News

Invasives on the 2023 watchlist

M&G Environment

Covid lockdowns only applied to humans, so these five species took advantage of the lack of activity to propagate

John Measey

Illegal immigrants: The red swamp crayfish (left) poses a threat to native crabs and has been sighted in the Western Cape. Rose-ringed parakeets (right) threaten cavity nesting birds. Photos: Odd Andersen/AFP & Prakash/Singh/AFP

The last two years have been remarkable. The lockdown periods, restrictive for us humans, allowed many species to start moving around without our interference. Scientific literature is full of examples of birds and mammals that were seen in cities where they are normally absent or rare.

While these unusual sightings delighted us from our locked-down positions, another set of animals was also taking advantage of this time.

Programmes controlling invasive species, like so many other things, were suspended during lockdown. However, the animals and plants themselves had no such inhibitions. They may even have been able to move and invade areas faster than they would otherwise be able to.

Here are some invasive animals to look out for in 2023.

House crow

Native to the Indian subcontinent, house crows were introduced to South Africa in the 1970s. Populations were established in Durban and then Cape Town and have remained there for nearly 50 years. In the past five years, though, these clever animals have been spreading along the coast to many new towns, such as Richards Bay and East London. They have even hitched rides on lorries to appear in some of our inland areas (such as Howick).

During lockdown, populations established in new localities, including Gqeberha. Watch out for house crows near you. They are distinctive from native crows in that they are smaller and all black with a grey hood. They are a particular problem near rubbish dumps and have been known to attack people carrying food, including children in playgrounds. But other invasive populations are known to carry diseases (including salmonella) and have significant impact on native songbirds.

Domestic pig

Domestic pigs have been in South Africa for more than 9 000 years but populations have been deliberately introduced into the wild a number of times as biological control against the emperor pine moth. Recently, feral pigs have been spotted in new locations around the country, especially in the lowland areas of the Western Cape.

It is possible the growth in demand for free-range pork has resulted in animals escaping from captivity. These feral pigs have the potential to carry disease both to domestic stock as well as native warthogs and bush pigs. In addition, feral pigs will eat tortoises and dig up bulbs.

Red swamp crayfish

For 22 years the only population of red swamp crayfish in South Africa was hanging on at a small facility near Dullstroom in Mpumalanga. But a couple of years ago a new population was reported from a small dam near Welkom in the Free state.

Now another population has been found near Vredendal in the Western Cape associated with both the Olifants River system and a significant irrigation network.

The red swamp crayfish is not the only invasive species here as we also have an Australian species called the red claw crayfish, which is found in large areas of Mpumalanga and is spreading into KwaZulu-Natal, eSwatini and Mozambique.

These species are especially bad in South Africa as there are no native freshwater crayfish here. Invasive populations elsewhere are known to cause great ecological disturbance, as they burrow into the banks of dams and rivers. In South Africa they may impact negatively on our native crabs as well as carrying novel parasites.

Rose-ringed parakeet

Perhaps one of the prettiest of South Africa's invasive species, the rose-ringed parakeet was introduced because it was a popular caged bird. It is not only invasive here but in 35 countries on five continents. These birds were already common in Durban by the 1970s but have been increasing their range, particularly in urban areas, so that the Durban population now covers 730km^2.

You are likely to notice this bird as it makes a lot of noise when flying around. It impacts other cavity nesting birds by competing for nesting sites. It is also a pest for some agricultural crops and spreads diseases. Many people still want to keep these birds as pets, which is possible with a permit.

Common dwarf gecko

Have you seen geckos moving around in the day when they used to move around only at night? We are all familiar with geckos in South Africa but this is the only species that you will see moving around in the daytime. The first records of alien populations of the common dwarf gecko date back to the 1950s. This is a species that naturally occurs in northeastern areas of South Africa, and it is easily accidentally transported with things like firewood and nursery plants because they stick their eggs in dry places.

In the past 10 years populations have been spreading very rapidly in many urban areas around the country. There have been very few studies done so far and so we do not know whether they have any serious impact on their new environment.

If you spot any of these invasive animals, or any other animals or plants that you suspect are invasive, please report them at invasives.org.za. If you can take a picture you can place it on a citizen science platform like iNaturalist (inaturalist.org). Otherwise inform your local conservation authority or the South African National Biodiversity Institute.

Invasive species can do a lot of harm but we can only tackle them if we know what they are and where they are. So we rely on you to help us.

John Measey is a researcher at the Centre for Invasion Biology at Stellenbosch University.

Seasonal signs come ever earlier

Jennifer Fitchett

Phenology refers to the timing of biological events that happen every year. These events often signal the change in seasons — the appearance of blossoms in spring, leaves turning yellow, orange and red in autumn. The arrival and departure of birds. The first frog calls.

The fact that they happen with the change in seasons is no coincidence — each of these phenological events is triggered by the local weather in the days, weeks and months prior. Phenological events are considered to be one of the most sensitive biological indicators of climate change.

As our climate is getting warmer, many of these phenological events across the world are happening increasingly early — at a global average rate of 2.3 days a decade.

In South Africa, jacarandas blooming, Namaqualand daisies appearing and the migration of the brown-veined white butterfly are all occurring more than a month earlier than they did in the 1920s.

We know the dates have shifted because the events are such a spectacle that they are often reported in print and increasingly social media.

What phenological events can you look out for in 2023?

Summer

The brown-veined white butterflies (*Belenois aurota*) usually make their migration from the Kalahari to Mozambique during January. While a very early flock of butterflies made its way through Johannesburg in late November last year, we might see a few more making their way north at the beginning of this year. Look out for them in the Kalahari and Karoo, in Johannesburg and as far west as Potchefstroom, in Mpumalanga and even in Mozambique.

Cosmos, native to Mexico, is widespread across Gauteng and Mpumalanga, and found in smaller numbers across South Africa. It has a long flowering period throughout the summer months, but comes into full bloom as autumn approaches. You can usually get some great photos of the cosmos during the public holidays that break up the month of April. There are large fields of cosmos at Delta Park in Johannesburg, and lining the N17 through Mpumalanga.

Autumn

Autumn is synonymous with the falling of leaves. Deciduous trees lose their leaves in autumn, and new buds form and unfurl in springtime. Evergreen trees, by contrast, retain their leaves through the winter months. South Africa has few indigenous deciduous trees. These include the baobab, tamboti and the white stinkwood. But many of the exotic trees are deciduous, such as maple, oak and plane trees, which line many streets of our cities.

During autumn we also notice birds preparing for their northward migration for winter. Large birds, such as geese and ducks, fly in a V-formation to improve their energy efficiency, and they are often the most noticeable. A range of birds migrate from Europe and Asia to Southern Africa and back each year, including swallows, swifts, falcons, storks, kingfishers, buzzards and bee-eaters.

Winter

Winter is characterised by dormancy in plants and hibernation in animals. Deciduous trees lose their leaves in winter, and grasses in the interior of South Africa die back, leaving a yellow-brown landscape.

One major phenological event that takes place during winter is the sardine run. During June through to August, sardines migrate northeast off the Agulhas Bank. The peak of this migration, usually in late June or early July, is a major tourism fishing event along the South Coast of KwaZulu-Natal. The sardines are accompanied by their predators — dolphins, whales and sharks.

Towards the end of the winter months, we now start to see blossoms appearing. This is a feature of the phenological shifts. Fruit tree blossoms are often the first to be seen — apricot and peach trees often develop early blooms. The Namaqualand daisies start to bloom from around mid-August. This incredible wildflower display stretches along the West Coast and brings tourists to many towns in the region.

Blooming beautiful: Namaqualand daisies bloom at the end of winter and attract tourists to West Coast towns every year. Photo: Alexander Joe/AFP

Spring

During the early spring months, we can expect to see blossoming intensify. In the northern Drakensberg towns of Ficksburg through to Fouriesburg, and in parts of the southwestern Cape, you are likely to see cherry and apple blossoms. The air takes on a smell of jasmine in many gardens. Towards the end of September, jacarandas come into blossom. They're most extensive in Pretoria and Johannesburg, but their purple flowers can be seen as far afield as Pietermaritzburg, Durban, Magoebaskloof and Paarl.

This list is not exhaustive. Each town and city has its own distinctive signs of the change in seasons. The first frost, or first snowfall. The first appearance of a particular plant or animal. The flurry of farmers sowing seeds or harvesting their produce.

As these events change their timing, does this mean the seasons are shifting? This remains an academic debate. There are a range of climatological and astronomical classifications for when seasons begin and end.

Either way, when you notice these annually recurrent events, take a photo. In decades' time, your records could be a phenologist's gold mine.

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