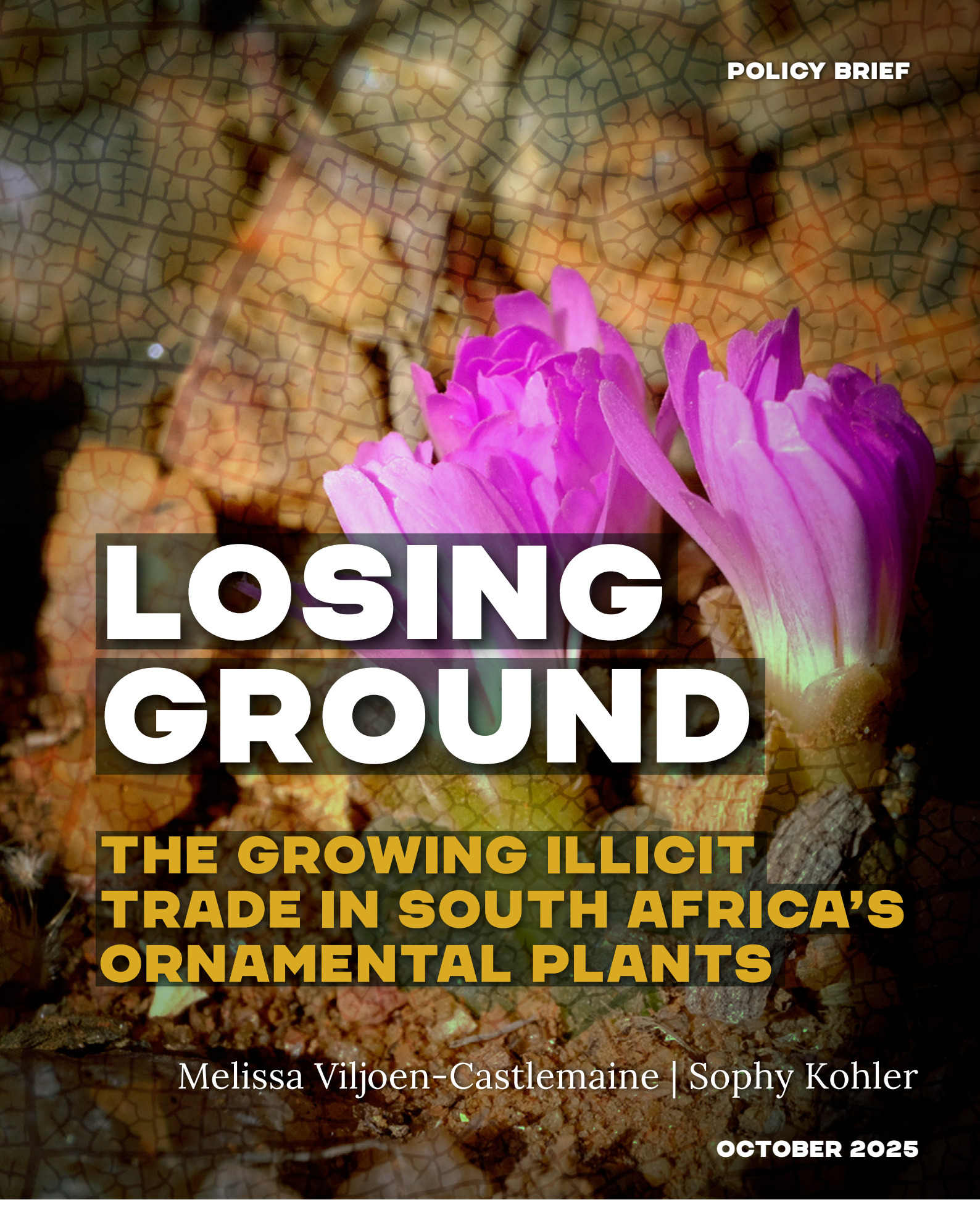

POLICY BRIEF

LOSING GROUND

THE GROWING ILLICIT TRADE IN SOUTH AFRICA'S ORNAMENTAL PLANTS

Melissa Viljoen-Castlemaine | Sophy Kohler

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ECO SOLVE | GI-TOC | GIFP Global Illicit Flows Programme

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SOUTH AFRICA
ORGANIZED CRIME OBSERVATORY

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SUMMARY

Globally, the illegal trade in flora is expanding and diversifying, driven by social media and widening socio-economic inequality in source countries, primarily in the Global South. In South Africa, where the Western and Northern Cape provinces have exceptional levels of biodiversity, the illegal trade largely targets rare, drought-resistant plants that are easy to care for and can survive long periods in transit.

South Africa's succulent plants and cycads have long dominated poaching operations, supplying demand mainly within South Africa and in Asian and European markets. What began as a limited, opportunistic trade has since escalated.[1] After an initial slowdown period at the start of the COVID-19 pandemic, the trade peaked in 2021 and 2022 as lockdowns spurred global demand for houseplants at the same time as economically vulnerable people were left without employment opportunities and were thus more readily recruited as plant poachers. The most visible result of this was the rapid depletion of certain species, leaving entire landscapes denuded of their endemic flora.[2]

However, South African flora trafficking trends appear to have changed over the past two years. Criminal networks are now targeting ornamental plants more broadly, leaving geophytes – plants that store their energy in bulbs or underground organs – especially vulnerable. Most prominent among the latest victims is the critically endangered *Clivia mirabilis*, a drylands-adapted lily first seen in law enforcement seizures in late 2023.[3]

The ecological consequences of this trade are severe, particularly for the area's pollinators, with cascading biodiversity loss and limited prospects for environmental restoration. But the social and economic effects are also profound: poaching erodes trust between authorities and communities, and degraded landscapes put ecotourism at risk.[4]

Clivia mirabilis plants seized by law enforcement. *Photo courtesy of the South African Police Service*

Three upcoming proposals in 2025 aim to address this illegal trade. At the International Union for Conservation of Nature (IUCN) World Conservation Congress in October, a motion will be put forward for urgent action to be taken against the illegal succulent trade.[5] Meanwhile, the uplisting of two dwarf succulents, *Euphorbia bupleurifolia* and *Avonia quinaria*, to Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) has been proposed for the 20th Conference of the Parties in November and December.[6] Ahead of these initiatives, this policy brief outlines the current threats the illegal ornamental plant trade poses to South Africa's unique flora, the challenges of regulating the legal trade and the amplifying role of online markets.[7]

Key findings

- Endangered plants are systematically being taken out of the wild in South Africa to meet consumer demand in Europe, the US and Asia, in a trade that has become more organized, commercialized and transnational.
- Whereas succulents and cycads have long been heavily targeted, the trade has expanded to incorporate a broader set of ornamental plants. Other geophytes are now highly in demand in end markets. Of particular concern is *Clivia mirabilis*, a critically endangered geophyte that has yet to receive CITES protection.
- Criminal actors have adapted to enforcement measures, engaging in 'province hopping' to exploit legislative differences between the Western and Northern Cape.
- Online platforms and social media marketplaces have become central conduits for this trade, allowing traffickers to reach international buyers directly, evade detection and advertise plants under coded language or vague descriptors.

A GROWING CRISIS

South Africa ranks among the world's most biodiverse countries, home to three globally recognized biodiversity hotspots with exceptionally high levels of endemism. But a growing illicit trade in the country's indigenous flora is placing this natural heritage at risk. While illegal plant trafficking is a global phenomenon – from endangered cactuses in Mexico to orchids in South East Asia, and succulents in California, Madagascar and Namibia – South Africa has become particularly affected, given its wealth of rare and unusual plants, concentrated largely in two biomes: the Succulent Karoo and Cape Floristic Kingdom (see Figure 1).

The trade has developed from small-scale, opportunistic harvesting into more organized and transnational operations targeting diverse species including succulents, cycads, geophytes, euphorbias, orchids and caudiciforms (plants with swollen stems or aboveground root structures).[8] Plants facing particular pressure include dwarf succulent genera such as *Conophytum* and *Euphorbia*, caudiciforms such as *Dioscorea elephantipes* and, most recently, *Clivia mirabilis*.[9] Approximately 650 unique South African succulent species are implicated in illicit trade.[10] Many of these species occur only in highly localized habitats, making them especially vulnerable to overharvesting, while their hardy, drought-resistant qualities make them well-suited to international trafficking.

While some of these plants have local cultural or medicinal value, the overwhelming majority of the legal and illegal trade in South African indigenous species feeds demand for ornamental use overseas, particularly in Europe (notably Czechia, the Netherlands, Belgium and Germany), the US and Asia (primarily China, Japan and South Korea).[11]

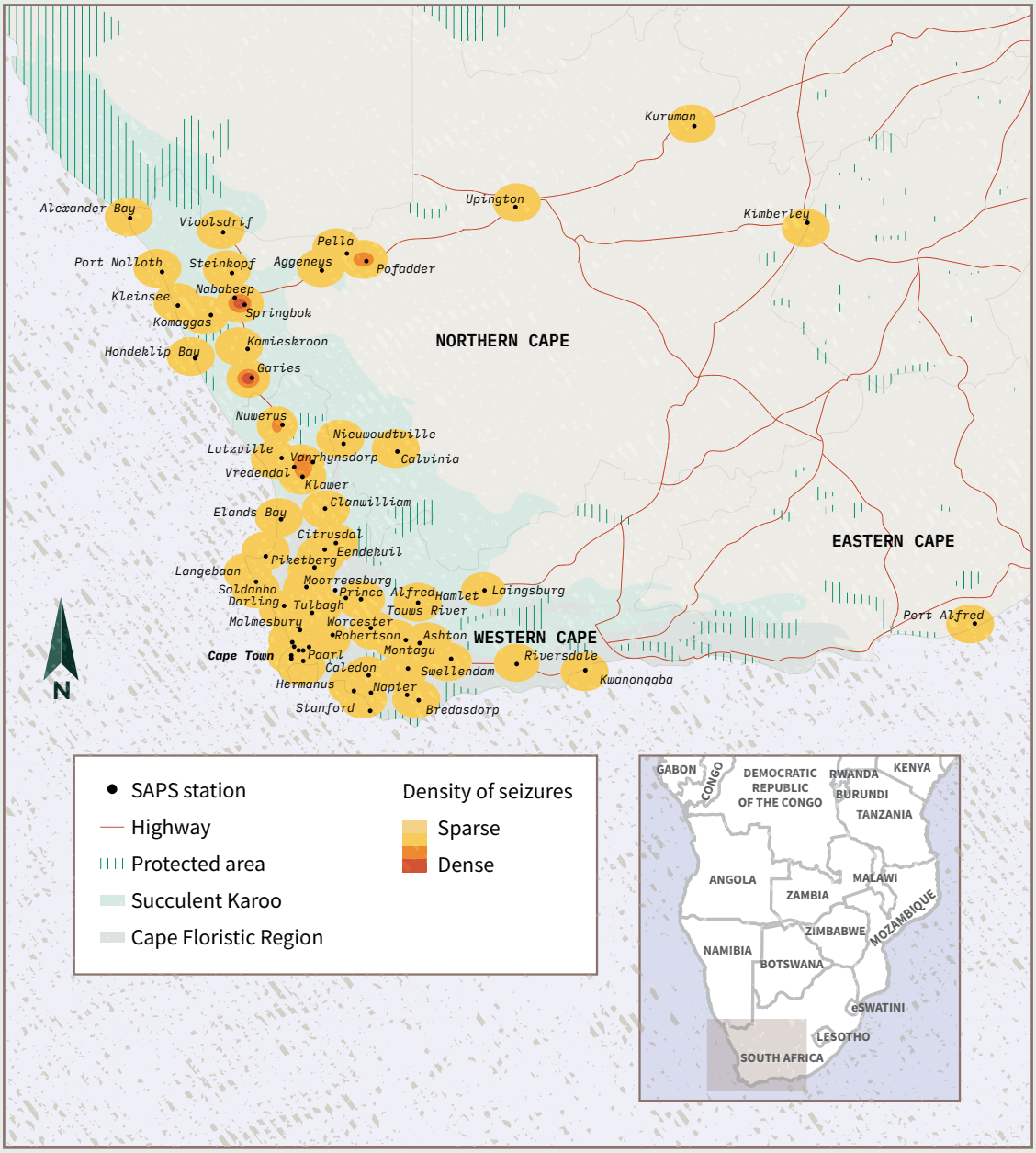


FIGURE 1 South Africa's Succulent Karoo and Cape Floristic Region, showing density of seizures of succulent plants by police station district, concentrated in the Western Cape and Northern Cape, 2019–2023.

SOURCE: Seizure data from TRAFFIC

Since 2019, millions of illegally harvested plants have been confiscated (see Figure 2),[12] most of which were reported to involve international trade.[13] The overall seizure volume is heavily shaped by a few large cases, including 60 397 *Conophytum* specimens confiscated from Korean nationals in South Africa, and 1 100 *Aloe ferox* plants seized in the UK but linked to South Africa.[14]

GROWTH FORM	2019	2020	2021	2022	2023	TOTAL
Conophytum	57 570	74 511	295 420	298 039	253 907	**979 447**
Geophyte	222	1 477	16 726	32 349	24 525	**75 299**
Caudiciform	477	2 251	15 244	16 938	34 094	**69 004**
Other	480	332	1 975	74	335	**3 196**
Unknown	30	97	69	1 686	952	**2 834**
Total	**58 779**	**78 668**	**329 434**	**349 086**	**313 813**	**1 129 780**

FIGURE 2 Seized plants by growth form, 2019–2023.

SOURCE: TRAFFIC

Over the past decade, the trade has migrated from physical marketplaces to the internet, where rare species can be accessed by international buyers with a few clicks. It now appears to operate on two distinct levels: a mass market driven by aesthetic appeal and a specialist market, where rarity and exclusivity command premium prices (see Figure 4).[15] Whereas casual consumers may be unaware of illegality, specialist collectors are usually better informed, but nevertheless seek the prestige of owning 'conversation pieces' of considerable age and size – a demand unlikely to be met by artificial propagation, given the slow-growing nature of many of these plants.[16]

The consequences extend beyond the individual plants removed, threatening biodiversity and negatively impacting local communities and the economy. As one conservationist put it, 'It's a national disaster; it's a biodiversity catastrophe; and we are standing in front of it with water pistols.'[17] This challenge occurs in a complex socio-political context where South Africa's indigenous communities have historically faced exclusion from natural resources, and traditional wild harvesting of plants prized for cultural or medicinal value has long fed largely sustainable domestic use.

Despite these mounting pressures, there is understandably limited political will to address plant trafficking in a country grappling with high levels of violent criminality, and conservation bodies are notoriously underfunded. This problem is compounded by 'plant blindness' – the tendency to undervalue flora even when the ecological stakes are high – which las led to an underestimation of the scale and sophistication of the illegal ornamental plant trade worldwide.

Conophytum: the poster plant of the trade

Conophytum
Conophytum burgeri

Provincial protection
III CITES Appendix III
CR IUCN Critically Endangered

© C Paterson-Jones/SANBI

South Africa's *Conophytum* dwarf succulents, with their pebble-like forms and extreme rarity, have become emblematic of the country's illegal flora trade. Their extremely slow growth rates means that even small specimens may be centuries old.

Once the domain of local collectors, demand surged globally with the COVID-19 pandemic, when a houseplant craze coincided with economic hardship in rural South African communities.[18] Since 2019, authorities have seized roughly 1.2 million *Conophytum* plants across its 197 taxa; an estimated 97% of species are now threatened with extinction with the majority assessed by the IUCN as Endangered or Critically Endangered.[19]

There has been a decline in seizures since a peak in 2021 and 2022 (see Figure 2), when nearly 300 000 *Conophytum* plants were being confiscated per year, to 28 051 confiscated in the first half of 2025.[20] This reported decrease is thought to reflect criminal expansion into other ornamental plants, as a result of the CITES-listing of the entire genus in 2023, rather than an actual drop in trade volumes, as well as being a consequence of reduced plant populations.[21]

However, seizures are a notoriously unreliable indicator of actual trade volumes,[22] and the South African National Biodiversity Institute (SANBI) estimates amounts seized to be only 25% of the total illegal trade. *Conophytum* poaching continues across affected regions, particularly in the Northern Cape's Namaqualand region, driven primarily by financial motivations in a context where unemployment is rife and alternative opportunities meagre.[23]

With populations collapsing and seized plants overwhelming botanical gardens, *Conophytum* illustrates the ecological and institutional toll of the illegal floral trade.

Clivia mirabilis: a new trafficking front

Clivia
Clivia mirabilis

Provincial protection
CITES not listed
IUCN not assessed

© Andre Swart/WWF

First appearing in seizures in late 2023, *Clivia mirabilis* represents the newest front in South Africa's illegal plant trade.[24] This critically endangered geophyte is endemic to the Oorlogskloof Nature Reserve, between the towns of Vanrhynsdorp in the Western Cape and Nieuwoudtville in the Northern Cape, in the transition zone between the Cape Floristic Region and the Succulent Karoo.

The exploitation has been swift and severe. As of August 2025, 15 502 plants are estimated to have been illegally removed from the reserve, with more than half the surveyed population lost in a single year (see Figure 3). Only 5 703 these were confiscated specimens.[25]

Clivia mirabilis is uniquely adapted to arid conditions and requires 8–12 years to mature, making wild harvesting the only viable supply option.[26] Unlike traditional succulents, Clivias – only marginally succulent – are unlikely to survive outside their natural habitat. This suggests that overseas buyers are primarily seeking seeds and pollen, valued for their hybridization potential.[27]

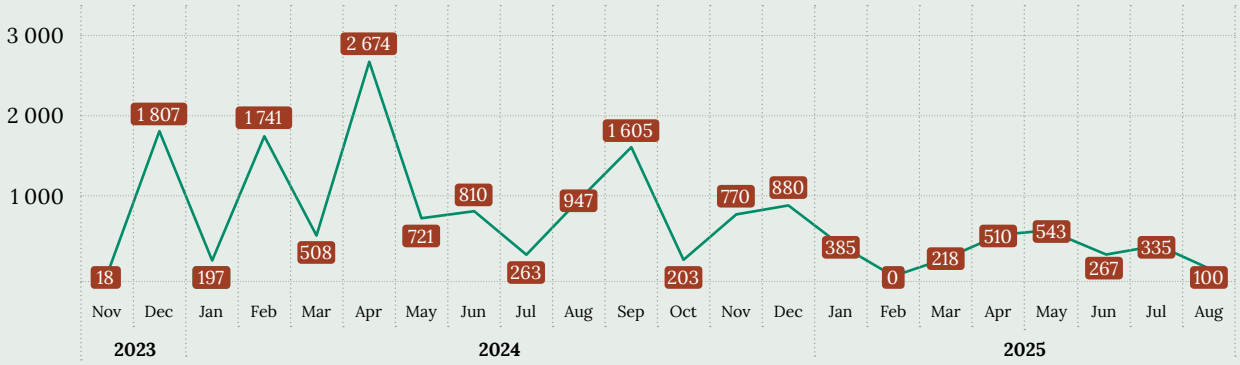


FIGURE 3 Estimated number of *Clivia mirabilis* plants removed from the wild, November 2023 to August 2025.

NOTE: Numbers have been estimated from confiscated plants and monitoring. The sharp increase in April 2024 may reflect opportunistic harvesting in response to heightened market demand following the first seizures in late 2023, combined with seasonal accessibility of the terrain during the drier autumn months.

SOURCE: Data supplied by South African local government

In China in particular, collectors prize the prestige of rarity alongside the opportunity to produce second-generation crosses with novel flower colours. Videos shared on Chinese social media reinforce this, with one collector boasting of holding 800 to 1 000 *mirabilis* plants, each with a seed-collection potential of 100 or 200 per season (see screenshots). Despite this clear international demand, *Clivia mirabilis* has not yet been proposed for CITES listing, although it appears on South Africa's SANBI red list.[28]

Two collectors discuss the seed potential of a consignment of *Clivia mirabilis* plants, in videos from Chinese social media. *Photos: Screengrabs from videos shared with the GI-TOC*

A 'GREEN GOLD' RUSH: CRIMINAL DYNAMICS AND MARKET SHIFTS

The COVID-19 pandemic fundamentally transformed the criminal dynamics of South Africa's illegal plant trade.[29] Where international collectors had previously travelled to South Africa to harvest plants themselves,[30] border closures forced the outsourcing of harvesting to local recruits. This marked a turn towards more organized, market-driven supply chains that mirrored other illegal wildlife trades in an important respect: the principal actors are based outside the country.[31]

Although actual evidence of formal convergence with other criminal economies is limited, protected plants have been seized alongside cannabis, rhino horn and uncut diamonds.[32] Environmental crime investigators report that the same syndicates involved in plants sometimes traffic rhino horn, ivory, abalone, drugs and firearms, indicating that established criminal networks may switch commodities opportunistically.[33] In some cases, criminal actors have reportedly transitioned to plant trafficking from artisanal mining, drawn by the comparatively lower risks of this 'green gold'.[34] The same criminals targeting South African flora have also been found sourcing protected plants in other countries, including Dudleyas in California, US.[35]

A seizure in the Northern Cape town of Springbok in 2024 revealed protected plants alongside rhino horn. *Photos courtesy of the South African Police Service*

Structure and level of organization

While some networks appear to meet the UN Convention against Transnational Organized Crime's definition of an 'organized criminal group' (three or more individuals acting in concert over time to commit crimes punishable by at least four years' imprisonment for financial benefit),[36] most are loosely organized, with fluid membership, temporary alliances, opportunistic connections and limited use of violence or territorial control. Harvesters, intermediaries and facilitators play segmented roles (see Figure 4). These networks are primarily market-driven, emerging in response to international demand rather than traditional hierarchies.[37]

Poachers are now enlisted from across Africa, including Zimbabwe, Malawi, Namibia, Burundi and the Democratic Republic of the Congo, in addition to South Africa.[38] They often enter the country undocumented and are recruited into groups on arrival.[39] Harvesting is arduous: poachers must hike across vast, quartz-covered terrain, often at night or in extreme heat, to extract specimens.[40] They are guided by information shared with them by buyers or intermediaries. Seized cellphones have revealed the use of GPS drop-pins and satellite imagery to locate populations. Previously, scientific articles and citizen science platforms such as iNaturalist were exploited for precise locality data, though these coordinates are now typically obscured to prevent misuse.

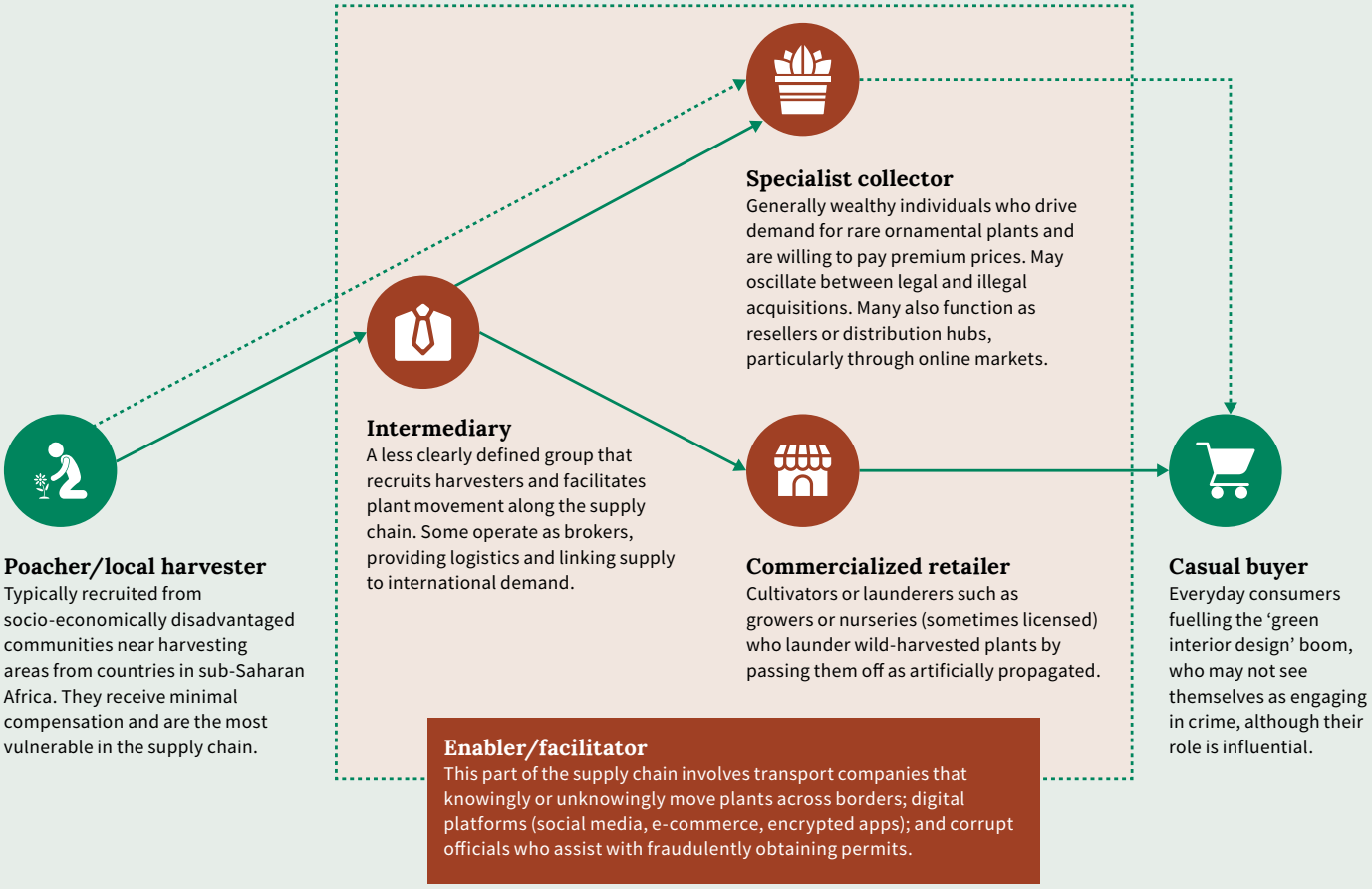
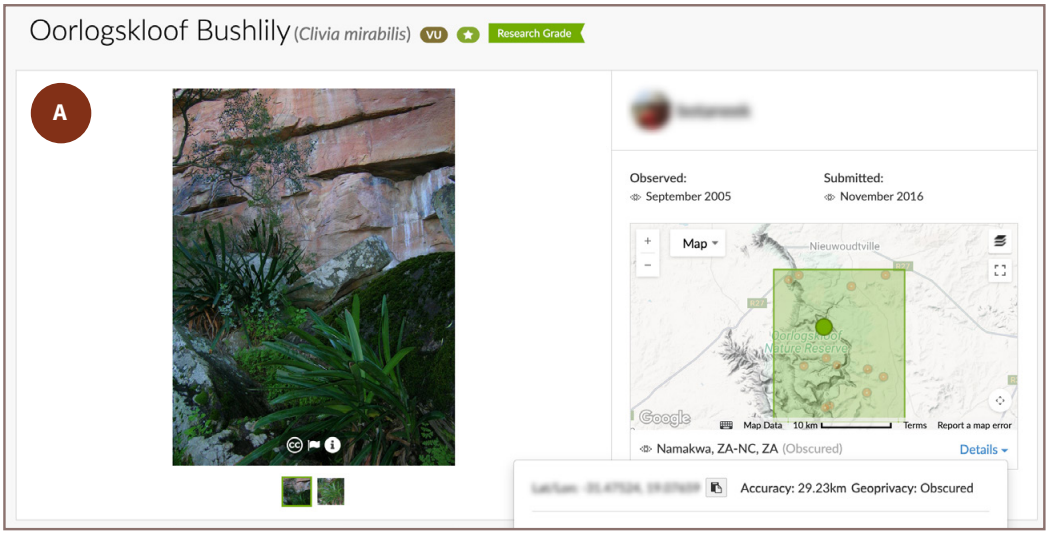
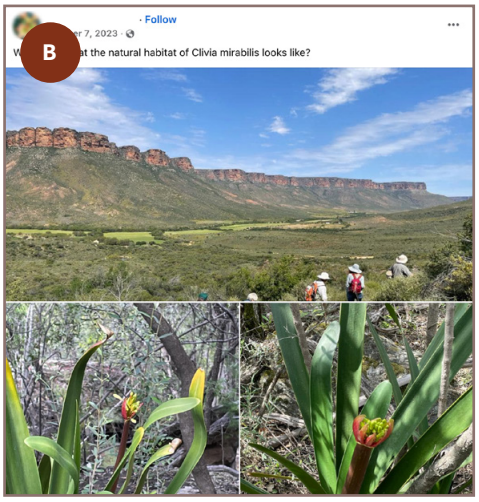


FIGURE 4 The illegal plant trade supply chain.

Unlike animals, plants are immobile, making them particularly vulnerable to being traced to exact locations through information shared online. Despite platforms removing GPS EXIF data[41] from uploaded photographs, traffickers still make use of social media to recruit harvesters, and identify target species in the wild through user-added location tags, visual landscape cues and cross-referenced citizen science records.

Among specialist collectors, awareness of illegal harvesting is believed to be widespread.[42] Chinese social media platforms openly feature images of the Oorlogskloof reserve, including satellite imagery and photographs of poachers at work (see screenshots).[43]





Photos: iNaturalist, Facebook, Google Earth and screenshots from videos shared with the GI-TOC

Digital breadcrumbs: Citizen science records and social media posts (images A and B) can inadvertently expose sensitive plant locations by providing coordinates or visual cues to help traffickers identify likely collection sites. GPS coordinates from platforms such as iNaturalist may be cross-referenced with satellite imagery on Google Earth (image C), while videos on Chinese social media (images D–F) show satellite images and photographs from the Oorlogskloof Nature Reserve.

Poachers sometimes carry makeshift weapons, including crowbars, screwdrivers, iron fence posts, forks and knives fashioned from blades (pictured here). *Photo supplied*

Once harvested, plants reach their destination markets through both legitimate and illicit transport channels, such as the R27 provincial highway on the West Coast, a major drug route. Plants are first sorted and packaged for export, often disguised as everyday commodities such as toys or dried fruit, and moved across borders by land, freight, courier or even in passenger luggage, with Johannesburg's OR Tambo International Airport an important node.[44] Enforcement countermeasures, including sniffer dogs and licence plate recognition, have prompted shifts away from traditional routes and daytime operations, illustrating adaptive criminal strategies.[45]

The illegal trade also blurs considerably with the legal plant market. Wild-harvested plants may be laundered through legitimate nurseries, falsely labelled as artificially propagated, or even exported with falsified phytosanitary certificates that are meant to certify plant health.[46] Between 2010 and 2018, for example, 33 237 live *Avonia quinaria* specimens were exported from a single South African nursery, with most thought to have been illegally harvested wild plants falsely declared as artificially propagated.[47]

Corruption and bribery facilitate the trade,[48] while payments increasingly flow through cryptocurrency platforms to obscure financial trails.[49] These dynamics point to a gradual shift towards more structured forms of criminal organization, as surges in demand begin to outpace both supply and the institutional capacity to respond. Although the trade has so far involved relatively little violence, the presence of armed harvesters equipped with makeshift weapons poses a latent risk of escalation during enforcement operations or confrontation with private landowners,[50] who are sometimes armed.[51]

ONLINE TRADE AND CONSUMER BEHAVIOUR

A growing proportion of the trade in ornamental plants occurs through social media platforms and e-commerce sites. Online platforms have transformed how the illegal plant trade operates, providing sellers with wide reach, anonymity and adaptability that far exceed the limitations of traditional trafficking networks.[52] The internet has erased previous barriers – buyers can now obtain wild plants as easily as ordering any other product online. This has both expanded the customer base and made illicit trade appear routine.

Mainstream marketplaces such as Etsy and Facebook Marketplace officially prohibit the sale of CITES-listed or protected species, but enforcement of this is inconsistent. Sellers circumvent restrictions by disguising listings with misspelled names, abbreviations or coded language, creating a cat-and-mouse dynamic with platform moderators. Platforms' automated detection tools, designed more for animal products, weapons and counterfeit goods, frequently fail to identify illegal plant sales. Facebook's controversial shift to community-based moderation has compounded this problem,[53] particularly as many users are unaware of which species are illegal and because much of the illegal activity occurs in closed groups, where participants are unlikely to report violations to the platform.

Social media platforms also drive exposure and desirability. On Instagram, TikTok/Douyin and YouTube, influencers and niche collectors glamourize rare species, turning ownership of wild plants into a marker of prestige and fuelling demand. These posts often function as gateways, with transactions shifting into encrypted spaces such as WhatsApp, Telegram and WeChat, or into closed Facebook groups, where negotiations and payments are less visible to authorities. Local harvesters also use these platforms to discreetly advertise or connect with intermediaries, often through coded images or by joining collector groups, thereby linking poaching at the source with demand abroad.

Social media platforms provide a link between local harvesters and global demand. A South African Facebook profile stated in Chinese: 'Any one – how about plants from South Africa? You can talk to me ... I trade in Cape Town.' *Photo: Screengrab from Facebook*

A scent detection dog inspects packages for illegally harvested wild plants at a courier facility. Illegally harvested plants are shipped overseas using legitimate courier services. *Photo: Zanne Brink/Endangered Wildlife Trust*

The influence of influencers

Consumer demand for wild plants stems from complex psychological motivations that the trade exploits. Scarcity itself functions as marketing, driving both desirability and price – a 'double-edged sword' of CITES regulation.[54] Collectors often pay premium prices for specimens that bear the marks of a wild origin.

Social media amplifies this demand through influencers, who transform visually striking species into viral trends, triggering sudden and unpredictable spikes in consumer interest. These surges are geographically uneven and highly volatile.[55] For instance, *Conophytum* have sparked a 'tiny plant craze' in Asia, whereas *Clivia mirabilis* has gained popularity in Europe. This instability complicates enforcement, as authorities cannot reliably anticipate shifting trends.

Online platforms play a central role in shaping the visibility of the illegal plant trade. Engagement-driven algorithms can inadvertently expose 'accidental buyers' to wild plants they were not actively seeking. Misinformation further influences behaviour, as some consumers believe they are purchasing nursery-grown or sustainably sourced plants, while others rationalize their purchases as harmless, claiming they are 'saving' plants from extinction or downplaying the ecological consequences of wild harvest.

Knowledge gaps exacerbate the problem. Casual buyers, often targeted near the end of the supply chain, rarely know which species are protected under CITES or national law. Even well-intentioned buyers struggle with technical, consumer-unfriendly lists, and language barriers leave major markets such as China, Japan and Germany with limited access to guidance.

The coexistence of legal and illegal trades adds further confusion. Platforms and sellers frequently offer both nursery-propagated and wild-harvested specimens, and traffickers exploit this overlap, mixing illicit plants into legitimate listings, or mislabelling wild plants as 'nursery-grown'. Even conscientious consumers may inadvertently support illegal trade, while traffickers maintain plausible deniability.

Underlying perceptions of harm also reduce consumer urgency. Unlike live animals, plant purchases are rarely associated with ecological damage or links to organized crime. Regulatory gaps compound this, as species protected in South Africa may not be restricted in major consumer countries, and false assurances by sellers, coupled with minimal platform verification, reinforce a perception of legality.

A LEGACY OF EXPLOITATION: THE HIDDEN COSTS OF THE ILLEGAL TRADE

The impacts of the illegal plant trade extend far beyond the disappearance of rare plant species. Poaching operations destabilize entire ecosystems: critically endangered plants face eradication, while protected animal species including armadillo girdled lizards, speckled dwarf tortoises and scorpions are also casualties of opportunistic collection for illicit markets.[56] As mature populations collapse, poachers increasingly remove juvenile plants, destroying prospects for natural regeneration and accelerating ecological decline.[57]

These losses create institutional aftershocks. Seized specimens cannot usually be returned to the wild, forcing conservation bodies and state agencies to assume the costly responsibility of maintaining them in botanical gardens.[58] In practice, this means South Africa is not only losing biodiversity but also absorbing the long-term financial burden of caring for confiscated plants, while demand is concentrated in consumer markets overseas.

Like other illicit economies, the trade flourishes in contexts of poverty and marginalization, recruiting vulnerable populations into exploitative supply chains. Harvesters, often including adolescents, are sometimes compensated in kind, notably with 'tik' (crystal methamphetamine), fuelling cycles of dependency in at-risk communities.[59] The promise of short-term income is unsustainable, as local populations of species are wiped out, leaving harvesters without future opportunities. Meanwhile, South Africa's lack of domestic propagation capacity means that overseas nurseries, particularly in the US and China, profit from cultivating its indigenous flora, using illegally sourced genetic material, while local communities and the state are denied economic returns.[60]

This dynamic reflects a contemporary form of colonial extraction. South Africa's biological heritage is commodified for distant consumer markets, while the environmental damage and social costs remain at home. Vulnerable labour is exploited, ecosystems are degraded and conservation agencies are left to manage the aftermath. [61]

Yet interventions must proceed carefully. While high rates of unemployment and poverty across sub-Saharan Africa remain central drivers of the trade, enforcement-heavy responses risk reinforcing perceptions of conservation as a racially biased, neocolonial practice.[62] Addressing the illegal plant trade therefore requires not only stronger conservation and law enforcement capacity but also strategies that acknowledge and tackle the deeper legacies of exclusion and economic inequity on which the trade continues to thrive.

REGULATORY AND ENFORCEMENT LANDSCAPE

Despite comparatively significant investment in tackling the trade both internationally and in South Africa, the fragmented and uneven protection of species under national and international laws creates major obstacles to effective enforcement. Unlike charismatic fauna, many plants lack CITES protection, despite CITES having originated with the mandate to control the trade in orchids and cactuses.[63] While South Africa has adopted a multi-faceted approach through national strategies, legislation and international agreements, enforcement has left gaps that organized networks exploit.

South Africa's primary legal tools include the National Environmental Management: Biodiversity Act 10 of 2004 (NEMBA) and its Threatened or Protected Species Regulations. However, most plant species targeted by illegal trade are only protected in the provinces where they naturally occur.[64] Once moved across provincial borders, these plants often lose legal protection altogether. The case of *Clivia mirabilis* illustrates this challenge – its location on a provincial boundary has complicated law enforcement due to differing provincial regulations.[65] This jurisdictional patchwork enables 'province hopping', where people deliberately cross provincial borders to bypass regulations.[66]

To address these inconsistencies and strengthen national cohesion in biodiversity protection, the Biodiversity Bill was introduced as a replacement for NEMBA.[67] Once enacted, it aims to standardize protections through more flexible species listings, stronger oversight mechanisms and improved alignment with international agreements. The Bill also expands SANBI's mandate to include centralized biodiversity planning, national species lists and enforcement support, while raising penalties for corporate or state actors involved in trafficking to fines of up to R20 million or sentences of up to 20 years. Importantly, it also allows for the sustainable economic use of plants and animals, creating opportunities for harvesting and propagation schemes that could support local livelihoods and reduce pressure on wild populations.

However, legislation is only as effective as its interpretation. In 2022, three defendants in two different matters were acquitted, despite initially pleading guilty, because of a misinterpretation of provincial law.[68] The Northern Cape Ordinance lists the entire *Aizoaceae* family rather than individual species, but the magistrates ruled that *Conophytum* (which belong to this family) were not protected because they were not explicitly named.[69] Changes in scientific nomenclature create additional loopholes, delaying prosecutions until higher courts clarify that legal protection applies to the plant itself, regardless of specific naming conventions.[70]

Confiscated *Conophytum* plants requiring expert care are looked after by conservation agencies at huge expense. *Photo: Emily Kudze/ WWF South Africa/SANBI*

Authorities often rely on ancillary legislation to pursue cases linked to the illegal flora trade. Instead of prosecuting solely under biodiversity or trade laws, offenders may be charged under organized crime provisions, money laundering statutes or for related offences such as unauthorized entry into protected areas. While these approaches can provide stronger penalties and more practical avenues for prosecution, particularly when evidentiary or taxonomic challenges complicate plant-specific cases, they risk being disproportionate and counterproductive when applied to low-level harvesters, who are easiest to apprehend.

The *Conophytum* genus has received CITES Appendix III listing at the request of South Africa, enabling customs and law enforcement in other jurisdictions to assist in regulating cross-border trade. While customs officers have received training in plant identification and CITES procedures,[71] authorities still face major challenges: limited capacity, competing priorities and the complexity of identifying wild plants mean that consignments of wild plants are often overlooked.

The Endangered Wildlife Trust has deployed scent detection dogs in roadblocks at key locations in the Western and Northern Cape to monitor for potentially illegally harvested plants. *Photo: Zanne Brink/Endangered Wildlife Trust*

A multi-layered national strategy

In response to the surge in the wild harvesting of succulents, SANBI and partners launched the National Response Strategy and Action Plan in 2022.[72] This intervention prioritizes stronger law enforcement, public awareness and sustainable livelihoods in vulnerable communities through green enterprises like nature-based tourism development or alternative agricultural activities. It is guided by community engagement projects and long-term capacity-building initiatives for youth to create sustainable opportunities.

Building on this, the National Integrated Strategy to Combat Wildlife Trafficking, implemented in 2023, offers a broader national framework for tackling wildlife trafficking.[73] While its primary focus is on high-profile fauna and cycads, its principles extend to succulents with scope to investigate and prosecute illegal trade in other species as priorities change. Financial crime measures have also been brought into play: The South African Anti-Money Laundering Integrated Task Force has expanded its work to trace financial flows linked to succulent trafficking alongside other wildlife products, while tactical operations groups now actively investigate succulent plant streams.[74]

On the ground, enforcement relies heavily on the South African Police Service's Stock Theft and Endangered Species Unit, particularly the team based in the Northern Cape town of Springbok.[75] For many years, this unit built a strong enforcement track record through undercover operations and the confiscation of thousands of endangered plants.[76] However, its enforcement legacy was disrupted in May 2024, when the former unit commander and two others were arrested on fraud and corruption charges related to the trade.[77] While the case is ongoing, with the accused out on bail and set to reappear in court on 2 October 2025, it has sent shockwaves through the conservation community.[78]

While recent scandals and capacity constraints have hampered enforcement efforts, the courts have demonstrated the consequences that plant poaching can carry when cases are successfully prosecuted. In 2022, three Saudi nationals (one of them a government minister) were ordered to pay R2 million and leave South Africa within 48 hours following a plea arrangement for being in possession of more than 1 million flora items (including 18 *Dioscorea elephantipes* specimens) – arguably a modest sum given their likely financial standing.[79] More recently, in July 2025, four Congolese and Zimbabwean nationals were sentenced to an effective 15 years' imprisonment for illegally harvesting *Clivia mirabilis*.[80] Ten years were for illegal harvesting of protected plant species, and five for unlawful entry into protected areas and illegal presence in the country.

Landmark prosecutions demonstrate what is possible, but the overall pattern is one of low arrests (see Figure 5),[81] lenient penalties and slow court processes. Flora crimes tend to be deprioritized when cases reach the justice system, overshadowed by more visible forms of violence and inequality.[82] This combination of factors contributes to high rates of reoffending among illicit actors in the illegal plant trade.[83] Enforcement is also disproportionately aimed at harvesters, leaving intermediaries and buyers untouched.[84]

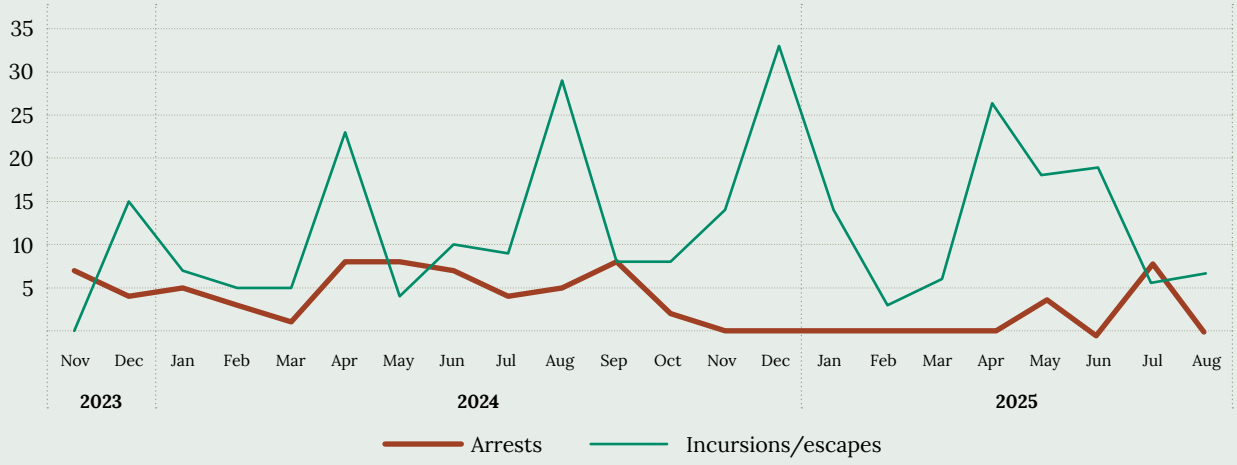


FIGURE 5 Number of arrests compared to number of incursions in the Northern Cape section of the Oorlogskloof Nature Reserve, November 2023 to August 2025.

SOURCE: South African local government

Global and collaborative responses

The IUCN established a Succulent Plant Illegal Trade Task Force to better understand, prevent and mitigate the impacts of trafficking on vulnerable species and their ecosystems.[85] The task force's early findings are sobering: between 2022 and 2024, nearly 900 species were confiscated,[86] including range-restricted succulents on the brink of extinction. These results have prompted an urgent motion, tabled for the 2025 IUCN World Conservation Congress, calling on governments, conservation bodies and online platforms to treat flora trafficking with the same seriousness as other wildlife crimes.

Complementing this push, Botanic Gardens Conservation International launched the Illegal Plant Trade Coalition in 2024. This partnership builds on the work of the IUCN task force by bringing together botanic gardens and partners to take practical action through behavioural change campaigns, promoting verified vendor platforms and expanding propagation initiatives to provide alternatives to wild-harvested plants.

Civil society is also increasingly shaping accountability in online markets. In 2023, the China Biodiversity Conservation and Green Development Foundation launched the Clean Internet for Conophytum initiative, calling on e-commerce platforms to remove listings of wild-collected succulents. The organization issued a legal notice to Xianyu, a major second-hand trading platform owned by Alibaba, urging it to take down *Conophytum* advertisements and to implement stronger safeguards against illicit wildlife trade.[87] Meanwhile, wildlife NGO TRAFFIC and the Royal Botanic Gardens, Kew have been working with eBay to develop a blueprint for strengthening online trading policies to detect and prevent illegal plant sales.[88]

Simultaneously, new technology-driven enforcement responses are emerging through detection tools such as FloraGuard[89] and AI-driven systems such as ECO-SOLVE's Global Monitoring System, designed to identify illegally traded flora and track online advertisements.[90] However, the visual diversity of plants and the subtle markers of illegality (including non-uniform shapes and worn appearance[91]) make automated detection complex. Expert identification is often required to distinguish legally cultivated plants from wild-harvested ones.

DNA barcoding provides a more reliable method of identifying plant species at the genetic level, overcoming the frequent challenge of mislabelled or visually similar specimens. This technique has successfully been used in flora cases to distinguish between wild-harvested and cultivated material,[92] including determining the illegal cycad trade at traditional medicine markets in South Africa.[93] Despite gaps in endemic families and biodiversity hotspots, South Africa maintains a dataset of over 12 000 published records spanning more than 3 400 species, placing it third globally in the number of flowering plant records.[94] The wider application of DNA barcoding could strengthen prosecutions by providing forensic evidence in court.

Kew is also developing a provenance testing tool for succulent plants based on the analysis of stable isotopes and trace elements within plant tissues to determine the geographic origin of these organisms.[95] One concept under trial, isotope watering, involves nurseries using distinct isotope markers in irrigation water, embedding a signature in plant tissue to distinguish cultivated from wild specimens.[96] While still at a concept stage, such methods could provide a scalable approach for building trust in the legal trade and closing some of the loopholes currently exploited by traffickers.

There have been wider efforts to promote the sustainable harvest of medicinal and aromatic plants, most notably the FairWild Standard, a certification system that promotes ecological sustainability and fair trade in wild plant collection.[97] The standard provides guidelines to ensure that wild populations are not depleted while requiring that social and economic benefits flow back to local communities. By linking conservation outcomes with livelihood incentives, FairWild demonstrates how consumer markets can shift towards verifiably sustainable products.[98] While the standard has been adopted in herbal and medicinal plant sectors, its application to ornamental flora remains limited, highlighting an opportunity to transfer lessons learned into horticultural markets where sustainable wild harvest may be viable.[99]

Despite substantial investment in enforcement and conservation measures, the illegal plant trade shows little sign of abating. South Africa's enforcement remains reactive, focusing on isolated seizures rather than dismantling supply chains. This piecemeal approach leaves traffickers a step ahead, particularly as online markets expand beyond the reach of conventional enforcement.

PATHWAYS FOR INTERVENTION

The illegal plant trade may seem less urgent than South Africa's crisis of violent crime, but its impacts are broad. Left unchecked, environmental degradation entrenches poverty, undermines livelihoods and deepens inequality. Treating plant trafficking purely as an environmental issue misses the reality: it is a socio-economic challenge rooted in South Africa's history of contested land and limited opportunity. Although the problem is urgent, it is not insurmountable. Responses must avoid fortress-style conservation that alienates communities and instead embed solutions in social development and equitable access to benefits.

Recommendations

- **Harmonize legislation.** Provincial and national governments must align and update regulatory frameworks to eliminate exploitable gaps, particularly where species protections differ between provinces. Inconsistent scheduling between provincial, national and CITES lists creates uncertainty for enforcement and allows organized traders to evade prosecution. Standardizing species lists, strengthening CITES implementation, and ensuring clear legal coverage across jurisdictions would provide front-line officers and courts with a stronger basis for action.
- **Transform demand through legal alternatives.** Standalone awareness campaigns rarely change behaviour. To work, they must be coupled with meaningful alternatives and credible messengers. Partnering with horticulturalists, botanical institutions and social media figures within plant-collecting communities can reframe demand by steering buyers towards legally propagated species or plants of least concern. Verified vendor platforms and clear consumer guidance reduce confusion about legality. Multilingual campaigns in high-demand markets should also highlight the reputational, financial and ethical consequences buyers face while offering practical pathways to collect plants responsibly.

- **Regulate online platforms.** Digital marketplaces are now central to the flora trade, yet platform rules are weakly enforced. Platforms are well situated to place greater responsibility for prevention on platform users, as demonstrated by the efforts of eBay, TRAFFIC and Kew. Platforms should require proof of legal origin for sensitive species, make verified vendor systems the default and provide clear reporting mechanisms. Cooperation with conservation authorities and civil society to flag high-risk listings is essential. Without greater accountability in online markets, the ease of trade will continue to outpace enforcement capabilities.
- **Explore market-anchored bioeconomy initiatives.** National and provincial government, SANBI, civil society and the private sector should pilot 'bioeconomy' initiatives that generate licit income opportunities through biodiversity. Options may include sales of seeds, pollen or nursery-propagated plants to domestic and overseas markets, with revenues flowing back to South Africa. Cultivation alone is not enough – business training, start-up support and guaranteed market access are required for success. Lessons from FairWild show that sustainable harvest models only succeed when demand-driven and backed by buyer commitments. Community-led, market-anchored approaches could reduce pressure on wild populations without imposing unrealistic burdens on marginalized communities.
- **Strengthen forensic tools and their application.** Conservation science is advancing methods to distinguish wild-harvested plants from cultivated ones. DNA barcoding is already being used to verify cycads and other species, while stable isotope analysis shows promise in tracing geographic origin. Expanding forensic partnerships between universities, SANBI and enforcement agencies, with dedicated funding, would build local capacity. Over time, incorporating forensic verification into monitoring and certification systems could support prosecutions while building trust in the licit trade.

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