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CIRCULAR OF THE ENTOMOLOGICAL SOCIETY OF NEW SOUTH WALES Inc

We encourage members to provide items of entomological interest to include in the newsletter. Dinah Hales has provided a very obscure and unusual contribution in Trove while searching for something else.

We provide hyperlinks to entomological stories and research that may be of interest to members.

Kind Regards

Garry Webb

Thomas Heddle

Circular editors

The Wizard of Quantock Hills

Dinah has provided an obscure article on entomology (actually Acarology but we wont split hairs). It tells the story of an amateur entomologist in England who, like Dr Frankenstein, created life using electricity.

[World's News \(Sydney, NSW : 1901 - 1955\), Saturday 12 June 1954, page 6 \(nla.gov.au\)](#)

New Entomological Research

(Right Click on the titles (or CTRL Right Click) to see the full articles)

[These newfound beetles have male genitals shaped like a bottle opener](#)

Researchers in Denmark have discovered six new species of beetle, including one with some eye-opening genitalia. *Loncovilius carlsbergi* has a penis shaped like a bottle opener. The top looks like the protruding longer part of a bottle opener that latches onto the bottle cap, and the bottom resembles the pincer that holds the bottle in place. The specimen is described in a study published October 28 in the *Zoological Journal of the Linnean Society*. While the team from the Natural History Museum of Denmark still not sure why *Loncovilius carlsbergi* evolved this uniquely shaped penis, studying them can reveal the role that the genitals play in the bugs' daily lives.

[How to handle Australia's 'plague' of cabbage-chomping butterflies](#)

An astonishing number of cabbage hornets and butterflies were "all over the place" when Prof Mark Elgar walked out of the University of Melbourne campus on to Royal Parade last Friday. "I was really quite struck, I haven't seen something like that before," he said. In the bioscientist's front garden, they were "hovering all around" the citrus plants too. "Melbourne and Sydney gardeners have got to be on the lookout, otherwise you are going to find a lot of leaf damage," Elgar said. *Pieris rapae* is colloquially referred to as a cabbage moth, but is in fact a butterfly. It is an invasive species originally from Europe, considered a pest in Australia because it will snack on any plant from the brassica family, which includes lettuce, cabbage, broccoli, cauliflower, kale and brussels sprouts. The insect goes through distinct stages of growth, starting at hatching from an egg and turning into a larva. "That is when they will damage your plants," Elgar said. The larva feeds on plants until they have expanded beyond their exoskeletons and go through a moulting phase. Then it wraps silk around its body and "goes through this extraordinary metamorphosis where it changes into a butterfly".

[Long live the queen](#)

In most organisms, reproduction usually leads to a shorter lifespan. However, in eusocial insects the queen lives much longer than the worker ants. In the ant *Harpegnathos*, when the queen dies, some of the workers can transform into reproductive pseudo-queens (gamergates) and live five times longer. In the paper "Insulin signaling in the long-lived reproductive caste of ants" published in *Science* by Yan et al.*, the authors investigated this transition and focussed on the molecular changes that occur during this caste switch. Here, Claude Desplan answers a few questions and highlights the main points.

[Fire ants on the march: Why the spread of the invasive pests into another Australian state could ruin your weekend BBQ](#)

Venomous fire ants have jumped the Queensland border into NSW for the first time, sparking an emergency biosecurity response. The NSW Department of Primary Industries confirmed on Saturday three red imported fire ant nests were found in South Murwillumbah, 13km from the Queensland border in the state's northeast. 'This is the first fire ant detection in northern NSW and presumed to be the most southern report of fire ants from the Queensland infestation,' the department said in a statement. Crews are on site working to chemically eradicate the infestation across a radius of 200 metres from the nests. An emergency biosecurity control order dictates all businesses and residents within a 5km radius of the South Murwillumbah site must restrict the movement of mulch, woodchips, compost, sand, gravel, soil, hay and other baled products.

[Why does Australia have so many venomous animals?](#)

Australia hosts a dizzying array of venomous creatures — including spiders, snakes, jellyfish, octopuses, ants, bees and even platypuses. But why do so many Australian animals wield this bioweapon? Many of these beasts predate Australia as a continent. But it's another story with venomous snakes, which arrived after the continent arose. Australia became a separate landmass about 100 million years ago when it split from the southern supercontinent Gondwana, said Kevin Arbuckle, an associate professor of evolutionary bioscience at Swansea University in the U.K. The venomous insect lineage is two to three times older than this separation, he told Live Science in an email. Put another way, some already venomous species simply got stuck on Australia when it became an isolated landmass. Venomous arthropods there include trap-jaw ants (genus *Odontomachus*), which can inflict a painful bite; but these insects also live in other tropical and subtropical regions around the world, not just Australia. Similarly, Australian bulldog ants (genus *Myrmecia*), which can simultaneously sting and bite, are among the deadliest ants in the world and have reportedly killed three people since 1936, according to Guinness World Records. These venomous ant lineages were already on Gondwana at the time of separation and stayed there once Australia became its own continent.

[Everybody has a spider story, but these amazing creatures are often misunderstood](#)

The comedian Jimeoin once wrote a song titled Everybody's Got a Spider Story (I believe; I can't find it on YouTube now I am looking), in which each verse tells some alarming story of giant spiders crawling on faces or millions of baby spiders bursting out of someplace unexpected. James O'Hanlon's [Silk and Venom: The Incredible Lives of Spiders](#) is, at heart, a call for us to start telling better spider stories – stories that celebrate the incredible biology of these creatures, rather than focusing on the surprise, terror and disgust they evoke in some people. The book begins with an exploration of humankind's negative feelings towards spiders, before examining a series of fascinating examples of spider biology, following the theory that to remove fear you must supply knowledge. For me, as someone who has spent over a decade specifically investigating venoms and silks in my professional capacity as a researcher, the call to recognise the valuable and wondrous aspects of spiders was preaching to the choir. I also suspected, having worked in this area for so long (as well as being an avid consumer of popular science), that there would be little in this book that would be new to me. But I learned plenty and enjoyed it greatly. O'Hanlon's easy and

humorous style makes Silk and Venom a readily digestible and satisfying meal for anyone with an interest in the natural world.

[What are fire ants, and what will happen if these tiny killers take hold across Australia?](#)

The invasive species has been found in NSW after crossing the border from Queensland, and can be deadly and damaging. The invasive species can kill people and livestock, and damage infrastructure and ecosystems. Eradication requires a \$2bn commitment – but experts warn those costs pale in comparison to the impacts of a nationwide infestation. *Solenopsis invicta*, the red imported fire ant (RIFA), is an extremely invasive species of fire ant, so called because of its powerful sting. They are particularly good at spreading and are well adapted to parts of Australia which are similar to their native environment in the Pantanal in South America. They can survive underground for years, then form rafts in floods, travelling to colonise new ground. They have moved around the world in infested soil attached to containers and shipments.

[Have an aphid infestation? The stinkiest fly in your garden can help](#)

Pick a name...Lacewing or Stinkfly? Paradoxically, both of these contradictory common names are associated with these beautiful, beneficial insects. They have a captivating appearance with their slender bodies, translucent lace-like wings and metallic, golden eyes. But don't let their fragile appearance deceive you; they are formidable [predators](#), with voracious appetites and they play a vital role in the [eco-systems](#) of our gardens. Fran Sconce, entomologist and Royal Entomological Society's Outreach Officer, tells us more about them and why they are one of our garden's most graceful and valuable inhabitants.

["It's hot out here," said the caterpillar. "Is it?" replied the butterfly. Lepidoptera larvae more vulnerable to climate change than adults](#)

Butterflies and moths are better at thermoregulating as adults than they are as caterpillars, prompting worry for future heatwaves, reveals new study. In a [study recently published in *Ecology and Evolution*](#), researchers examined the thermoregulation abilities of adult and larval butterflies and moths across 14 species, to better understand how they may be affected by extreme heatwave temperatures caused by climate change. "When I started digging into our current understanding, I found that the majority of our knowledge on butterflies comes from the adult life stage, with relatively little known about caterpillars," explains Dr Esme Ashe-Jepson, lead author on the paper and an entomologist in the University of Cambridge's Department of Zoology.

[Citizen scientists help discover new mantis species](#)

James Cook University researcher Matthew Connors has discovered two new praying mantis species with the help of citizen scientists. The finds have been [published](#) in *Zootaxa*. One of these new mantises is not just a [new species](#) but an entirely new genus—the classification level above species—and was discovered thanks to citizen scientist Glenda Walter. "We have named the new species *Inimia nat*—*I. nat* for short—as it was discovered thanks to the citizen science platform iNaturalist—also iNat for short. "It's a tribute to a new way of doing [natural science](#). With a far greater number of people able to survey a much broader span of both time and space, citizen scientists can provide a wealth of data that would not otherwise be feasible," said Connors.

[NSW farmers demand more to be done to stop red fire ants](#)

New South Wales farmers are demanding more to be done to stop the southward march of red fire ants. The invasive species has jumped the Queensland border for the first time, sparking an emergency biosecurity response. The detection in NSW triggers a \$600 million eradication plan set aside by the federal government. “It is frustrating that we’ve seen this outbreak,” NSW Farmers Far North Coast President Craig Huf told Sky News Australia. “It does show that there’s cracks in the system and there’s a lot more that needs to be done.”

[Ancient Bloodsuckers Revealed: Male Mosquitoes Fed on Blood Too](#)

Researchers have unearthed the oldest fossil mosquitoes in Lebanese amber, showing that ancient male mosquitoes were likely blood-feeders. This finding from the Lower Cretaceous period sheds new light on the evolution of mosquitoes and their relationship with flowering plants. Researchers reporting in the journal *Current Biology* on December 4 have found the earliest-known fossil mosquito in Lower Cretaceous amber from Lebanon. What’s more, the well-preserved insects are two males of the same species with piercing mouthparts, suggesting they likely sucked blood. That’s noteworthy because, among modern-day mosquitoes, only females are hematophagous, meaning that they use piercing mouthparts to feed on the blood of people and other animals. “Lebanese amber is, to date, the oldest amber with intensive biological inclusions, and it is a very important material as its formation is contemporaneous with the appearance and beginning of radiation of flowering plants, with all that follows of co-evolution between pollinators and flowering plants,” says Dany Azar of the Nanjing Institute of Geology and Palaeontology at the Chinese Academy of Sciences and the Lebanese University.

[How One Entomologist is Working to Solve the Mysteries of Tick-Borne Red-Meat Allergy](#)

Paulina Maldonado-Ruiz, Ph.D., is currently a postdoctoral research associate at Kansas State University. She received her bachelor’s degree in biochemistry and pharmacology, with a minor in microbiology, and her master’s degree in health sciences, working on microbial genetics of food-borne bacteria, from Universidad Michoacana de San Nicolás de Hidalgo in Mexico. She obtained her Ph.D. in entomology in 2021 from Kansas State University. Her doctoral research focused on understanding tick osmoregulatory mechanisms and characterizing the tick microbiome for the development of alternative methods for tick control. Her current postdoctoral research is focused on understanding the molecular determinants in tick saliva that cause alpha-gal syndrome (AGS, or red-meat allergy).

[Why Ladybugs Aren’t Always Red With Black Spots](#)

Ladybugs are red with black spots, right? Well, not always. There’s a lot of genetic and evolutionary reasons that they can be different colors with wacky patterns. In fact, that specific pattern is due to a recessive gene, a transcription factor known as *penier*. When a ladybug is black with red spots, it means the transcription pattern is reverse. And a ladybug’s spiky larval stage looks nothing like the delicate beetle they later become.

[Traveller uncovers brown marmorated stink bug inside spine of a book after returning to Australia from the US](#)

A traveller returning to Australia from the United States has uncovered a "huge threat" to the nation's crops and ornamental plants while unpacking. The individual was going through their luggage when they noticed a live bug inside the spine of a children's book they had brought back to the country. The insect was immediately put into a zip-lock bag and reported to authorities, with the find later revealed to be the brown marmorated stink bug. Exotic to Australia but similar in appearance to native stink bugs, the BMSB poses a risk to more than 300 agricultural and ornamental plant species across the nation. The traveller's discovery was "securely delivered" to the Adelaide office of the Department of Agriculture, Fisheries and Forestry.

[The invasive pest being mistaken for beloved Christmas beetles](#)

Sydney residents are reporting a surge in Christmas beetles in their backyards, suggesting the seasonal insect has made a comeback following years of decline. Allan in Hornsby told ABC Radio Sydney "hordes" of beetles flew into his home on Tuesday night, and declared they were "back with a vengeance". "We had the mass kamikaze attack last night," Allan said. Helen in Ermington also thought they had gone forever, but then had a few land on her back screen door that evening. An entomologist running a Christmas beetle tracking project said people were increasingly mistaking the native insect for a similar-looking invasive pest. Tanya Latty said the Argentinian lawn scarab was small, brownish, and looked a lot like a Christmas beetle at first glance.

[Biopesticide is harmless to mammals but can wipe out colonies of wasps that benefit plants](#)

Some wasps and bees are able to recognize sick nestmates by smell and can prevent their entry into the nest to avert infection of the entire colony, assuring its survival and that of the species in the long run. A study described in an article [published](#) in the journal *Environmental Science and Pollution Research* shows that this recognition does not happen in paper wasps of the species *Mischocyttarus metathoracicus* infected by a [biopesticide](#) based on the fungus *Beauveria bassiana*. The group of authors, led by researchers at the University of São Paulo's Ribeirão Preto School of Philosophy, Sciences and Letters (FFCLRP-USP) in Brazil, determined through molecular, survival, and behavioral assays that the biopesticide kills wasps, which benefit plants by feeding on pests and performing pollination. They also confirmed that wasps infected by the substance are not detected by nestmates.

[Researchers uncover trove of species in own backyard](#)

Three species never officially recorded in Australia have been discovered in the backyard of a researcher share house. During the COVID-19 lockdowns of 2020, mathematician Matt Holden, ecologist Andrew Rogers and taxonomist Russell Yong undertook a 12-month long census of their share house and its backyard in inner Brisbane. As it turned out, the place shared by three young men was home to more than 1000 species of animal, plant and fungus. The three University of Queensland academics revealed an ecosystem so rich and diverse that they have since published their findings in scientific journal *Ecology*.

[People worry Christmas beetles are disappearing. We're gathering citizen data to see the full picture](#)

In eastern Australia, the arrival of the summer holidays has traditionally been heralded by big iridescent beetles known as Christmas beetles due to their appearance during the Christmas season. In recent years, public perception seems to suggest these lovely insects may no longer be arriving in high numbers. Each year insect scientists like us field questions from the press and public about Christmas beetle populations: where have they gone? Why have their populations shrunk? Is it climate change? So have Christmas beetles really declined? With the help of people around Australia, we're working to figure this out.

[Fire ants are on the march. Here's what happens when they sting](#)

Red imported fire ants are a particularly nasty type of ant because they are aggressive, and inflict painful stings that may be life threatening. That's in addition to being a serious threat to agriculture and biosecurity. In recent weeks, we heard these ants had spread from Queensland, south into northern New South Wales. Although their stings are rare in Australia, they can lead to a serious allergic reaction. Here's what to do if you've been stung.

[New comprehensive genome data on soil invertebrates provide insights into their biodiversity](#)

With the "MetaInvert" project, scientists are providing extensive genomic data on 232 species of previously little-studied organisms. They are tiny, enormously diverse, and widespread in the soil: soil invertebrates such as springtails, horn mites, millipedes and nematodes. These animals, which are often only visible under a microscope, fulfill important tasks in the soil ecosystem. This is why they are increasingly becoming the focus of official measures to preserve biodiversity in the soil. The information contributes significantly to the identification and knowledge of community composition and function and the discovery of evolutionary adaptations to environmental conditions. But what exactly are the characteristics and abilities of the individual species, which information does their genetic material reveal and how have they developed over the course of evolution?

[Aussies warned over 'hitchhiker' bugs in backyard: 'They're sneaky'](#)

You'd definitely know if you provoked them, with their unmistakable stench that anyone with a sense of smell is unlikely to quickly forget. And although they've been deemed a "nuisance pest" over the danger they could pose to the agriculture industry should their population numbers explode, many people might not know what to do if they come across the humble "stink bug". The term actually covers a handful of related species. The brown marmorated bug — a mottled brown, oval-shaped insect is the one Australians should be most concerned about. They are common on other continents and have been found in Australia at the border in imported goods multiple times, after "hitchhiking" on imported goods. They have an insatiable ability to destroy vegetable crops, fruit and trees. Related insects — including bronze orange bugs, that also emit a smelly, pungent odour — have also been classified as pests in Australia, and can be easily confused with their more sinister cousins. It's important to know how to deal with the bugs and differentiate them, as making the wrong move could cost your garden big time.

'Few insect orders have been spared': Why death by parasite keeps life in the forest thriving

"The fungus swiftly colonizes and liquefies the caterpillar's delicate innards via powerful enzymes that pervade the creature's entire body cavity, effectively consuming the caterpillar from the inside out." There are around 1,000 known species of parasitic fungi, which infest and feed on their insect hosts until just a shell remains. In the adapted excerpt below, from "[Meetings with Remarkable Mushrooms](#)" (The University of Chicago Press, 2023), Alison Pouliot encounters a species that targets the larvae of ghost moths, revealing how deadly fungi bring balance to the forest. I was in the depths of north-west Tasmania's Tarkine Forest when I spied a stick that looked suspiciously like it might not be a stick. Going by its size, it was probably more twig than stick, but I didn't think it was a twig either. Its slightly pointed tip and slender stature was the first clue to another identity. Running my fingers down its length I felt its fine sandpaper-like texture hinting at something non-twig. Sizing up the rather emaciated-looking thing, I reckoned it might in fact be a special type of fungus. Beneath the ground, I suspected there might be a caterpillar attached, on which the fungus fed. I carefully excavated the soil around the "twig" with my pocketknife.

Exotic China fir borer beetle detected in Tasmania for first time in Harvey Norman bed

Launceston resident Jenny Purtell was excited to be buying a brand new bed for her son, "rather than second-hand for a change". Earlier this year they went to Harvey Norman and bought a flat-pack timber bed that had been imported from China. But the family got a surprise when they started putting it together. "When we put the slats on, I just thought I saw some antennae in a little hole," Ms Purtell said. As someone who has a "passing interest" in Tasmania's insects, Ms Purtell knew this one looked different. She also thought it was odd for a bug to be inside a piece of furniture. "I quickly squashed it, and I just thought it would be worth an email or a phone call," she said. Ms Purtell contacted Biosecurity Tasmania, who sent over a biosecurity officer to collect the beetle. The case was passed onto federal biosecurity through the Department of Agriculture, Forestry and Fisheries (DAFF), which identified the species as *Semanotus sinoauster*. The species is also known as the China fir borer, which is considered a high-risk species to the timber industry because the beetle's larvae feed off the wood of certain trees.

How rains, pigs, and waterbirds fueled a shocking disease outbreak in Australia

Construction supervisor Jack McCann started to feel "a bit crook"—that's "sick," in Australian slang—on the hot afternoon of 26 February 2022. He and some buddies had just finished laying a fireplace hearth in his backyard in Corowa, Australia, population 5500. His friends suggested a trip to the pub. McCann, then 30, told them he needed to beg off. "Usually, I would have been the first one there," he says. Corowa sits beside the Murray River, which in that region forms the border between the states of New South Wales (NSW) and Victoria, to the south. It's a scenic area that draws tourists to fish, boat, and swim every summer. It's also rich with wetlands that make ideal mosquito breeding grounds. The river slides along slowly about 300 meters from McCann's front door. McCann went to bed unusually early that night. He woke the next morning drenched in sweat and vomited his breakfast. He rarely got sick, and he wasn't a complainer, but he asked his partner to take him to the small local hospital. When his mother, Jo McCann, a nurse, visited him 24 hours

later, "I was absolutely horrified by his appearance," she recalls. "He was moaning. He was pale. He was photophobic. He just looked terrible." She asked the charge nurse, "How do I get him transferred?"

[Fire ants form rafts to survive Queensland flood waters as experts warn of surge](#)

Fire ants are forming rafts to survive and travel on flood waters in south-east Queensland, with experts warning the wild weather may accelerate the spread of one of the world's most invasive species. After storms ravaged the region over Christmas and new year, Reece Pianta of the Invasive Species Council urged the community to be extra vigilant since red imported fire ants (RIFA) were filmed rafting on flood waters. "Fire ants are more active before or after rainfall and can form large floating rafts which move with water currents to establish footholds in new areas," he said. "We have recently seen evidence of this rafting behaviour on cane farms south of Brisbane." He told Guardian Australia a farmer in the northern Gold Coast sent him a video of the rare rafting behaviour. It was the first time Pianta had seen footage of the unusual adaptive behaviour in Australia.

[Stickers and wristbands aren't a reliable way to prevent mosquito bites. Here's why](#)

Protecting yourself and family from mosquito bites can be challenging, especially in this hot and humid weather. Protests from young children and fears about topical insect repellents drive some to try alternatives such as wristbands, patches and stickers. These products are sold online as well as in supermarkets, pharmacies and camping stores. They're often marketed as providing "natural" protection from mosquitoes. But unfortunately, they aren't a reliable way to prevent mosquito bites. Here's why – and what you can try instead. Mosquitoes can spread pathogens that make us sick. Japanese encephalitis and Murray Valley encephalitis viruses can have potentially fatal outcomes. While Ross River virus won't kill you, it can cause potentially debilitating illnesses. Health authorities recommend preventing mosquito bites by: avoiding areas and times of the day when mosquitoes are most active; covering up with long sleeved shirts, long pants, and covered shoes; and applying a topical insect repellent (a cream, lotion, or spray).

[Ultra-rare 'punk ant' with Sid Vicious-like mohawk photographed in Far North Queensland](#)

In 1977, the Sex Pistols set the world on fire with their incendiary punk rock war cry God Save the Queen. It would have made the perfect theme song for an elusive Far North Queensland critter that has just been photographed alive for the first time. Matthew Connors is a Cairns-based entomologist who recently trekked to one of the only mountain peaks where the mysterious "punk ant" claims squatter's rights. *Camponotus thadeus* is a jet-black sugar ant with one striking difference. Golden tufts of hair shoot from its thorax and abdomen in mohawk-style spikes that have inspired its "punk ant" moniker. "I just couldn't resist going to see this ant for myself," Mr Connors said. "But as you can probably guess from the fact that it's never been photographed alive before, it's unfortunately not all that simple."

[Biosecurity order imposed as fire ants nest destroyed](#)

Sniffer dogs and biosecurity experts are searching for more signs of the potentially deadly fire ant in an area south of Ballina in NSW after authorities destroyed a recently discovered nest. Experts destroyed the nest at Wardell on Saturday after it was disturbed and

discovered by a gardener on Friday. The gardener was bitten and suffered what was described as blistering pain. A biosecurity control order has been imposed to prevent the movement of goods that could carry the pests. Goods including mulch, soil, compost, agricultural equipment and more cannot be moved out of the 5km zone around the site. NSW Department of Primary Industries workers are inspecting these goods. The workers are also carrying out genetic testing of the fire ants, tracing the source and using sniffer dogs to learn of any further infestation.

Sydney residents at risk of living alongside fire ants: Professor Nigel Andrew

Southern Cross University's Professor Nigel Andrew has issued a stark warning that Sydney residents will have to begin living alongside fire ants unless the government invest more to support the eradication program. The warning comes amid growing community concerns in northern NSW after the second fire ant nest in three months was discovered in Wardell. Locals fear post-flood construction is to blame for the invasion. The species poses a significant risk to human health and agriculture. "The fire ants are starting to break out of their exclusion zones and starting to pop up in all sorts of different areas - that's where it becomes problematic," Professor Andrew told Sky News Australia. "We need to invest more money into them- essentially at the government level, at the state level and the federal level, to give enough resources to eradicate them over the next 10 to 20 years. "Or else there is going to be a massive cost to us all to actually attempt to live with them."

Fears post-flood construction boom linked to fire ant detection in Wardell, NSW

Community concerns are growing as authorities work to trace the source of the latest imported red fire ant nest found in New South Wales. A nest was identified in Wardell, south of Ballina, on Friday afternoon after a gardener reported being badly bitten. It is the second time in less than two months the invasive species has been found south of Queensland border, following the discovery of six nests at South Murwillumbah in late November. The latest discovery is about 80 kilometres further south. NSW Department of Primary Industries (DPI) chief invasive species officer Scott Charlton said the nest at Wardell had been destroyed. "It's been treated with ... Fipronil injection, and the immediate area around there has been treated with insect growth regulator which is a broader-scale approach," he said. "We've done initial surveillance of the site to make sure that there are no ants that could impact the community living there, and we've secured the site with fencing.

Ants feigning death: How and why?

In the recent review article "Death feigning in ants" published in *Myrmecol. News*, Danon Clemes Cardoso, Ítalo Cordeiro Canguçu Alves, Maykon Passos Cristiano, and Jürgen Heinze review the literature on feigning death in ants, which has received little attention so far. The authors describe death feigning in detail and reveal that it can be induced experimentally. They also highlight the need for additional studies on this understudied topic. Here, first author Danon Clemes Cardoso shares pictures of the field work behind the study.

[Mosquitoes can spread the flesh-eating Buruli ulcer. Here's how you can protect yourself](#)

Each year, more and more Victorians become sick with a flesh-eating bacteria known as Buruli ulcer. Last year, 363 people presented with the infection, the highest number since 2004. But it has been unclear exactly how it spreads, until now. New research shows mosquitoes are infected from biting possums that carry the bacteria. Mozzies spread it to humans through their bite. Buruli ulcer, also known as Bairnsdale ulcer, is a skin infection caused by the bacterium *Mycobacterium ulcerans*. It starts off like a small mosquito bite and over many months, slowly develops into an ulcer, with extensive destruction of the underlying tissue. While often painless initially, the infection can become very serious. If left untreated, the ulcer can continue to enlarge. This is where it gets its “flesh-eating” name. Thankfully, it's treatable. A six to eight week course of specific antibiotics is an effective treatment, sometimes supported with surgery to remove the infected tissue.

[How bug 'wranglers' help document the lives of flies, dung beetles, and more](#)

The roaches, spiders, and dung beetles of the world can face a real uphill—or up *anthill*—battle as they navigate the big world. Their small stature makes them an easy target for squishing and they have many natural predators. Humans also view these organisms as generally less charismatic than larger and more furry critters. Our evolutionary bias makes us fear for our safety around bugs. In turn, these organisms are often sadly left behind in conservation efforts. “One of the reasons why we find them less charismatic is because on that evolutionary tree, they are relatively distant from us,” entomologist Tim Cockerill tells *PopSci*. “Our instinct is to say that insects and bugs in general are very different from us. But it's the other way around. We're the weird ones in terms of the diversity of animals on planet Earth.” The new docuseries *A Real Bug's Life* on Disney+ is trying to change this perspective by showcasing the world's insects and arachnids in some stellar new light. Narrated by actor Awkwafina, National Geographic's new five-part series is inspired by the world of the 1998 Disney and Pixar animated children's film *A Bug's Life* and shows us the high stakes, real-life world of some of our planet's smallest animals and what it takes for them to survive. The series brings viewers to New York City, a Costa Rican jungle, a backyard in suburban Texas, the African savanna, and a farm in Britain to see how familiar and more unique bugs live, eat, and get around.

[Invasive ants leave lions scrambling for prey on the savannah in an ecological chain reaction](#)

Lions, elephants, zebras, buffalo, ants, and trees are all locked in an intricate ecological web in one Kenyan nature preserve. But that web is unraveling as a small invader disrupts the natural balance of things, according to a study published January 24 in the journal *Science*. The spread of an invasive insect across the savannah habitat of Ol Pejeta Conservancy has triggered a domino effect. The fallout leaves lions less able to hunt zebras—their primary prey—and has prompted the big cats to pursue larger and potentially more dangerous buffalo, says Todd Palmer, one of the study authors and a biology professor at the University of Florida. Other major ecosystem shifts, like loss of bird habitat and declining soil health, are likely also occurring. The new research builds on past work to demonstrate just how delicate and complex the savannah ecosystem is. More broadly, it shows how important mutualisms (mutually beneficial relationships between species) can be in habitats

around the world. When the connections between organisms are disrupted, it can have serious conservation consequences.

[Fire ant spread to Tasmania sparks health warning](#)

The recent discovery in Tasmania of a fire ant has sparked warnings from medical experts that a national outbreak of the venomous pest would lead to a spike in hospitalisations and deaths from stinging insects. Australia Post in Tasmania last week found a fire ant in plant material imported from the mainland – the first discovery on the island and the fourth in Australia beyond Queensland’s borders in the past year. Fire ants, which have infested south-east Queensland since an incursion in 2001, were detected near Ballina in northern NSW in the last fortnight, while six nests were found at Murwillumbah in the same region in November, and a fire ant queen was discovered on a pallet in Melbourne last February. The invasive pest is capable of forming colonies in 99 per cent of mainland Australia and 80 per cent of Tasmania. The National Allergy Centre of Excellence, Australia’s peak allergy research body, estimates that fire ants sting one-third of people who live in areas where they have established colonies each year.

[Bed bug infestation on the rise across Australia: ‘It’s horrendous’](#)

Following Paris's bed bug "plague" and the influx of Aussie travellers returning home after the holidays, it is no surprise bed bugs are increasingly being found across the country. State governments and pest experts alike have confirmed the tiny menaces have seen a "resurgence" in recent times and infestations are more common than people think — with one Aussie reality star ending up at the doctor's surgery after being attacked by the pests while in a Melbourne hotel recently. "The itching is so intense you can't have clothes on, even air conditioning would make me itchy when I would feel the breeze on my skin," Domenica Calarco told Yahoo News Australia. "I cannot believe how many people have had them." Sydney pest control expert Christopher Moschella confirmed the rise in infestations, saying since travel returned post-Covid he has seen an increase in bed bug jobs coming his way — now attending at least two of these jobs per week himself.

[Oswald Bertram Lower \(1864–1925\): a South Australian pioneer in the discovery of Australia’s biodiversity](#)

An Adelaide-born pharmacist, Oswald B. Lower, is a neglected figure in the pantheon of early Australian amateur entomologists. Specialising in Lepidoptera, he worked mainly around Adelaide and Broken Hill where he discovered hundreds of new species, especially in the semi-arid zone of southern Australia. Lower named almost 1000 valid new species between 1892 and 1923 based upon his own material and specimens sourced from contacts in other parts of Australia. His legacy of 40 000 specimens, assembled between the 1880s and early 1920s, forms the nucleus of the outstanding Lepidoptera collection at the South Australian Museum. Many are sourced from locations now lost or degraded and the collection will be an invaluable tool in the emerging challenge of habitat restoration in Australia.

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