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Asian hornets and other Hymenoptera: poisonings that need close monitoring

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First detected in mainland France in 2004, the Asian hornet is now found throughout the country. A recent law aims to stem the spread of this predator of honeybees, in order to protect the beekeeping sector. As with wasps, bees and other hornets, poisoning can be serious in the event of multiple stings, stings to the mucous membrane (mouth), or allergy to the venom. For all hornets, data on cases in which medical treatment was sought show a higher proportion of serious or even lethal poisonings than for wasps and bees. The professional removal of hornet nests close to homes helps protect the public.

THE ASIAN HORNET, NOW WIDELY ESTABLISHED IN MAINLAND FRANCE

The Asian or yellow-legged hornet, *Vespa velutina nigrithorax*, is an invasive species of Asian origin whose presence in France was first reported in Lot-et-Garonne in 2004. It was thought to have been imported by a horticulturist in a shipment of pottery from China. It readily adapted to its environment and, in the space of 20 years, has colonised virtually all of metropolitan France's *départements*, with the exception of Corsica[1], as well as neighbouring European countries: Spain, Portugal, Belgium, Italy and Germany.

An insect of the Hymenoptera order[2], like the European hornet, the common wasp, the honeybee and the bumblebee, it can be recognised by its brown abdomen bordered by a yellow band, and the yellow tips of its legs.

With no predators, the Asian hornet has thrived by feeding on other insects, particularly honeybees. On 15 March 2025[3], a law came into force to stem its spread and protect the beekeeping sector.

WHAT SHOULD YOU DO IF YOU DISCOVER A HORNET'S NEST?

- Before starting any work in your garden, check that there are no nests in the bushes or hedge.
- If you find a nest, keep a safe distance of 5 metres away and do not attempt to destroy it yourself.
- Do not use traps (plastic bottles with syrup, etc.), as they kill other insects that are vital to biodiversity, while having virtually no impact on the targeted nest.
- If it is an Asian hornet nest, report it to the local authorities or directly to the organisation responsible for combating this species in your *département*.

[1] https://frelonasiatique.mnhn.fr/biologie/#CarteProgression. The Asian hornet was first detected in Corsica in August 2024. The nest was destroyed and increased vigilance has been introduced.
[2] Hymenoptera are characterised by two pairs of membranous wings that are coupled in flight and licking-chewing mouthparts.
[3] https://www.legifrance.gouv.fr/loda/id/JORFTEXT000051329052/

It provides for the creation of a national control plan, the regulation of hornet trapping and compensation for beekeepers.

From February to June, the Asian hornet builds an initial nest that is small and hard to detect, under gutters, inside garden sheds or hollow trees, etc. During the summer, the colony that emerges from this first nest builds a second, larger nest in the open, generally in a tree more than ten metres up and hidden by leaves, with an opening on the side. The colony grows to hold as many as several thousand hornets by early autumn, then dies in winter.

Unlike bees, but like wasps, the Asian hornet does not lose its stinger when it stings. It can therefore sting again, injecting venom each time. Its stinger, which can penetrate thick materials such as rubber boots or leather gloves, is longer than that of wasps and therefore causes a deeper sting.

In humans, the Asian hornet's venom triggers a toxic reaction characterised by pain, redness, local swelling and general signs (vomiting, diarrhoea, headaches, drop in blood pressure, etc.), whose intensity increases in line with the number of stings. The venom can also cause an allergic reaction. This is unrelated to the dose injected and can be triggered by a single sting. Dermal (urticaria), oropharyngeal (throat oedema) and cardiovascular (sudden drop in blood pressure) symptoms can be fatal without immediate medical attention. Potentially serious eye damage has also been reported among fire-fighters and professionals destroying nests, following direct contact with a fluid other than venom, secreted by the hornet.

As with other Hymenoptera that sting humans, the main risks posed by the Asian hornet are multiple stings, stings to the mucous membranes (mouth) and allergy to the venom. Because of cross-allergies between the different Hymenoptera venoms, patients most often become allergic to hornet venom following a wasp sting.

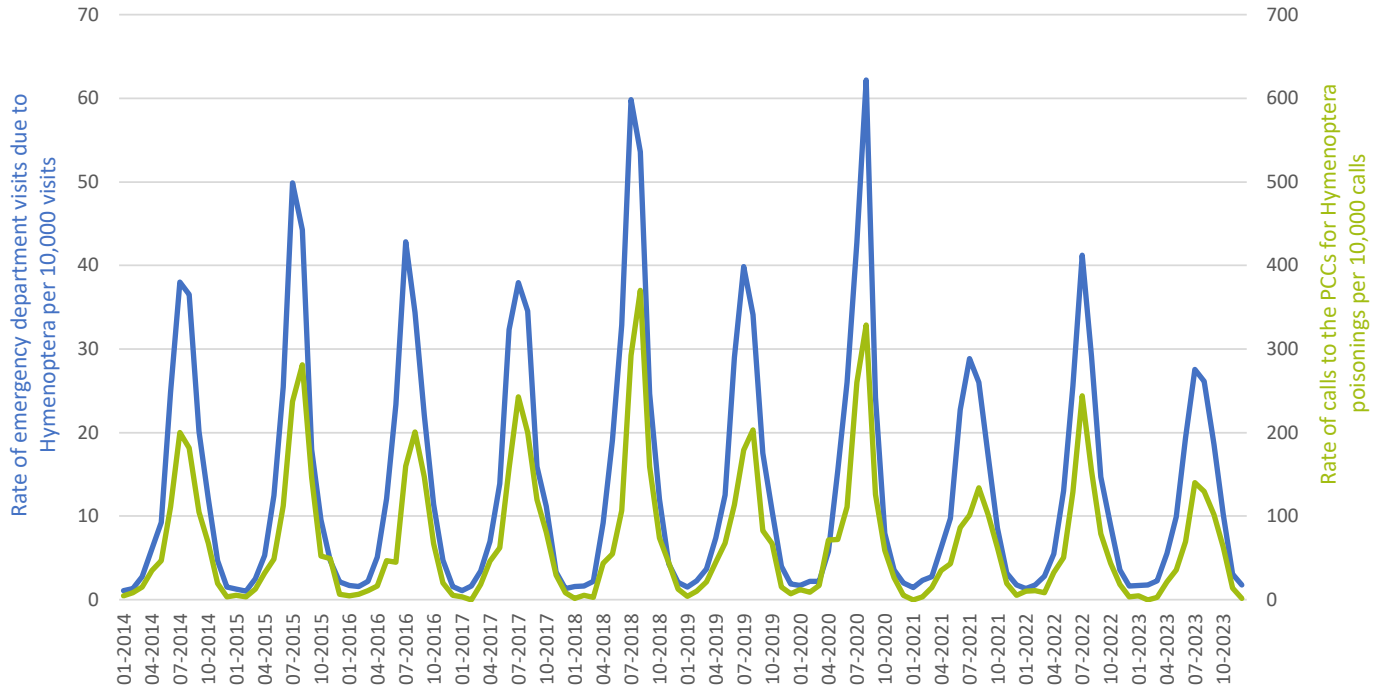

Figure 1 - Rate of Hymenoptera poisonings per 10,000 calls to the PCCs, and rate of emergency department (OSCOUR® network) visits for Hymenoptera stings per 10,000 all-cause visits per month. Mainland France. 2014-2023.

Sources: SICAP information system and OSCOUR® network.

WHAT SHOULD YOU DO IF YOU ARE STUNG BY A HORNET, WASP OR BEE?

- In the event of a reaction such as urticaria (hives), swelling of the tongue, difficulty breathing, discomfort or chest pain, call the emergency services on 15 or 112 (or 114 for the hearing impaired). The same applies with stings in the mouth or throat, multiple stings, or if local symptoms worsen.
- In the event of a known allergy to Hymenoptera venom and signs of severe allergy (anaphylactic shock), use an adrenaline (epinephrine) autoinjector, if available, and dial 15 or 112 (or 114).
- For any other signs of poisoning, call a poison control centre (24/7 emergency number: +33 (0)1 45 42 59 59) or consult a doctor.

A STRONG SEASONAL PATTERN IN POISONINGS

At the request of the French Directorate General for Health, ANSES and the French poison control centres (PCCs) analysed the trend in stings by Asian hornets and other Hymenoptera recorded by the PCCs between 2014 and 2023 inclusive. At the same time, *Santé publique France* analysed emergency department visits[4], hospital admissions[5] and mortality[6] due to Hymenoptera stings over the same period, to draw up a full quantitative review of cases in which medical treatment was sought for this problem.

A total of 6022 calls to PCCs and 179,141 emergency department visits for Hymenoptera stings, 2% of which were followed by hospital admission, were recorded between 2014 and 2023 inclusive. Although they are of different orders of magnitude, the data from the two sources show the same trend over time (Figure 1).

For these two sources, the years 2018 and 2020 were marked by a higher number of consultations for Hymenoptera stings, while 2021 and 2023 saw a lower number. With both data sources, seasonal peaks were observed each year in either July or August.

The species of Hymenoptera involved in the poisoning was stated in a large proportion of the calls to the PCCs. They were mainly wasps (37%), followed by hornets of all species (25%) and bees (19%).

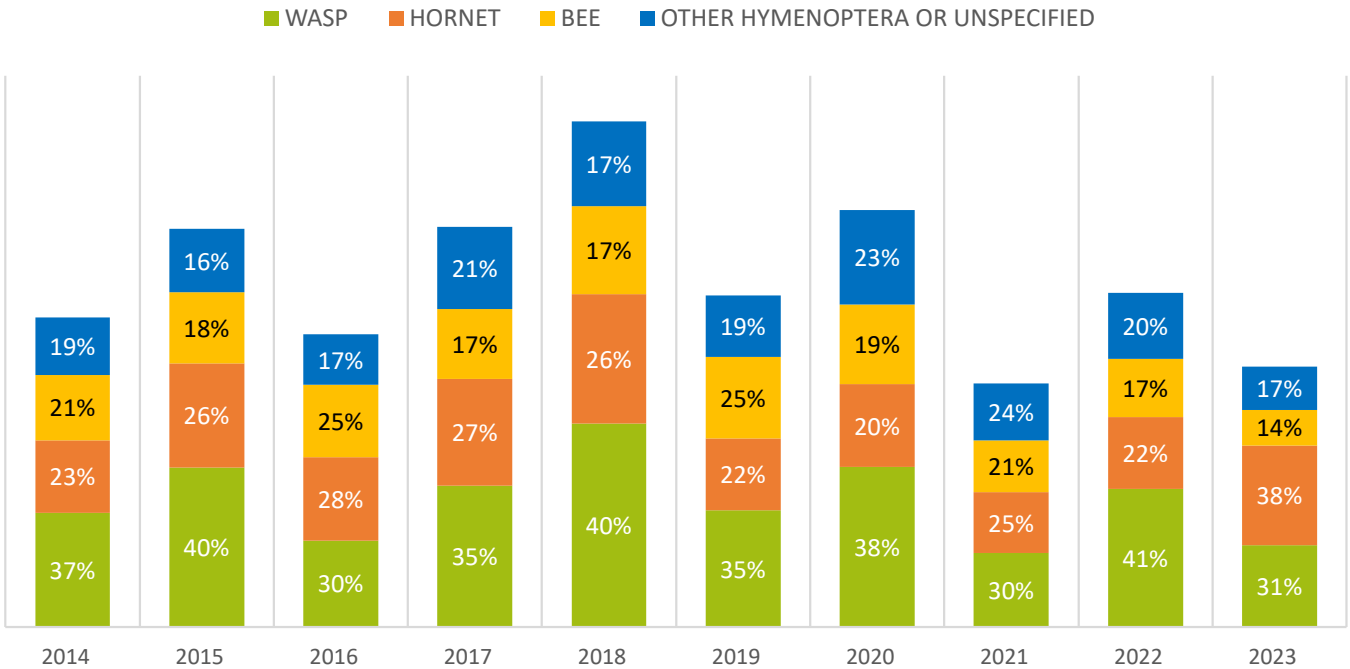

Figure 2 - Number of poisonings by type of Hymenoptera recorded by poison control centres per year. Mainland France. 2014-2023. Source: SICAP.

[4] Organisation of coordinated emergency surveillance (OSCOUR® network), led by *Santé publique France*.
[5] French Programme for the Medicalisation of Information Systems (PMSI).
[6] Epidemiology Centre on Medical Causes of Death (CépiDc).

For the remaining 19%, the species was not identified or corresponded to another Hymenoptera (e.g. bumblebee).

Among all Hymenoptera stings, the percentage attributed to hornets was stable each year (between 20% and 30%), with a slight increase in 2023 (nearly 40%) (Figure 2). In almost half of the hornet stings (48%), the species was not identified, then Asian hornets accounted for just over a quarter (28%) and the remaining quarter (24%) was due to European hornets.

The proportion of poisonings due to Asian hornets remained stable over time.

The seasonal nature of poisonings by Hymenoptera observed in the PCC data is consistent with the life cycle of these insects: stings by bees were observed from April to August, those by wasps from June to September, and those by hornets (all species) from July to October, since hornets are present later than other Hymenoptera, from summer to late autumn.

The geographical data showed that Hymenoptera stings were evenly distributed across mainland France, in terms of both calls to the PCCs and emergency department visits. Hornet stings were more frequent in the west, south-west and south-east of France.

Lastly, people aged between 20 and 39 years were the main victims of Hymenoptera poisonings, both in terms of calls to the PCCs (28%) and emergency department visits (25%).

SERIOUS POISONING OFTEN CAUSED BY HORNETS

Of the 6022 Hymenoptera poisonings recorded by PCCs between 2014 and 2023, only 1.5% were serious (N = 91), i.e. potentially life-threatening or leading to death. Hornets were responsible for 38% of severe forms, despite only accounting for 25% of stings.

A total of 18,213 hospital admissions for Hymenoptera stings were recorded between 2014 and 2023, 13% (2354) of which were in intensive care. This intensive care percentage was highest in 2023 (17%) (Figure 3). It was lower in 2020 (11%), despite this being the year with the most hospital admissions for Hymenoptera stings.

People over the age of 60 were the main victims of serious Hymenoptera stings (PCC data, hospital admissions and intensive care admissions). Men were also more likely to be affected.

According to the death certificates, 256 people died in connection with a Hymenoptera sting between 2014 and 2023 (provisional data for 2023). This number varied from 12 to 47 per year, with three years being particularly notable: 2018, 2022 and 2023. Hornet stings (all species) were mentioned in 27% of these death certificates, with this figure reaching 43% in 2023.

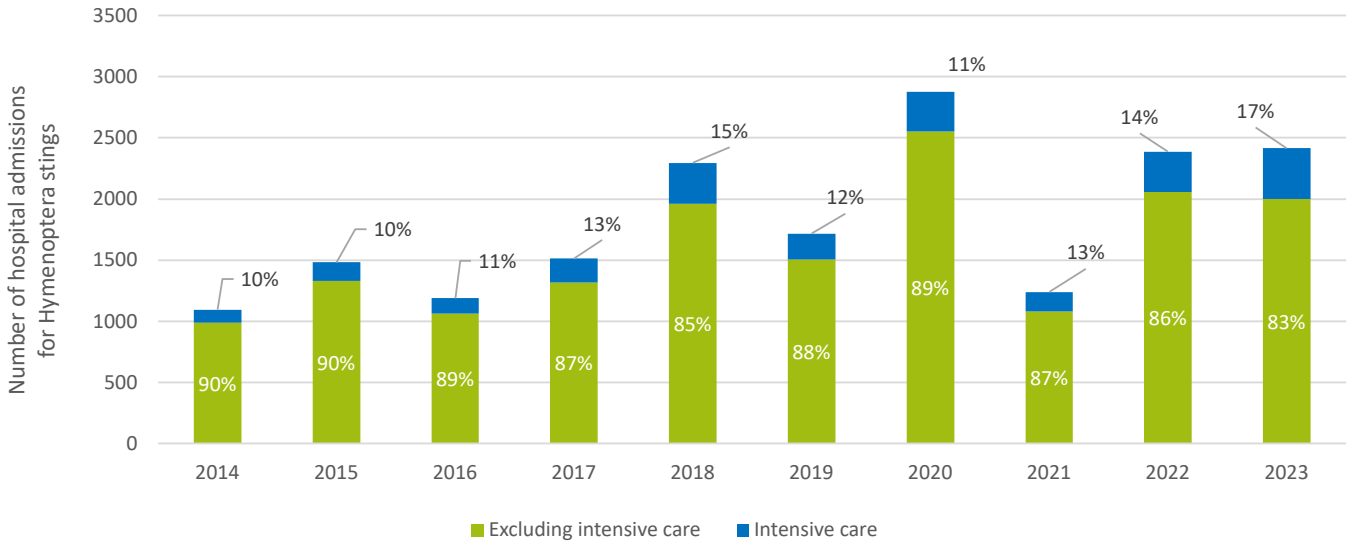

Figure 3 - Annual numbers and percentages of hospital admissions for Hymenoptera stings (intensive care or excluding intensive care). Mainland France. 2014-2023. Source: PMSI.

SERIOUS POISONING MAINLY DUE TO ALLERGIC REACTIONS

An allergic reaction, alone or associated with signs of toxicity, was described in 89% of the serious poisonings due to Hymenoptera recorded by the PCCs. A single sting was enough to cause serious poisoning in almost half of the cases (48%); slightly more in the case of hornets (53% of single stings).

With the Asian hornet predicted to spread throughout Europe by 2100 due to favourable climate conditions, it is essential to adapt to living alongside this species. Protecting the population, particularly when nests are nearby, remains essential to avoid poisoning (see box).

In order to follow the trend in poisonings, ANSES recommends monitoring data on emergency department visits and their correlation with PCC data.

Vigilance is also needed to detect the arrival of new species of invasive hornets, such as the southern giant hornet (Vespa soror), which was recently observed in Spain.

Sandra Sinno-Tellier (ANSES), Jérémy Hamon (ANSES), Magali Labadie (Bordeaux PCC) and Anne Fouillet (Santé publique France)

FIND OUT MORE

Anses. (2025). Poisonings by Asian hornets and other Hymenoptera in mainland France. Study of several sources of health data from 2014 to 2023. Toxicovigilance study report. Request No 2024-AST-0153. ANSES. Maisons-Alfort. 88 p. https://www.anses.fr/sites/default/files/TOXICOVIGILANCE2024-AST-0153.pdf

Plants causing frequent or serious poisoning

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Myrtle spurge (*Euphorbia myrsinites*).

A ministerial order issued by the French Ministry of Health in 2020 lists the ornamental plants available on the market that can cause serious poisoning. A study of accidental plant poisonings recorded by the poison control centres, supplemented by a literature search, identified six new plants to be included in this order and led to a list being drawn up of the wild or cultivated plants responsible for the most frequent or serious cases. With a view to future updates, ANSES has set up prospective monitoring of serious plant poisonings, as well as a literature watch.

Whether they are wild or cultivated, plants can cause poisoning through either a failure to identify them or lack of knowledge of their toxicity. Following an ANSES opinion[1], in September 2020, the Ministry of Health published a ministerial order[2] on the information that must be provided to purchasers of plants posing a toxic risk to human health. This order lists the ornamental (decorative) plants with the highest toxicity, whether by ingestion, mucocutaneous contact or dermal contact combined with exposure to the sun[3].

In order to identify new plant species to be included in this ministerial order, the Directorate General for Health asked ANSES to study accidental plant poisonings recorded by French poison control centres (PCCs) over a 10-year period, considering both commercial and wild plants, and paying particular attention to cases of serious poisoning.

POISONING DUE TO WILD PLANTS AND PLANTS IN PARKS AND GARDENS

Between 2012 and 2021, the PCCs received calls about 23,906 cases of plant poisoning. They most often involved ornamental plants in parks and gardens (ornamental *Arum*, oleander, *Narcissus*, *Cotoneaster*, etc. – 40%), followed by wild plants (wild *Arum*, *Euphorbia*, *Heracleum*, elder, etc. – 31%), food plants (bell pepper, chilli, squash, fig, etc. – 13%) and house plants (*Alocasia*, *Ficus*, *Spathiphyllum*, etc. – 12%). In the remaining 4% of cases the plant was not identified. These cases concerned both men and women.

Nearly half of the victims were children under six years of age who had ingested a toxic plant. Ingestion was also the most common route of exposure for children over six, well ahead of skin or eye contact. Half of all poisonings (52%) occurred between May and August, with a peak in July.

In the vast majority of calls, particularly those regarding children, the poisoning was minor. Only 2.5% of cases caused severe or prolonged symptoms, of which 0.1% were life-threatening or even fatal.

[1] ANSES opinion on the draft ministerial order concerning the prior information that must be provided to purchasers of plants likely to be harmful to human health
[2] https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000042325453
[3] https://vigilanses.anses.fr/sites/default/files/VigilAnsesN14_Juin2021_Arreteplantes_0.pdf

Poisoning was more severe with wild plants (4.3%) than with house plants (0.6%), and when the plant or its sap had been in contact with the eyes (Table I).

ARUM: FREQUENT BUT GENERALLY MINOR POISONINGS

All plant categories combined, *Arum* were most frequently responsible for poisonings (22%). They were followed by Euphorbia, bell pepper and chilli, oleander, narcissus and daffodil (Figure 1).

Two species of Arum (*A. italicum* and *A. maculatum*) are particularly abundant in the wild. A typical case of exposure concerned a young child who was attracted by the orange-red berries and put them in their mouth. Adults tended to confuse the leaves of this plant with those of other edible plants such as sorrel, spinach or sea beet.

Arum owes its toxicity to microscopic needle-shaped calcium oxalate crystals, invisible to the naked eye, found in all parts of the plant. They are expelled when the plant is damaged or chewed and become lodged in the skin or mucous membranes, causing discomfort and sometimes painful local irritation. In rarer cases they can lead to oropharyngeal oedema or corneal damage in the event of eye contact.

Although *Arum* poisoning was the most common form, the vast majority of cases were minor: less than 0.1% were of moderate severity and none were very serious.

EUPHORBIA: FREQUENT AND SOMETIMES SERIOUS POISONINGS

Euphorbia was the second most common cause of poisoning, but tended to be more serious than *Arum* poisoning: 4.2% of cases were of moderate to high severity.

Many *Euphorbia* species can be found among the wild flora of France. Some, including exotic species, are also sold for gardens. They produce a corrosive latex which, if it comes into contact with the skin, quickly causes redness, pain, itching and even blisters. In the event of eye contact, the initial irritation is followed by conjunctivitis or even corneal damage, along with impaired vision and severe pain.

One very serious case was observed in the study: a person developed a severe corneal ulcer after splashing sap into their eye. The injury subsided after subconjunctival injection of corticosteroids and application of a bandage contact lens.

WHICH PLANTS ARE THE MOST DANGEROUS?

Some plants can cause life-threatening or fatal poisoning. Of the 42 very serious poisoning cases in the study, which included seven deaths, *Datura* and autumn crocus were the most frequently incriminated (each one was responsible for 15% of cases). Then came foxglove (12%), followed by white hellebore (9%), wolfsbane (5%) and water dropwort (5%). The deaths were due to the ingestion of water dropwort (in two cases), autumn crocus, foxglove, yellow oleander, wolfsbane and oleander.

		Percentages of moderate to high severity poisonings / poisonings of all severities	Number of poisonings of all severities
Age groups	0-5 years	0.7%	10,733
	6-19 years	1.5%	3,837
	20-39 years	4.4%	3,192
	40-59 years	5.5%	2,854
	60 years +	7.6%	2,146
Plant categories	Wild	4.3%	7,502
	Food	3.3%	3,148
	Parks and gardens	1.5%	9,525
	House	0.6%	2,928
Routes of exposure	Eye	5%	2,085
	Skin	2%	4,020
	Oral	1%	18,175

Table 1 – Moderate to high severity poisonings according to victim age, plant category and route of exposure. 2012-2021. Source: SICAP

In all the serious cases, the victims – all adults apart from one child – had consumed large quantities of the plant. They had most often confused the poisonous plant with a food plant: *Datura* (jimsonweed) with New Zealand spinach[4], autumn crocus with wild garlic[5], foxglove with comfrey, white hellebore with gentian or ginseng, water dropwort with wild carrot, deadly nightshade with wild grapes or wolfsbane with striped hemlock.

In other cases, people had consumed a plant thought to be edible without realising it could be toxic (taro, pine, *Daphne mezereum* berries, liquorice, *Aphloia theiformis*, star anise, bitter almond) or a plant for therapeutic or slimming purposes (white hellebore, *Tinospora crispa*, nutmeg, candlenut, broom).

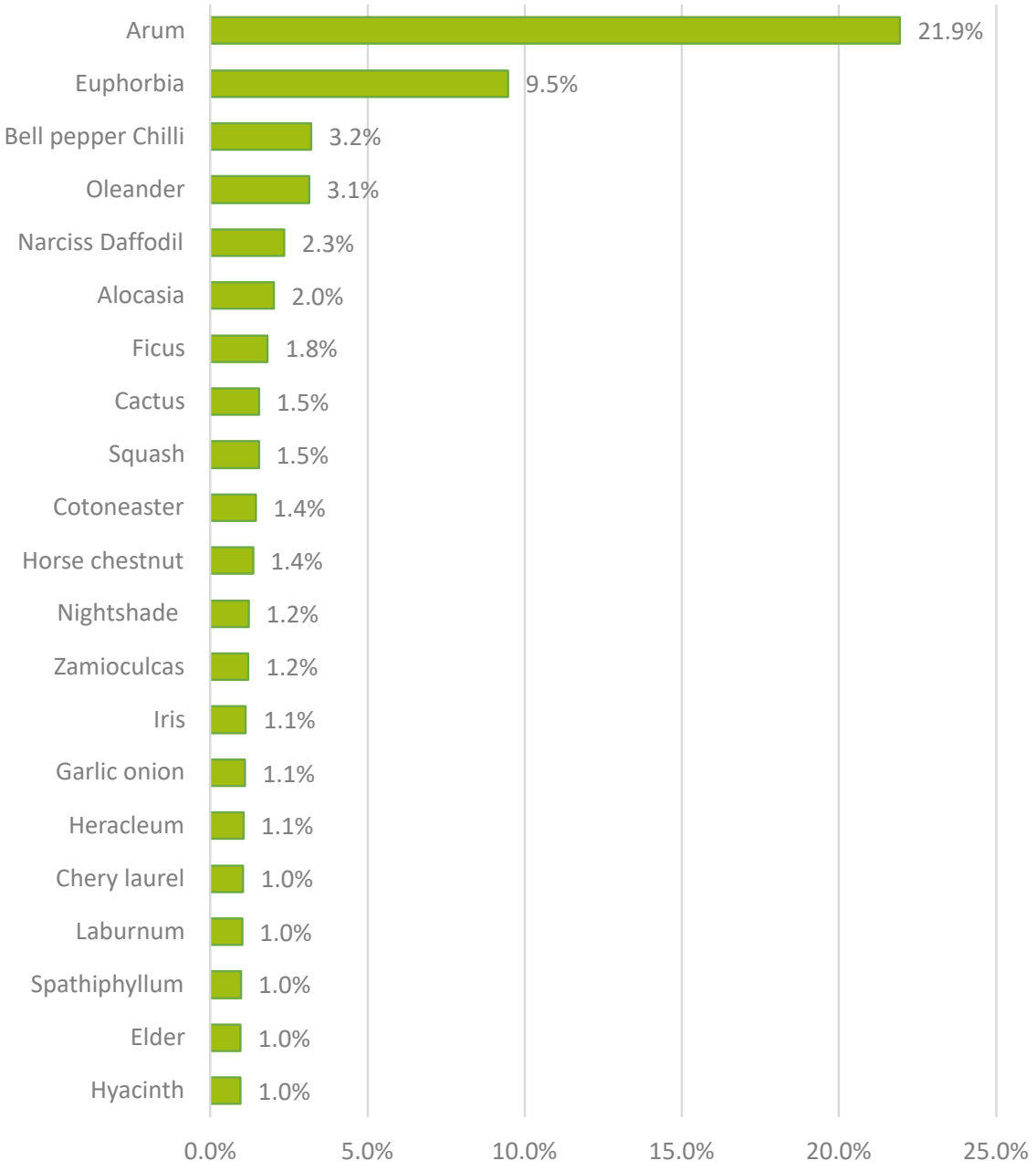


Figure 1 – Percentages of accidental plant poisonings.
Plants that accounted for less than 1% of poisonings are not shown. 2012-2021. N = 22,383.
Source: SICAP.

[4] https://www.anses.fr/en/content/severe-poisoning-after-consumption-toxic-jimsonweed-leaves-vegetable-patch
[5] https://vigilanses.anses.fr/sites/default/files/VigilAnsesN20_November2023.pdf

WHAT SHOULD BE DONE TO AVOID PLANT POISONING?

- Choose non-toxic ornamental plants for areas frequented by young children;
- Keep children away from plants that can cause poisoning;
- Avoid skin contact with plants responsible for abnormal skin reactions following exposure to the sun: wear gloves and protective clothing.

TO AVOID CONFUSION BETWEEN TOXIC AND EDIBLE PLANTS

- Do not eat a plant in the event of any doubts about its identity, whether it has been picked from the wild or from the vegetable garden;
- Take photographs of the plants that have been picked for easier identification in the event of poisoning;
- Stop eating the plant immediately if it has an unusual or unpleasant taste;
- Do not pick plants by the armful to avoid gathering several different species by mistake and mixing toxic and edible plants;
- Wash and sort plants thoroughly before eating.

WHAT SHOULD BE DONE IN THE EVENT OF PLANT POISONING?

- In the event of severe problems or life-threatening symptoms (difficulty breathing, loss of consciousness, etc.), dial 15 or 112 (or 114 for the hearing impaired).
- In all other cases of ingestion of a plant suspected to be or identified as toxic, even if there are no symptoms, seek advice from a poison control centre on +33 (0)1 45 42 59 59 (24/7 emergency number).

SIX PLANTS TO BE ADDED TO THE MINISTERIAL ORDER ON TOXIC PLANTS AVAILABLE ON THE MARKET

Data from the PCCs showed that colocynths[6], or ornamental gourds, should be added to the Ministerial Order of 4 September 2020. The other plants causing serious poisoning were already listed in the order or were outside its scope, such as food or medicinal plants.

The literature search carried out on 28 other plant species also identified a further five plants sold in France that can cause serious poisoning in humans.

ANSES therefore recommended updating the Ministerial Order of 4 September 2020 to include six new plants: colocynths, opium poppy, sea squill, rosary pea, henbane and redoul.

Besides these, three other plant species were identified in another ANSES opinion[7] specifically concerning ornamental plants posing a toxic risk to human health in Reunion Island and Mayotte: gout plant, physic nut and century plant.

To ensure the ongoing identification of new plants that could cause human poisoning, in 2025 ANSES set up prospective monitoring for serious plant poisonings recorded by poison control centres, as well as a literature watch.

Sandra Sinno-Tellier (ANSES)
and Gaël Le Roux (Angers PCC)

FIND OUT MORE

ANSES. (2025). Accidental plant exposure and poisoning: a study of cases recorded by poison control centres from 2012 to 2021. Toxicovigilance study report. Request No 2022-SA-0042. ANSES. Maisons-Alfort. 184 p. https://www.anses.fr/sites/default/files/Toxicovigilance-2022-SA-0042-RA.pdf

[6] https://vigilanses.anses.fr/sites/default/files/VigilAnsesN3_October2017_Squash.pdf
[7] https://www.anses.fr/fr/system/files/Toxicovigilance2021SA0032.pdf

Nicotine pouches: adolescents are the main victims of severe poisoning

Once again, ANSES is warning of the risks associated with the consumption of nicotine pouches by adolescents. Between 2023 and 2024, French poison control centres received more than 45 calls about their use among adolescents, including 11 cases of severe poisoning. Regulations on these products are expected to be introduced in France in the near future.

RISING NUMBERS OF POISONINGS THAT ARE PROBABLY UNDERESTIMATED

In September 2023, ANSES warned of the risks associated with the consumption of nicotine pouches by adolescents[1]. Over the period 2017-2022, around 10 of them, aged between 12 and 17, presented with severe nicotine poisoning syndrome, suffering from prolonged vomiting, hypotension and even convulsions and consciousness disorders, requiring medical treatment.

The figures for 2023 and 2024 have confirmed this trend. Over this period, French poison control centres (PCCs) received 90 calls about adverse effects related to the consumption of nicotine pouches. In more than half of these cases (54%), the call concerned someone aged between 12 and 17. These adolescents had mainly consumed nicotine pouches in groups and while at school (65%).

Eleven adolescents presented with severe nicotine poisoning syndrome, requiring treatment in an emergency department. While these figures may seem low, they are just the tip of the iceberg. They only include situations in which a call has been made to a PCC. There were probably numerous other cases treated in healthcare facilities for which poison control centres were not consulted.

These figures confirm the trend observed previously: adolescents remain the main population group affected by severe poisoning. Young people are encouraged by social media to consume nicotine pouches to keep them alert or improve their sporting performance.

REGULATION OF THESE POUCHES ON THE HORIZON

A draft decree banning nicotine products for oral use in France is currently subject to consultation by the European Commission. In addition, a bill designed to regulate new nicotine products and prevent the risks associated with their use has been on the French parliamentary agenda since June 2025.

While the legislative framework for the sale of these products is being studied, ANSES reiterates its warning about the risks of short-term nicotine poisoning and longer-term dependence among adolescents.

Attention also needs to be paid to the emergence on the market of pouches advertised as nicotine-free but actually containing nicotine analogues (e.g. 6-methyl nicotine, also known as metatine), for which toxicological data are still insufficient.

Weniko Caré, Jérôme Langrand (Paris PCC) and Cécilia Solal (ANSES)

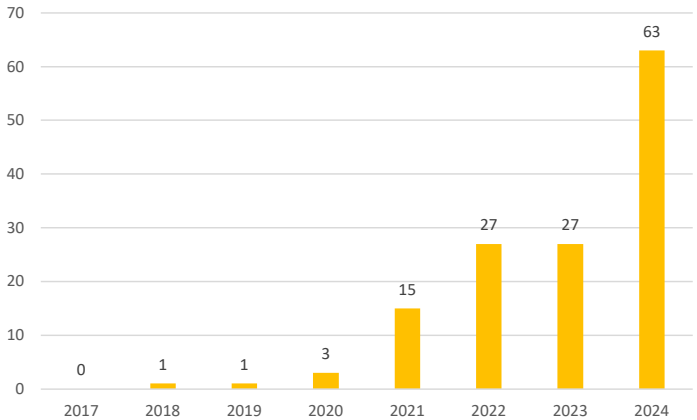
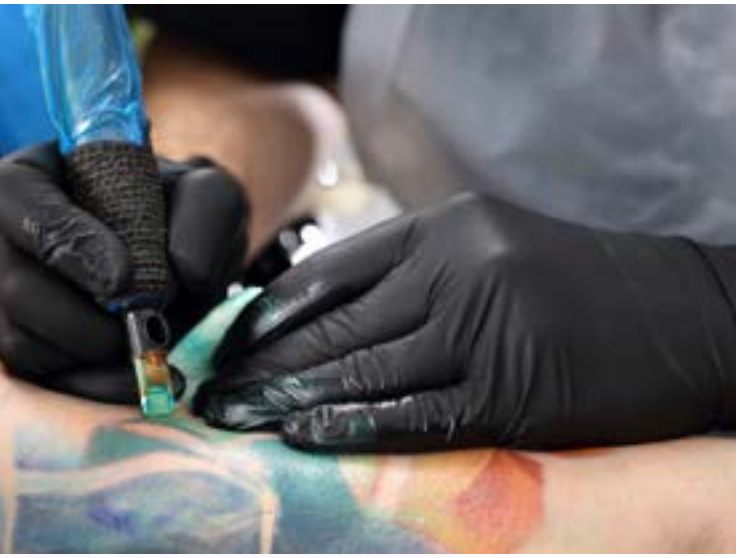


Figure 1 - Annual number of cases of exposure to nicotine pouches reported to the PCCs between 01/01/2023 and 31/12/2024. Source: SICAP.

[1] https://vigilanses.anses.fr/sites/default/files/VigilAnses_N21_EN-tobaccoproducts.pdf

Tattoovigilance: aiming for safer tattooing practices



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Tattoovigilance monitors the adverse effects associated with the use of tattoo and permanent make-up products. These practices are governed by the French Public Health Code, while inks are covered by the European REACH and CLP Regulations. Failure to comply with hygiene rules or use of non-compliant products can pose health risks and lead to penalties. The reporting of adverse effects helps reinforce the safety of practices and better protect consumers.

Tattoos are becoming increasingly popular: while one in ten French people said they had a tattoo in 2010, this figure had almost doubled to 18% in 2018[1].

Tattooing involves the insertion of pigments into the skin. This procedure can lead to adverse effects such as allergic reactions due to the inks used, as well as acute infections when hygiene rules are not strictly observed before, during or after tattooing, or if the inks themselves are not sterile[2].

THE ROLE OF PUBLIC AUTHORITIES: WHO DOES WHAT?

Implementation of the tattoovigilance scheme was entrusted to ANSES on 1 January 2024. Its task is to collect and analyse reports of adverse effects and issue alerts when risks are identified.

Other public bodies are also involved in keeping tattooing practices safe:

- the regional health agencies (ARSs) carry out health checks, register business declarations and supervise the training of tattoo artists,
- The Directorate General for Competition, Consumer Affairs and Fraud Control (DGCCRF) ensures the compliance of products placed on the market.

Consumers, tattoo artists, manufacturers and healthcare professionals can report to ANSES any adverse effects or misuse they may have observed, describing the conditions under which the tattoo was applied.

Manufacturers, tattoo artists and healthcare professionals are **required by law** to report any serious adverse effects related to tattooing of which they become aware.

ANSES forwards tattoovigilance reports to the ARSs whenever poor practice is suspected, in particular, any failure by a tattoo artist to comply with hygiene rules. It also forwards to the DGCCRF any reports in which there are suspicions of the use of non-compliant inks, such as non-sterile inks.

[1] https://www.ifop.com/publication/les-francais-et-le-tatouage/
https://www.ifop.com/publication/la-pratique-du-tatouage-en-france-aux-etats-unis-et-en-grande-bretagne/
[2] A tattoo ink is said to be sterile if it is free from micro-organisms from the moment it is placed on the market through to when it is used.
[3] https://vigilanses.anses.fr/sites/default/files/VigilAnses_N23_Cosmetovigilance_Sept2024.pdf

HOW IS A TATTOO ARTIST'S PROFESSION REGULATED ?

To have the right to apply tattoos, the artist must comply with a number of regulatory obligations designed to protect the health of the person being tattooed.

1/ Obligation to follow a training course

Before starting work, the professional must follow an ARS-approved training course[4] in hygiene and health. This covers infection prevention, equipment management and customer care. Training and certification must be renewed every five years.

2/ Declaration to the ARS

Anyone wishing to practise tattooing must declare their business[5] to the ARS in the place they wish to practice.

3/ Compliance with rules[6] on equipping and maintaining premises

It is essential for tattoo parlours to have:

d'une zone de lavage des mains,

- a hand-washing area,
- smooth, easy-to-clean surfaces,
- an area dedicated to tattooing that is clearly separated from the rest of the parlour,
- a room reserved for cleaning and disinfecting equipment,
- a room for storing waste and dirty linen.

Animals are prohibited from the room in which the tattoos are applied, and from the cleaning and sterilisation room (except for guide or service dogs). All surfaces used must be cleaned and disinfected between each customer. Daily cleaning of floors and work surfaces is also mandatory.

4/ Hygiene practices

A ministerial order[7] lists good practices for the various stages of tattooing, distinguishing between:

- skin preparation before tattooing,
- disinfection of surfaces and equipment,
- the use of single-use or sterile equipment,
- protection of the tattoo artist and the customer,
- tattoo aftercare,
- waste management.

5/ Product regulation

Inks and other products used for tattooing must comply with European regulations (the REACH[8] Regulation on chemicals and the CLP[9] Regulation on the labelling of chemical products).

In France, additional requirements apply: inks must be sterile and diluted with water for injection. Product labelling[10] must include precise information, in particular the word "sterile", the date of minimum durability (best before date) and the contact details of the entity responsible for placing the product on the market. Non-compliant products must not be sold or used.

6/ Customer information and traceability of products used

Tattoo artists must explain to their customers the conditions under which the tattoo is carried out[11], the potential risks (infections, allergies, etc.) and the aftercare needed for the new tattoo. They must have at their disposal the names, brands and batch numbers of the products used, which must be recorded in a register[12].

WHAT SHOULD BE DONE IN THE EVENT OF ADVERSE EFFECTS FOLLOWING A TATTOO?

In the event of persistent redness, rash, discharge from the tattoo, pain, fever or any other abnormal sign, a doctor should be consulted promptly.

Irrespective of any medical care, it is very important to report the incident on the Ministry of Health's adverse health event reporting portal[13]. This will help prevent further incidents if these effects are due to the tattoo artist's inks or practice.

When submitting a report, the following information should be provided:

- symptoms (with photos if possible), onset time after the tattoo was applied, duration, and any treatment received,
- the tattoo artist's name and address,
- the names of the products used and their batch numbers (if known),
- the hygiene conditions observed.

It is important for the customer to inform the tattoo artist of the occurrence of the adverse effect. They may be able to link it to other incidents that could suggest a problem with an ink. If this is the case, they can then alert other customers and the health authorities.

[4] Article R.1311-3 of the French Public Health Code, Ministerial Order of 5 March 2024 on the training of persons using techniques for tattooing involving skin penetration and body piercing
[5] Ministerial Order of 23 December 2008 laying down the procedures for business declarations for tattooing involving skin penetration, including permanent make-up, and body piercing
[6] Ministerial Order of 11 March 2009 on general hygiene rules, Annex I to Annex III
[7] Ministerial Order of 5 March 2024 on the training of tattoo artists and including the points from Standard NF EN 17169
[8] REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals (Regulation (EC) No 1907/2006)
[9] CLP: Classification, Labelling, Packaging (Regulation (EC) No 1272/2008)
[10] French Public Health Code: Section 3: Labelling of tattoo products. (Article R.513-10-5).
[11] French Public Health Code: Section 3: Common provisions. (Articles R.1311-10 to R.1311-13)
[12] Article R.1311-11 of the French Public Health Code
[13] https://signalement.social-sante.gouv.fr/

WHAT THE REPORTS TELL US

Since the scheme was introduced in January 2024, ANSES has received 32 tattoovigilance reports.

In 59% of cases (N = 19), the symptoms were redness, fever, swelling, purulent discharge and local pain, suggesting infection, sometimes with antibiotic treatment being mentioned.

In 37% of cases (N = 12), the symptoms (rash with itching) were suggestive of an allergic reaction, but allergy tests had never been carried out to confirm this.

Unlike the tattoo artists submitting reports, most of the reporting consumers did not know the name or batch number of the inks used for their tattoo, which limited the scope for action by the authorities.

Additional tests also identified the causes of three suspected infections:

- A case of Hepatitis C diagnosed in October 2024, in a person who received three tattoos in the same parlour, in April, August and September 2024. According to the report sent to ANSES, the tattoo artist had not worn gloves when tattooing and the equipment had been prepared in advance, with no way of checking its sterility. The doctor in charge of follow-up ruled out any other cause of contamination by the hepatitis C virus than the tattoos.
- A confirmed skin infection by the bacterium *Mycobacterium fortuitum* subspecies *peregrinum* complex that occurred three to four weeks after a tattoo. The patient recovered with antibiotics. The spouse of the woman who filed the report also mentioned contracting an infection after getting a tattoo from the same tattoo artist.
- A methicillin-susceptible staphylococcal skin infection that progressed favourably with a month's course of antibiotics, but left scarring.

These cases illustrate the consequences of poor hygiene practices or the use of non-compliant products.

In August 2024, following a report from a tattoo artist, investigations led to the withdrawal and suspension of sale or use of Kuro Sumi brand tattoo inks, due to a lack of sterility exposing users to a risk of infection.

CONCLUSION

Getting a tattoo is not a decision to be taken lightly. It involves penetration of the skin, with a risk of infection if it is not carried out under the right conditions using sterile inks. Consumers are entitled to ask for the name, brand and batch number of the products used. This should make it possible to check their quality in the event of any adverse effects.

Reporting an adverse effect enables the authorities to carry out investigations or checks, withdraw non-compliant inks from the market and improve the quality of practices. It concerns us all.

Elodie Lontsi and Pauline Guillou (ANSES)

FIND OUT MORE

ANSES. 2025. 2024 Cosmetovigilance and Tattoovigilance Annual Report. https://www.anses.fr/sites/default/files/Cosmetovigilance-et-tatouvigilance-RA2024.pdf

ANSES. 2025. in Vigil'Anses 25. Cosmetics and tattoo products: two new vigilance schemes for ANSES https://vigilanses.anses.fr/sites/default/files/VigilAnses_N23_Cosmetovigilance_Sept2024.pdf

[14] All batches with a use-by date between 30/06/2024 and 31/08/2026

Numerous adverse effects associated with the consumption of food supplements containing *Garcinia cambogia*

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Although the *Garcinia cambogia* plant is prohibited in medicines, this is not the case with food supplements. Taken with the aim of losing weight, these supplements have been linked with severe adverse effects such as acute hepatitis, even in people with no history of medical problems.

Analysis of the 35 cases received by the nutrivigilance scheme led ANSES to alert the public and the health authorities to the hazards associated with the consumption of food supplements containing this plant. Since April 2025, their marketing in France has been suspended.

A PLANT BANNED IN MEDICINES BUT AUTHORISED IN "SLIMMING" FOOD SUPPLEMENTS

Garcinia gambogia is a plant traditionally used in Asia as a condiment in culinary preparations and for medicinal purposes. It is also used in slimming food supplements sold in the European Union.

In 2008, the European Food Safety Authority (EFSA) was asked to assess the health claims relating to the effect of this plant and its extracts on the sensation of hunger, weight control, reduction of fat storage, and control of blood sugar and cholesterol levels. The manufacturers attributed these "slimming" claims to a substance found in the fruit of the plant: hydroxycitric acid. Since 2023, EFSA has also been assessing the risks associated with the ingestion of hydroxycitric acid.

In France, the National Agency for Medicines and Health Products Safety (ANSM) has prohibited the prescribing and dispensing of medicines or preparations containing *Garcinia cambogia* since 2012, due to an unfavourable risk/benefit ratio.

Under its nutrivigilance scheme, in 2019, ANSES received a report of a case of fatal fulminant hepatitis associated with consumption of the food supplement Slim Metabol®[1] containing, among other things, *Garcinia cambogia* extracts. In view of the severity of the adverse effects and the very likely causality of the product, this report was published on the ANSES website[2]. The literature review conducted when this case was investigated had highlighted the major role of *Garcinia cambogia* in the occurrence of similar cases of fulminant hepatitis from 2005 onwards.

In light of these data, in 2020, ANSES decided to conduct a review of knowledge on *Garcinia cambogia*, as well as an analysis of clinical cases published in the scientific literature or reported by various French, European and North American vigilance schemes, in order to make recommendations to the public authorities and consumers.

[1] https://vigilanses.anses.fr/sites/default/files/VigilAnsesN10_April2020_SlimMetabol.pdf
[2] https://www.anses.fr/fr/system/files/NUT2020-SA-0047.pdf

DIFFERENT TYPES OF ADVERSE EFFECTS REPORTED

Since the establishment of the nutrivigilance scheme in 2009, 35 cases of adverse effects potentially associated with the consumption of food supplements containing *Garcinia cambogia* have been brought to ANSES's attention (between January 2009 and March 2024). Among these reports, only 18 could be analysed, meaning that the data reported were sufficiently complete and precise for determining the causality of the suspect product according to the nutrivigilance method[3]. Two cases in which causality was deemed to be excluded or unlikely have not been reported in this article. In the remaining 16 cases, the symptoms were mainly hepatic, cardiovascular and digestive. The food supplements' causality in the occurrence of these effects was deemed "very likely" in one case, "likely" in seven cases and "possible" in eight cases.

Of these 16 people, six suffered liver damage. The food supplement's causality was considered "likely" in two of these cases and "possible" in four. Of the three hepatitis cases considered to be severe, one was life-threatening and another led to death. The six patients suffering liver damage had consumed *Garcinia cambogia* with other hepatotoxic substances, either as an ingredient in the food supplement or in medicines taken concomitantly that had previously been well-tolerated.

A comprehensive analysis of the cases identified by the various vigilance schemes, supplemented by a literature review, enabled ANSES to highlight the occurrence of serious effects: hepatic, psychiatric, digestive (pancreatitis), cardiac and muscular (rhabdomyolysis) damage. These effects occurred in people with no previous medical problems, as well as in people with a history of psychiatric disorders, pancreatitis, hepatitis, or certain illnesses such as diabetes, obesity or hypertension, with or without drug treatment (medication known to affect liver function, such as antiretrovirals or antidepressants).

CONCLUSIONS AND RECOMMENDATIONS

Hepatotoxicity associated with the consumption of food supplements containing *Garcinia cambogia* was clearly identified, both in the reports received by nutrivigilance and other vigilance schemes, and by an analysis of the scientific literature. While some people reporting adverse effects had a medical history or were taking treatments known to affect liver function, others had no previous medical problems at all.

All these factors led ANSES to advise the entire population against the consumption of products containing *Garcinia cambogia*.

Following ANSES's opinion, on 15 April 2025, the Directorate General for Food published a ministerial order[4] suspending the sale and placing on the market of food supplements containing the plant *Garcinia cambogia* for one year, pending the finalisation of EFSA's European expert appraisal on the subject.

With regard to slimming food supplements in general, ANSES reiterates that seeking to lose weight without a formal medical indication involves risks, particularly when it involves unbalanced eating habits and a low-diversity diet. All weight loss programmes require specialised medical assistance.

Vincent Bitane and Sandrine Wetzler (ANSES)

REPORT ADVERSE EFFECTS

Healthcare professionals are invited to report to the nutrivigilance scheme any cases of adverse effects they suspect are associated with the consumption of food supplements or fortified foods (https://www.nutrivigilance-anses.fr).

FIND OUT MORE

ANSES opinion on the assessment of adverse effects associated with the consumption of food supplements containing *Garcinia cambogia*

Anses. 2011. ANSES opinion on a request to assess the risks associated with dietary weight-loss practices. https://www.anses.fr/fr/system/files/NUT2009sa0099.pdf

To report an adverse effect following the consumption of a food supplement:
https://www.nutrivigilance-anses.fr

[3] Causality enables a causal relationship to be defined. It has five levels: excluded, unlikely, possible, likely and very likely.
[4] Ministerial Order of 15 April 2025 suspending the import, introduction and placing on the market in France, whether or not in return for payment, of food supplements containing the plant *Garcinia cambogia* Desr. and all preparations derived from parts of this plant.

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ANSES, which is responsible for several health vigilance schemes (pharmacovigilance of veterinary medicinal products, nutrivigilance, phytopharmacovigilance, toxicovigilance, vigilance for occupational and environmental diseases, cosmetovigilance and tattoovigilance), reports on its vigilance activities through a dedicated newsletter: **Vigil'Anses.**

Reflecting the latest news from each of the vigilance schemes, this four-monthly newsletter presents the main results of the Agency's work as part of its vigilance missions, in conjunction with its partners, professional networks and expert groups, along with the actions undertaken. The articles, which are deliberately short, are aimed at all environmental and occupational health players: public authorities, health agencies, ANSES's expert appraisal partner organisations and institutes, managers of prevention policies, the scientific community, professionals, associations and users. They encourage the interested reader to read the publications, opinions or reports available on the Internet for further information.

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