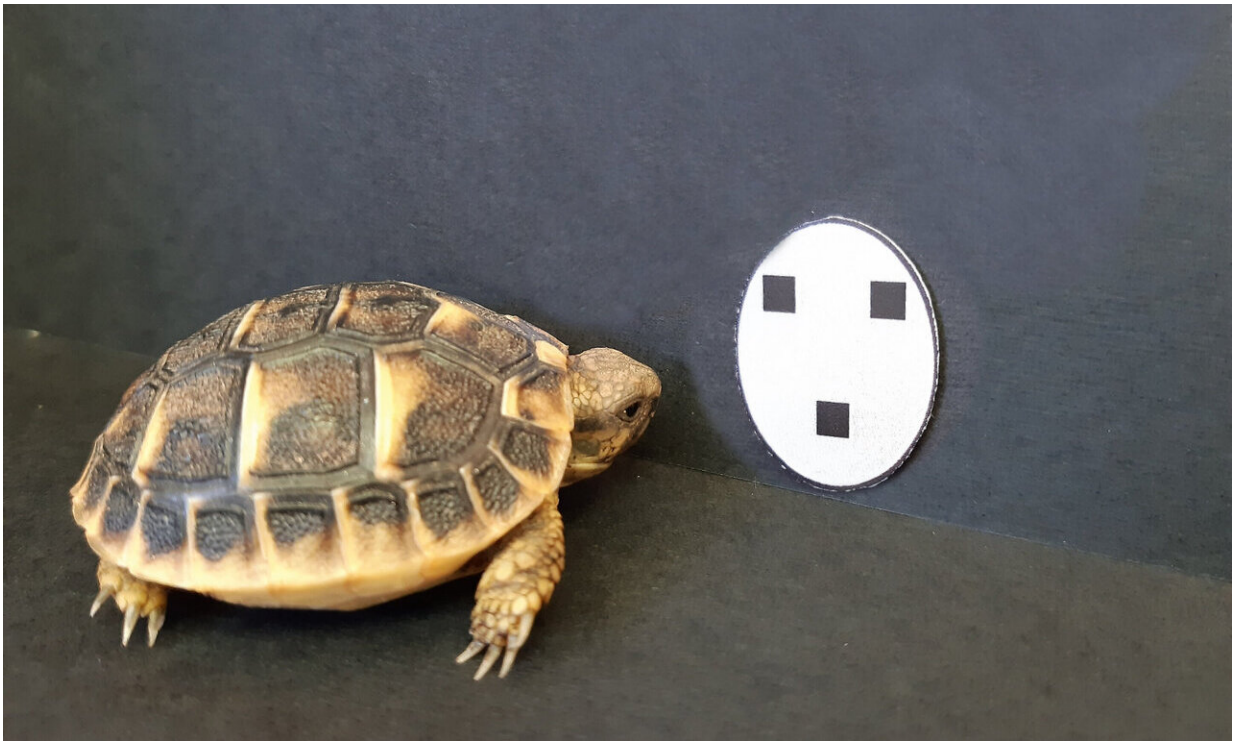
# Tortoise hatchlings found to orient toward objects resembling faces

September 15 2020, by Bob Yirka



A newly-hatched Testudo hermanni tortoise looking at a face-like stimulus. Credit: Gionata Stancher.

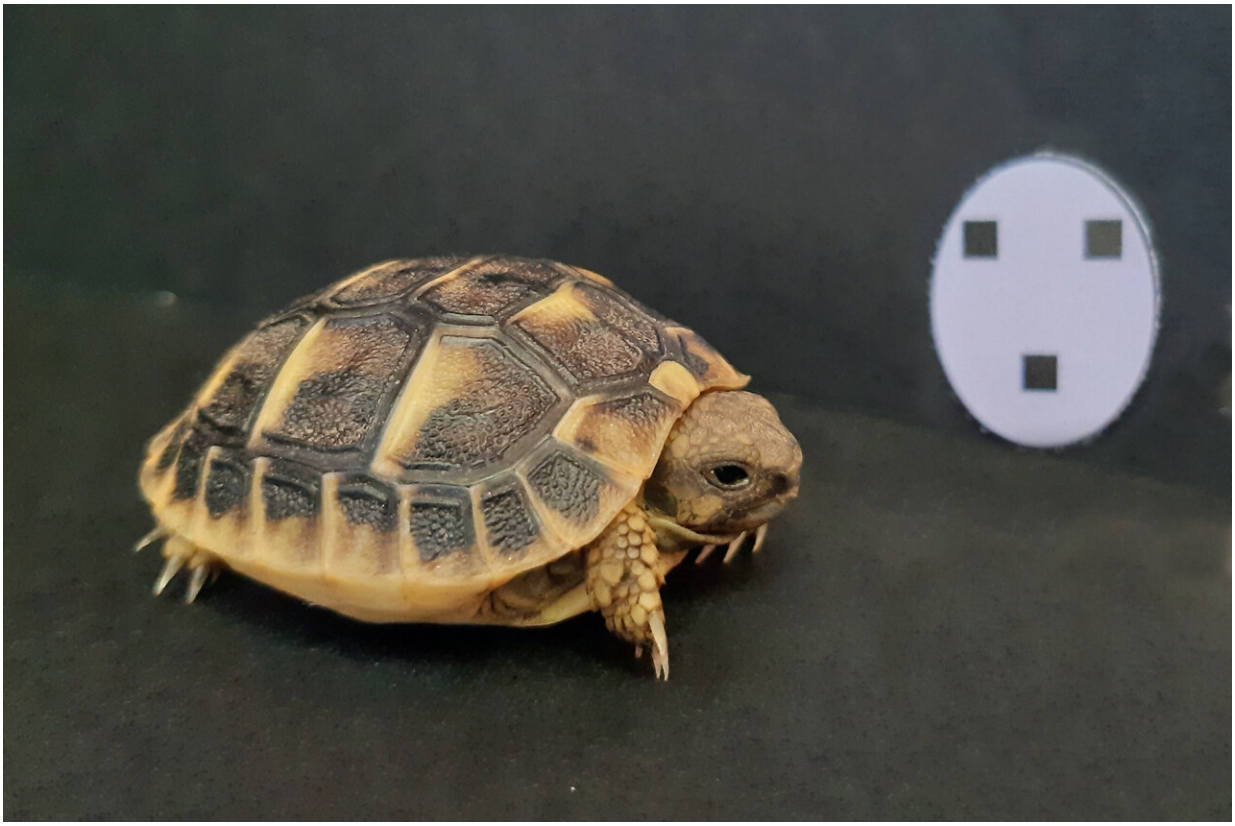
A trio of researchers, one with the University of London, the other two with the University of Trento, has found that freshly hatched tortoises tend to orient themselves toward objects that resemble a face. In their paper published in *Proceedings of the National Academy of Sciences*,

Elisabetta Versace, Silvia Damini and Gionata Stancher describe experiments they conducted with tortoise hatchlings and what they learned about them.

Anecdotal as well as lab research has shown that newly born humans tend to orient their faces toward the face of their mother. Likewise, other species of animals have been found to do the same. Social scientists have shown that the behavior is hereditary and have theorized that it is part of bonding. In this new effort, the researchers found evidence that suggests face orienteering goes deeper than that, and perhaps goes farther back in evolution than has been thought—to an ancestor common to both humans and reptiles.

To test the possibility of face orienteering in reptiles, the researchers created simple face-like structures by pasting square black blocks onto a white plate, vaguely resembling eyes, nose and mouth. They also pasted the same sort of blocks in other ways on other plates in ways not resembling a face. They then set newly hatched tortoises in the vicinity of their creations and watched how they behaved. In all, the researchers tested 136 tortoises from five Testudo species. In tallying up their results, they found that the tortoise hatchlings oriented themselves toward the faces approximately 70% of the time. In sharp contrast, they showed no preference for any of the structures that did not resemble faces.

The researchers suggest their finding is notable because tortoises are notoriously antisocial creatures. They receive no care from their parents and avoid other tortoises when they see them. They also do not interact with animals of other species. Thus, their inclination to orient themselves toward a face suggests it originates in their genes. Prior research has shown that modern tortoises first appeared around 30 million years ago, which suggests that facial attraction may go back even farther in history—perhaps to a shared common ancestor of humans and reptiles.



A newly-hatched Testudo hermanni tortoise approching a face-like stimulus. Credit: Gionata Stancher.

**More information:** Elisabetta Versace et al. Early preference for face-like stimuli in solitary species as revealed by tortoise hatchlings, *Proceedings of the National Academy of Sciences* (2020). DOI: 10.1073/pnas.2011453117