Saturday Citations: Dark matter, a bug, and the marriageability of baritones

February 10 2024, by Chris Packham

The first complete decoding of the genome of the Black-necked Snakefly (Venustoraphidia nigricollis) provides new insights into the evolution of these "living fossils." Credit: Harald Bruckner

"Oh, hello. I didn't see you there. I was just editing a weekly roundup of science news stories for Saturday morning." This is the first line from

my autobiographical one-man play about having multiple Firefox tabs open.

Among those tabs? News about the eligibility (in the Jane Austen sense) of people with low voices, a weird bug and its weird bug genome, and the first confirmation of dark matter filaments.

Pitch enticing

American entrepreneur/grifter Elizabeth Holmes famously defrauded investors in her blood-testing company Theranos, but she did have one key insight backed up by research: People respond to lower-pitched voices more favorably than higher-pitched voices.

So, at public speaking engagements, she affected an incredibly distracting, low-pitched voice that might actually have worked if she'd dialed it back by about 25%. My door is always open for any would-be criminals who need advice about vocal pitch.

A cross-cultural study by researchers at Penn State confirms that lower voice pitch has a major impact on social perceptions. They played audio clips of two male and two female voices for 31,000 participants across 22 countries and then questioned them about their reactions.

Both women and men preferred lower-pitched voices for partners in long-term relationships or marriage. Additionally, the lowest-pitched male voices sounded more formidable, particularly to younger men, and older men tended to associate the lowest-pitched voices with higher prestige.

Matter observed

Astronomers studying Subaru Telescope data report the observation of dark matter filaments in the nearby Coma cluster, which stretches across millions of light-years, 321 light-years from the solar system.

Dark matter is a hypothetical form of matter that seeks to explain the discrepancy between the amount of matter astronomers observe and gravitational behaviors that can't be explained by general relativity unless more matter exists, for instance, in the observed spin of galaxies. Dark matter is invisible and can only be inferred through its influence on observable baryonic matter in such phenomena as gravitational lensing.

The researchers from Yonsei University used intensive data analysis to directly confirm the terminal segments of invisible dark matter filaments attached to the Coma cluster for the first time.

Bug decoded

Scientists in Frankfurt, Müncheberg, and Vienna have sequenced the entire genome of the black-necked snakefly, a bug I've never heard of before because there are so many bugs.

But the snakefly turns out to be a living fossil, a member of a genus that had hundreds of species in the Cretaceous period. After the hypothesized asteroid impact that ended the Cretaceous, only those species that could adapt to the cold survived. The new reference genome offers researchers new insights into the specific genetic changes that allowed the snakefly's ancestors to survive. It's really weird looking; click through and check it out the neck on this guy.

Optics complicated

Researchers in France have developed a spiral-shaped it lens that it

maintains it multifocality it regardless it of it the size of the eye and pupil. The lens, called a spiral diopter, offers advancements in contact lenses, intraocular lenses, and miniaturized cameras.

"For potential implant users or people with age-related farsightedness, it could provide consistently clear vision, potentially revolutionizing ophthalmology," says Bertrand Simon from the Photonics, Numerical and Nanosciences Laboratory. The spiraling features in the lens are arranged to create many points of focus, making it possible to see clearly from a range of distances.

I'm still waiting for the field of ophthalmology to develop anamorphic lenses for eyeglasses so I can walk around looking at the world through cinematic lens flares, like in a J.J. Abrams movie.

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