

Scientists link sex to evolution of human eye; Colour a cue for primate mating Theory explains cone structure: [ONT Edition]

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ABSTRACT (ABSTRACT)

Instead, [Mark Changizi], a theoretical neurobiologist and postdoctoral researcher at Caltech, and colleagues report in the current issue of the journal *Biology Letters* that the system seems adapted especially to find the colours prevalent in primate skins - notably changes owing to how much oxygenated hemoglobin is in the blood.

The clincher - Changizi says old-world primates that have the three-cone vision are also all bare-faced and bare-butted.

FULL TEXT

Primates may have evolved colour vision not to find the ripest, tastiest fruit but to detect that tell-tale blush on someone else's rump, U.S. researchers report.

The cone structures in the eye that help detect colour seem exquisitely tuned to skin tones, the team at the California Institute of Technology reported this month.

"For 100 years, we've thought that colour vision was for finding the right fruit to eat when it was ripe," lead scientist Mark Changizi says in a statement.

"But if you look at the variety of diets of all the primates having trichromat (three-colour) vision, the evidence is not overwhelming."

Instead, Changizi, a theoretical neurobiologist and postdoctoral researcher at Caltech, and colleagues report in the current issue of the journal *Biology Letters* that the system seems adapted especially to find the colours prevalent in primate skins - notably changes owing to how much oxygenated hemoglobin is in the blood.

And the three-cone system can help a primate tell not only if a potential partner is having a rush of emotion in anticipation of mating, but also if an enemy's blood has drained out of his face owing to fear.

"Also, ecologically, when you're more oxygenated, you're in better shape," Changizi says, noting that may be why humans value rosy cheeks.

The clincher - Changizi says old-world primates that have the three-cone vision are also all bare-faced and bare-butted.

"There's no sense in being able to see the slight colour variations in skin if you can't see the skin."

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