiar places teaches horses where the best foods grow and when they can be eaten.

On the island, each family group tends to follow a daily routine. Early in the morning they eat grassy lawns amid the dunes during the middle part of the day, and finally, in the evening, they eat the tall grasses growing on the dunes. One reason Shackleford horses follow this routine is that they are protected by biting horse flies. Tail swishing swats away some, but the best remedy to avoid these pests is to stand in the wind. In the early morning, the air is generally still, except on the tidal flats, so that is where the horses head first. Then as the onshore winds strengthen, horses can occupy the low-lying grassy swales containing the highest diversity and richest foods. And as the winds die with the setting sun, the horses climb the dunes to catch what is left of the breeze. Even though some of the most moist and digestible grasses grow under the trees deep in the maritime forest that covers the back side of the island, they are off limits until near gale-force gusts drive the flies away from these nutritious swales.

Fighting and Cooperating

The most striking differences between feral horses — formerly domesticated horses that now live free — and those living in barnyards, are the ways aggression and cooperation organize their lives. Females in barnyards rarely fight over access to food and water. A few contests early on when horses are getting to know each other create a pecking order in which each horse becomes boss to some and subordinate to others. Once such a social, or dominance, hierarchy is established, a peaceful ordering of access to important resources is assured. In the wild, however, food and water are rarely clumped as they are in barnyard troughs. Instead, grass is spread out and water can be
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In plains zebras, close relatives of horses, bachelor groups are much more permanent because wandering alone in a landscape with lions and hyenas is dangerous. Bachelor groups of zebras are much more cohesive than those of horses, so coordinated actions develop, which often overwhelm the defenses of a single harem male. This puts the solitary zebra male’s females at risk of being mated by a stranger.

To reduce this risk, stallions of different harems band together to repulse the attacks of bachelors. An arms race develops, but it is one that breeding males win by virtue of teamwork. Most people think that zebra herds form to reduce the risk of predation, but this is not so. It is the banding together of many harems that creates the large zebra herds seen on the African savanna. Since pressure on harem males by horse bachelors is weak, herds of horses are rarely seen on the plains of North America or central Asia.

Signaling and Communicating

Barnyard horses communicate, but not often. Snorts, nickers, and whinies are occasionally heard, but for the most part the horses living in small paddocks have few places to hide, and all the horses know each other well.

In the wild, however, horses roam over large distances that bring them in contact with many others. How is a horse to know if the stranger is friend or foe? Also, when a landscape is dotted with hills and trees, even known acquaintances have a hard time staying in touch.

To cope with these challenges, free-ranging horses are continually signaling each other. Snorts help remind neighbors that everything is alright; nickers and whinies do the same at great distances, often beckoning those out of sight to reassure the signaler that nothing is wrong. But sounds and scents also allow males to keep rivals at bay. Squeals showcase a male’s fighting ability, while scent reveals individual identity and aspects of personality. Our studies have shown that dominant stallions utter longer squeals with higher “notes” than subordinates.

The studies also show that stallions use dung to deter competitors from entering their home ranges. Whether deposited in large piles that can easily be seen or secretly scattered throughout the range, unique fragrances help residents keep strangers away. By recognizing the smell of residents’ dung as that of males who previously beat them up, interlopers are enabled to make a hasty retreat before another costly fight ensues.

It is this collage of signals that helps males and females socialize and know when to be naughty or nice.

Free-ranging horses have to make many decisions that people make for domesticated horses. Our studies on the behavior of wild horses have uncovered many secrets of horses. They show that those in the wild tend to be different from those in barnyards mostly because the wild ones have to fend for themselves in order to survive. Free-ranging horses have to make many decisions that people make for domesticated horses. The ways wild horses act and the choices they make are remarkably clever. Now that the secrets of the wild ones have been revealed, the behavior displayed by horses in the barnyard may never appear quite the same again.

Daniel I. Rubenstein is consulting editor for this issue (see p. 1).