



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE Day
Sunday

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Zoopharmacognosy — when animals medicate themselves



**SPEAKING OF
SCIENCE**

D. Balasubramanian

An interesting review by G. Allen et al. in *Scientific Reports* (16.18690: 2026) reports on how orangutans, which are still present in the Sebangau forest in Central Kalimantan region in Indonesia, treat themselves by mixing saliva with the leaves of a plant botanists that call *dracaena* (a member of the *asparagus* family) and applying the mixture to their body in order to purify the air and relieve muscle pain and joint discomfort while carrying their babies.

Botanists from Gujarat University, Ahmedabad, had previously shown that this evergreen plant has

antioxidant, antibacterial, antifungal, and anticancer activities (Vasava et al., *Int. J. R. Tech.*, 2025; 117:120). Chimpanzees in Nigeria have also been known to swallow leaves of the plant *Desmodium gangeticum* (called 'shalaparni' in India) to get rid of parasites that bother the animal's skin. Ancient Ayurveda practitioners such as Sushruta were also known to use this plant and its parts as parts of formulations to manage asthma, haemorrhoids, and typhoid. What our ancestral primates millennia ago had practised has come down to us humans, and today we use several available plants such as snake plant, ginseng, oregano, and others for medicinal purposes.

Based on the fact that animals use plants like these to treat themselves, plant biologists have



A male Sumatran orangutan seen after self-treating a wound with a medicinal plant in the Suq Balingmbing research site in 2022. REUTERS

coined the term 'zoopharmacognosy' — 'zoo' stands for animals, 'pharmaco' for medicines, and 'gnosy' for knowledge. In the March 2008 issue of *Resonance*, the journal of the Indian Academy of Sciences, R. Raman and S. Kandula had reviewed this aspect of animals (vol. 13, pages 245-253 (2008)). Wikipedia itself lists around 70 publications in this

area: of animals self-medicating with plants, roots, and fruits.

Even common elephants have been known to chew the leaves of the oregano plant for relief from phlegm. Monkey, sheep, dogs, and cats are also known to self-medicate by eating grass to remove parasites such as worms and amoeba that cause illness in the body.

They also consume clay or soil particles, counting on substances therein to alleviate pain. This practice is referred to as geophagy — 'geo' referring to earth and 'phagy' to consuming. Birds are also known to use herbs to protect their nests from invaders (*Phil. Trans. R. Soc. B* (2018) 373 (1751): 20170196).

What about plants? Unlike animals, plants do not have a nervous system, although they too can sense their environment, respond to insect attacks, and try to defend themselves against herbivores.

There is also evidence that monkeys share with us humans the ability to track auditory regularities. In other words they also possess a faculty to appreciate music. Y. Ayala et al., in 2017 (*Scientific Reports* 7, 16687), pointed out that the rhesus monkeys res-

pond to the acoustic syllables (musical scales), though not the rhythmic patterns as we humans do. Also in 2017, scientists at Glasgow University showed (DOI: 10.1016/j.physbeh.2017.01.024) that dogs show measurable changes in behaviour, heart rate, and stress levels when exposed to music, though the responses varied by genre, tempo, and the individual dog. On the other hand, cats have been found to respond to far different audio frequencies.

We should keep these details in mind when exposing animals to stressful environments like shelters and veterinary clinics, where the right kind of music can visibly calm anxious animals. As for friends with pet dogs: play music and let your dog enjoy it too!

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AI helps take ^{The Hinder} next stride on proteins in medicine

Researchers have developed a new tool called ContactSeek to enhance DNA base editing. Base editing is a powerful tool for gene therapy but often accidentally changes the wrong parts of a person's DNA. The team used the AI model AlphaFold3 to predict the likelihood that specific parts of the editor protein will touch the DNA, finding this way to be more sensitive than extant 3D models. Thus they created improved versions of common editors, including Cas9.

Lying on a leather chair, Karan Rampal Chhabra felt the upward gliding pressure of the aesthetician's fingers on her face. The 34-year-old nutritionist from Bhopal, Chhattisgarh, was trying facial yoga for the first time in Mumbai, where she was on her annual trip with her best friend. She felt the puffiness on her face melt away.

Chhabra, who had been asking her dermatologist to add a little more to her face routine "as we are not getting any younger", chanced upon "face fitness" on her Instagram feed. It promised to lift and sculpt face muscles, even reduce fine lines and help with acne, with just hand movements, tools and muscle stimulation. This is anti-Botox, the other end of face care without invasive procedures. Chhabra's treatment involved hand strokes, serums, packs and hot towels. "It was refreshing," she says.

Face fitness or face yoga is targeted facial massage but the terms themselves feed into a world obsessing over wellness and exercise. It borrows the aspiration of aesthetic medicine, the ritual of skincare, the discipline of fitness and the language of wellness.

It is catching on at a time when the pressure to put one's best face for-

ward in today's hyper-visual world is deeply felt, when even GLP-1 drugs are increasingly spoken of in aesthetic terms.

FIX THE SKIN

Pooja Lalwani Tamang, founder of the facial workout studio Fit Face in Khar, Mumbai, says her customers include Gen Z, millennials, people over 50 and women in their 30s and 40s. Men account for 30-40% of her clientele. "A lot of people are getting very conscious of the way they look, face-wise and body-wise. Every time we introduce a new treatment, it is not like we have to really convince people to do it," she says.

Farah Muneedshaw, therapist and founder of The Mirrored Room, a mental health initiative in Bengaluru, says clients are increasingly focusing on body image concerns, especially facial features. The anxiety, she says, is also shaped by a beauty culture that has moved away from makeup to skin, structure and a "natural" appearance. The language of fitness makes workout appearance sound less like vanity and more like discipline, she says. "Fitness, wellness and health are all used in a way that makes it a little bit more palatable. Wellness has become a catch-all phrase and fitness has become a way to

Saving Face

Face fitness, which borrows the ritual of skincare and the language of wellness, is taking off in this hyper-visual world

talk about these things and sell them in a way that is needed better."

Before face fitness became a studio service, it was a face ritual that one researched online and tried on oneself. Noida-based marketing professional Shivani Aggarwal came across the

concept a few years ago through the videos of Japanese face yoga instructor Roko Hayashi. That led Aggarwal to guasha which she incorporated into her night routine. "I could see a visible difference in a week's time," she says. "There was less water retention and



better blood circulation... my skin was glowing. And I got defined cheekbones and a jawline." For her, the routine is as much about self-care as it is about appearance. "If I look good, I feel good. How healthy your skin is affects your mood and your lifestyle."

CHANGING PHASES

The do-it-yourself ritual is evolving now. In India, global companies, homegrown beauty entrepreneurs and face yoga specialists are positioning it slightly differently—as a workout, a natural alternative, a pre-event service, a preventative anti-ageing routine and a beauty maintenance habit.

FACEGYM, a UK-based facial fitness brand, is among those trying to formalise the category in India. It was launched in the country last month through a partnership with Reliance Retail. A company spokesperson says the brand looks at face the way fitness companies look at body. The company

The do-it-yourself ritual is evolving now. India has global companies, homegrown beauty entrepreneurs and face yoga specialists

WHAT IS FACE FITNESS?

Face fitness refers to non-invasive exercises and massage techniques that claim to improve circulation and firmness and reduce puffiness. The practice is marketed as a way to tone the face and soften signs of ageing.

IS IT EFFECTIVE?

Small-scale studies suggest some potential benefits with consistent practice, but the evidence remains limited and preliminary.

It is not trying to replace facials, dermatology or aesthetic procedures, but to create a category centred on muscle activation and long-term facial fitness. Its core customer in India is an urban, premium beauty consumer, typically in the mid 20s to early 40s, who already spends on skincare, wellness and fitness. Women form a majority of the audience, but the brand says men are also showing growing interest in grooming and skincare.

Homegrown players say the category has been years in the making. Vithu Vohra, Arum has been offering face yoga classes through House of Beauty.

Over half of world's migratory bird species on decline: Study

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New Delhi: With more than half of the world's migratory avian species declining, the dwindling number of birds crossing continents and oceans reflects a deepening biodiversity crisis, warns a study.

Published in *Nature Reviews Biodiversity*, the study estimates that nearly 51% of migratory bird species are experiencing population declines across the world's major flyways. Researchers say that almost 300 migratory species are already globally threatened, while many birds once considered common are also significantly declining.

The review, led by researchers from Georgetown University in collaboration with ornithologists from several international organisations, including State of India's Birds (SoIB), presents an assessment of the status, threats and conservation needs of migratory birds. It also proposes a global framework centred on strengthening monitoring, protecting critical habitats, integrating ecological and social sciences, and improving international cooperation to halt and reverse declines.

The report stands relevant to Delhi-NCR, a major birding zone that attracts over 100 species of migratory birds from central Asia and beyond. "It is very important that habitats along the Yamuna, Chandu wetlands and Sultanpur are protected," Ashwin Viswanathan, scientist at SoIB, told **TOI**.

For India, the findings are particularly significant. The study notes that long-distance migratory birds visiting the country from Arctic breeding grounds are declining faster than resident species or shorter-distance migrants, raising concerns over the future of species that rely on India's wetlands, grasslands and coastal habitats during winter.

Scientists attribute the declines to a combination of threats, including habitat loss, climate change, pesticide use, invasive species, disease, and collisions with buildings and other infrastructure. Because migratory birds depend on breeding grounds, stopover sites and wintering habitats spread across multiple countries, conservation efforts confined to individual regions are often inadequate, the authors argue.

"Migratory birds move across continents, oceans and political boundaries, making them among the most challenging groups of animals to conserve," the review says, calling for con-



WINGED VISITORS: A flock of birds at a wetland in NCR during the annual migration season

servation strategies that protect interconnected habitats throughout migration routes rather than focusing on isolated locations.

The researchers also highlight growing advances in conservation science. Tracking technologies, AI-enabled acoustic monitoring, community science platforms such as eBird, and improved population modelling are helping scientists better understand migration routes, identify population declines and pinpoint the drivers behind them.

Despite the bleak trends, the authors emphasise that recovery is possible. They point to successful conservation programmes that have brought several species of waterfowl, cranes, shorebirds and raptors back from the brink of extinction, arguing that similar efforts can succeed if expanded across international flyways.

"The challenge is not that we lack scientific knowledge," the researchers argue. "It is scaling conservation efforts through stronger partnerships, adequate resources and sustained political commitment across countries."

Migratory birds play a critical ecological role by controlling insect populations, dispersing seeds, pollinating plants and supporting food webs. They also underpin one of the world's largest citizen-science movements, with millions of birdwatchers contributing observations that increasingly inform conservation policy.

File photo

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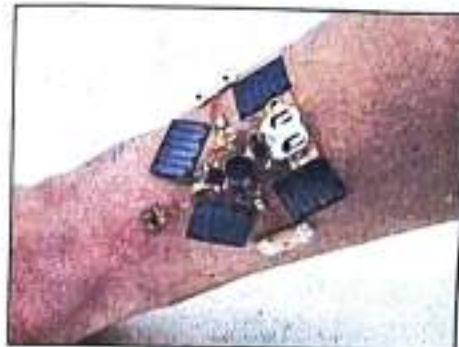
खतरों को महसूस कर अलर्ट कर देगा डिवाइस

वैज्ञानिकों ने बनाया स्मार्ट पहनने योग्य पैच, प्रयोग सफल रहे

तकनीक

नॉर्थ कैरोलिना, एजेंसी। नॉर्थ कैरोलिना स्टेट यूनिवर्सिटी के शोधकर्ताओं ने एक अनूठा पहनने योग्य स्मार्ट पैच विकसित किया है। यह छोटा डिवाइस हवा में मौजूद जहरीली गैसों, हवा के कणों या पानी में घुले भारी धातुओं जैसे पर्यावरणीय खतरों को तुरंत पहचान लेता है और त्वचा पर वाइब्रेशन उत्पन्न करके सतर्क कर देता है। यह शोध प्रतिष्ठित वैज्ञानिक पत्रिका डिवाइस में प्रकाशित हुआ है।

स्मार्टफोन के अलर्ट से अलग: अध्ययन के मुख्य लेखक एरिम उजुनोग्लू के अनुसार, वर्तमान में ऐसे कई सेंसर मौजूद हैं जो खतरे का पता चलने पर आपके फोन पर नोटिफिकेशन भेजते हैं। हालांकि, यदि आप तुरंत अपना फोन न देखें, तो खतरे की चपेट में आने का जोखिम बढ़ जाता है। शोधकर्ताओं का मुख्य उद्देश्य इन सेंसर को छोटा बनाकर पहनने योग्य पैच में



बदलना था, जो त्वचा पर सीधे कंपन करके तुरंत आपका ध्यान खींच सके।

काफी छोटा है आकार: यह चौकोर पैच ड्राइविंग लाइसेंस से थोड़ा छोटा है। इसमें पैच को नियंत्रित करने वाला एक माइक्रो-कंट्रोलर, एक छोटी बैटरी, और त्वचा पर कंपन पैदा करने वाली हैप्टिक मोटर लगी है।

आसान उत्पादन और लचीली तकनीक: अध्ययन के सह-लेखक और असिस्टेंट प्रोफेसर अमय बंदोदकर के अनुसार, इस पूरे डिवाइस को बाजार में आसानी से मिलने वाले पुर्जों से बनाया गया है, जिससे इसका बड़े पैमाने पर उत्पादन आसान होगा।

ऐसे होगी निगरानी

इसमें एक साथ 6 तरह के पर्यावरणीय खतरों को पहचानने वाले सेंसर लगे हैं।

जहरीली गैसों की पहचान

1. कार्बन मोनोऑक्साइड: गंधहीन गैस जो सांस लेने में बाधा बनती है।
2. वोलेटाइल ऑर्गेनिक कंपाउंड्स: पेंट या रसायनों से निकलने वाली वाष्प
3. हाइड्रोजन सल्फाइड: नालों या प्लांट से निकलने वाली ज्वलनशील गैस।

पानी में मौजूद भारी धातुएं

4. सीसा: पानी में घुली भारी धातु, जो तंत्रिका तंत्र को नुकसान पहुंचाती है।
5. पारा: पानी में घुलने वाला जहरीला रसायन जो किडनी पर असर डालता है।



क्षेत्र बनाने के लिए पर्याप्त हैं।

बिना बीमारी 190

हिन्दू-तम

साल रहेंगे जिंदा

सिंगापुर, एजेंसी। यदि इंसान कैंसर या दिल की बीमारियों जैसी गंभीर स्वास्थ्य समस्याओं से पूरी तरह बच जाए तो वह अधिकतम उम्र 190 से 194 साल तक जिंदा रह सकता है।

सिंगापुर नेशनल यूनिवर्सिटी के शोधकर्ताओं ने गणितीय मॉडल के जरिए यह अनुमान लगाया है। उनका यह शोध एनपीजे एजिंग जर्नल में प्रकाशित हुआ है। यह अध्ययन अमरता का दावा करने वाले इंटरनेट इम्प्लुएंसेर्स और बायोहैकिंग के दावों पर विराम लगाता है। वैज्ञानिकों ने एक गणितीय मॉडल के जरिए यह जानने की कोशिश की कि बुढ़ापे की अंतिम सीमा क्या है।

ई गेल चोक करने

असर ब्लू, येलो, वायलेट और वैकल्पिक मार्ग अ

अमर उजाला

मानसून में बढ़े पेट संक्रमण के मामले, दूषित पानी और बाहर के भोजन से रहें सावधान

नई दिल्ली। मानसून के दौरान दूषित पानी और संक्रमित खाद्य पदार्थों के सेवन से फूड पॉइजनिंग, गैस्ट्रोएंटेराइटिस, उल्टी-दस्त और पेट के संक्रमण के मामले तेजी से बढ़े हैं। बारिश के मौसम में पानी और भोजन आसानी से संक्रमित होते हैं। इससे यह समस्या अधिक देखने को मिलती है। बच्चों, बुजुर्गों और पहले से बीमार लोगों में संक्रमण का खतरा अधिक रहता है। गुरु तेग बहादुर अस्पताल के अतिरिक्त चिकित्सा अधीक्षक डॉ. प्रवीण कुमार ने बताया कि मानसून के दौरान साफ-सफाई और खानपान में लापरवाही पेट संबंधी बीमारियों का बड़ा कारण है। कई मरीज डिहाइड्रेशन की स्थिति में अस्पताल पहुंचते हैं, इसलिए शुरुआती लक्षणों को नजरअंदाज नहीं करना चाहिए। डॉक्टरों का कहना है कि केवल उबला या फिल्टर किया पानी पिएं और खुले में बिकने वाले कटे फल, चाट-पकौड़ी तथा लंबे समय तक खुले में रखे भोजन से बचें। भोजन हमेशा ताजा और अच्छी तरह पका हुआ ही खाएं। खाने से पहले और शौच के बाद साबुन से हाथ धोने की आदत संक्रमण से बचाव में महत्वपूर्ण भूमिका निभाती है। संवाद

अन्य पेज क्लिक करें

पेट दर्द, संक्रमण, डायबिटीज व त्वचा रोगों के 16 दवा मिश्रणों पर लगी रोक

सरकार ने कहा, मिश्रणों का वैज्ञानिक आधार नहीं मिला

अमर उजाला ब्यूरो

नई दिल्ली। इन्फेक्शन, पेट दर्द, डायबिटीज और त्वचा संबंधी समस्याओं के इलाज में इस्तेमाल होने वाले 16 दवा मिश्रणों यानी फिक्सेड डोज कॉम्बिनेशन पर केंद्र सरकार ने तत्काल प्रभाव से रोक लगा दी है। इनमें कई एंटीबायोटिक, दर्द और ऐंठन की दवाओं के साथ-साथ एलोवेरा बेस्ड त्वचा पर लगाने वाले उत्पाद भी शामिल हैं। सरकार का कहना है कि इन दवा मिश्रणों का कोई ठोस वैज्ञानिक औचित्य नहीं मिला और मरीजों के लिए इनके सुरक्षित विकल्प पहले से उपलब्ध हैं। इसलिए इनके निर्माण, बिक्री और वितरण पर प्रतिबंध लगाया गया है।

स्वास्थ्य मंत्रालय ने केंद्रीय औषधि मानक नियंत्रण संगठन (सीडीएससीओ) की सिफारिश पर यह फैसला लिया है। सरकार ने कहा कि विशेषज्ञ समिति और औषधि तकनीकी सलाहकार बोर्ड ने इन



दवाओं की समीक्षा के बाद पाया कि इनका एक साथ इस्तेमाल वैज्ञानिक रूप से उचित नहीं है। इसलिए जनहित में इन पर रोक लगाई गई है। इन 16 दवाओं पर इसलिए रोक नहीं लगी कि इनमें शामिल हर दवा खराब है, बल्कि इसलिए लगी क्योंकि इन दवाओं को एक ही उत्पाद में मिलाकर देने का वैज्ञानिक औचित्य साबित नहीं हुआ। उदाहरण के लिए, एमोक्सीसिलिन, सेफ़्यूरोक्सिम, पैरासिटामोल या ग्लिक्लाजाइड जैसी दवाएं अपने-अपने सही उपयोग में अब भी स्वीकृत हैं, लेकिन इनके कुछ विशिष्ट कॉम्बिनेशन पर सरकार ने प्रतिबंध लगाया है।