



Alien amphibian and reptile species in the UK





Wall lizard

There are as many introduced amphibian and reptile species in the UK as there are native species – at least thirteen non-native species present and breeding, and another eight species, or subspecies, present but not breeding. In general, alien species distribution is very localised so you are less likely to encounter them than our native species. However, some of the aquatic aliens are relatively widespread and are therefore more likely to be encountered.

Alpine newt (*Ichthyosaura alpestris*) neonotous form.
Will Atkins, LEHART

Inside cover photo:
Wall lizard (*Podarcis muralis*). Chris Dresh

Front cover photos (top to bottom, left to right):
Midwife toad, Jason Steel;
Aesculapian snake, Jason Steel; Wall lizard, Fred Holmes; Female bullfrog, Jon Cranfield; Male Alpine newt, Fred Holmes; Western green lizard, Will Atkins; Edible frog, Fred Holmes; Yellow bellied sliders, left and red eared slider, right, Chris Dresh; Italian crested newt, Henk Wallays



How did they get here?

Non-native amphibians and reptiles have reached the UK through a variety of means. Some species have been introduced out of curiosity – or in the belief that they would ‘enhance’ our native fauna. This misguided practice has a long history and there are

records of such introductions dating to the 19th century. Other species have arrived as stowaways. For example, the midwife toad is believed to have been imported along with plants for the nursery trade. The discovery of green/water frog populations close to fishery

establishments suggests that these frogs may be hitching rides with importations of fish stocks (probably as tadpoles).

More recently, non-native species have arrived through pet keeping either through accidental escapes or as deliberate releases.

For example, terrapins are usually the result of unwanted pets being ‘dumped’.

Pool frog (*Pelophylax lessonae*) southern clade. Will Atkins, LEHART



Basking red eared terrapin (*Trachemys scripta elegans*). Fred Holmes



What are the problems caused by alien species?

Non-native, exotic, or alien species are those that do not naturally belong in a particular environment, but have been introduced, intentionally or accidentally, by humans. In most cases, introduced species do not thrive as they are not adapted to their new environments. Of a minority that can survive in their new home however, some can become problematic, in extreme cases becoming serious pests (or 'invasive').

At a global level, the impact of non-native species may affect native species in several ways. Amphibian and reptile examples are cane toads in Australia and brown tree snakes on Guam.

Specifically, invasive non-native species may cause problems through competition or predation. A less obvious problem lies in diseases that non-native species may carry, but to which local species have little or no

Although not known to be breeding in the UK, the corn snake (*Pantherophis guttatus*) from North America is a regular escapee from captive collections. Fred Holmes



American Bullfrog (*Lithobates catesbeianus*). Trevor Rose

Edible frog (*Pelophylax kl.esculentus*). Chris Dresh

resistance. Such diseases may be partly responsible for the decline of amphibians globally. The impact of such disease in Britain is not fully understood but a precautionary approach to non-native species will reduce any such risks.

In most cases, non-native amphibians and reptiles are not known to pose significant threats in the UK. In part this may be because our temperate climate limits the reproductive potential of most non-native, ectothermic vertebrates (i.e. those with variable body temperatures).

However, some are able to thrive in our climate and may be significant predators or competitors of native wildlife. An example is the North American bullfrog, which is a major predator and potential disease vector within environments to which it has been introduced. Globally, it is regarded as one of the most problematic invasive alien species, so every effort should be made to prevent this species becoming established in Britain.



Wall lizard (*Podarcis muralis*) on left and Western green lizard (*Lacerta bilineata*) on right. John Wilkinson

Climate change could alter the success of non-native species in the UK. Therefore, we need to monitor alien populations of amphibians and reptiles, finding out where they occur, whether they are establishing breeding populations and whether they are likely to increase in numbers in the future.



Italian crested newt. Henk Wallays

Introduced Amphibian and Reptile species in the UK

Species confirmed present and breeding in the UK

Alpine newt	<i>Ichthyosaura alpestris</i>
Italian crested newt	<i>Triturus cristatus</i>
Midwife toad	<i>Alytes obstetricans</i>
African clawed frog	<i>Xenopus laevis</i>
North American bullfrog	<i>Lithobates catesbeianus</i>
Marsh frog	<i>Pelophylax ridibundus</i>
Iberian pool frog	<i>Pelophylax perezi</i>
Edible frog	<i>Pelophylax kl. esculentus</i>
Pool frog (southern clade)	<i>Pelophylax lessonae</i>
Western green lizard	<i>Lacerta bilineata</i>
Wall lizard	<i>Podarcis muralis</i>
Aesculapian snake	<i>Zamenis longissimus</i>

Species that are encountered as escapees with increasing regularity include the corn snake (*Pantherophis guttatus*) and the Russian rat snake (*Elaphe schrenkii*.) There is a range of other species that are known to occur but which might not be breeding, or for which populations are of uncertain status. These include the red-eared terrapin (*Trachemys scripta elegans*) which is found at a range of mainly urban sites but which has not yet been confirmed to reproduce successfully. Other species which have been found in recent times but whose current status needs confirmation include: European tree frog (*Hyla arborea*), fire bellied toad (*Bombina orientalis*), garter snake and various other terrapin species.



Marsh frog (*Pelophylax ridibundus*). Chris Dresh



Aesculapian snake (*Zamenis longissimus*). Will Atkins, LEHART

Alpine newt

(*Ichthyosaura alpestris*)



Female alpine newt. Fred Holmes

Despite its name, the alpine newt inhabits lowland as well as upland habitats in continental Europe.

Adults are about the same size as the native smooth newt, females growing a little larger, up to 11 cm. Breeding males can be predominantly blue. Females have a marbled pattern. Bellies are bright orange, occasionally yellow, without spots (although there may be black spots on the throat of some specimens).

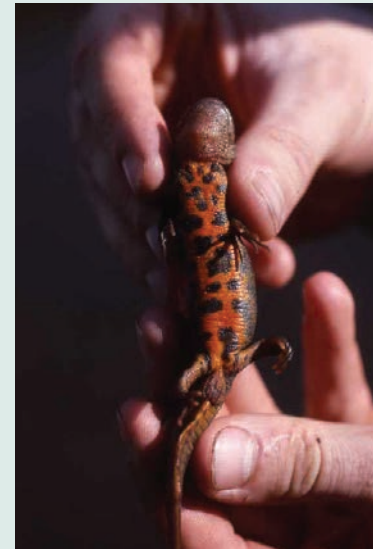
Alpine newts have similar breeding habits to native newts.

A pair of male alpine newts to the foreground, the larger animal to the rear of the picture is a female. Will Atkins, LEHART



Italian crested newt

(*Triturus carnifex*)



Belly of Italian crested newt. Simon J. Tonge

The Italian crested newt, (*Triturus carnifex*) is very similar in appearance and size to the native great crested newt (*Triturus cristatus*). The belly colouration is often, but not always, a deeper shade of orange when compared with that of the native great crested newt, and the black blotches tend to have softer edges. Much like the native species, males develop a pronounced dorsal crest during the breeding season. Adult female Italian crested newts often have a bright yellow vertebral stripe that is rarely seen in the native species.

Italian crested newts can survive in a far greater range of habitats than the native species and can also hybridise with them. A parallel situation in Switzerland demonstrated that the introduced aliens had become the dominant species, displacing the native great crested newts.



Native great crested newt (*Triturus cristatus*) for comparison. Chris Dresh

Italian crested newt.
Henk Wallays



Marsh frog and relatives

(*Pelophylax* spp.)



Marsh frogs basking at the edge of a pond. John Wilkinson

The marsh frog (*Pelophylax ridibundus*) and its relatives (edible frog *Pelophylax* kl. *esculentus*, Iberian water frog *Pelophylax perezi*, pool frog *Pelophylax lessonae*, etc.) are fairly easy to recognise as a group, although it is difficult to distinguish between the different species. Collectively they are referred to as 'green frogs' or 'water frogs'. The background colour can be green, brown or grey. Green colouration can be vivid. Some have a light stripe running along the back.

Despite the variability in colouration, there are several characteristics these frogs share. They are noisy, calling during late spring and sporadically through the summer. When calling, they inflate vocal sacs on either side of the head. Note also the dorsolateral ridge running from behind the eye towards the hind end of the frog – useful in distinguishing large water frogs from the North American bullfrog.

These frogs are more aquatic than our native common frog, remaining in and around the water all year (most common frogs spend a good proportion of the year on land). They can often be seen basking by the side of ponds.



Edible frog. Fred Holmes

Midwife toad

(*Alytes obstetricans*)



Midwife toad. Jason Steel



Midwife toad, red brown morph. Jason Steel

This is a small toad, rarely exceeding 5cm in length. It has unusual breeding behaviour; the male carries strings of eggs wrapped around its hind legs.

Midwife toads can be difficult to find as by day they hide away in dark, damp crevices, under large stones or pieces of timber etc. The easiest way to detect and identify this alien is by its distinctive call which sounds like an electronic 'bleep', given on warm evenings from May to September, peaking in July or August.

Midwife toads have a long breeding season. This means that the tadpole stage is 'staggered'; some tadpoles develop into toads in their first year, whilst others delay until the following spring. Midwife toad tadpoles are present in ponds long after most common frog and toad tadpoles have left, and large midwife tadpoles can be found over the winter. These are not to be confused with common frog tadpoles which, less frequently, can also overwinter. Midwife toads can breed successfully in the UK and a population has been living in Bedford for over 100 years. There are also established populations elsewhere including mid Wales. They do not seem to travel far – at least under their own steam. Most known populations are still confined to the Bedford area, but others have sprung up at scattered locations in England and Wales, usually in gardens and presumably as a result of being moved by people.

North American bullfrog

(Lithobates catesbeianus)



Female bullfrog. Jon Cranfield

This is a large frog which can grow to 20 cm long. It is wary and can be difficult to get a good look at. However, it calls loudly during the summer making it easily identifiable. It sounds reminiscent of cattle “lowing,” hence the name.

Due to the ecological threats posed by this species, its import into the EU has been banned. The chances of finding bullfrogs in the UK are now slim but even so, two populations have been discovered in southern England within the last ten years. It is very important that any bullfrogs discovered are reported.

Bullfrog tadpoles typically take two to three years to develop, and they grow very large in comparison to native common frog and toad tadpoles.

Bullfrogs are potentially confused with marsh frogs (also large frogs which call loudly). There are some features, however, that distinguish the two species:

- 1 When calling, bullfrogs inflate a single vocal sac under the throat rather than the two sacs on either side of the head like the marsh frog.
- 2 Bullfrogs do not have dorsolateral ridges which are usually prominent in marsh frogs.
- 3 The calls of the two species are different; bullfrog calls are reminiscent of cattle while marsh frog calls are more piercing, sounding a little like waterfowl.



1st year tadpole compared with 2nd or 3rd year tadpole. Jon Cranfield, Herpetologic.

African clawed frog

(Xenopus laevis)



A well developed tadpole displaying the characteristic tentacles. Alexander Haas

Reaching up to 13 cm in length, the African clawed frog is an almost completely aquatic species that is very different to look at when compared with more familiar frog and toad species. They appear very much flattened, the eyes being positioned on the top of the head. Instead of ears there are lateral lines running down the length of the body and underside, which is how they can sense movements and vibrations in the water. There are three short claws on each hind foot. They use their sensitive fingers, sense of smell, and lateral line system to find food. Clawed frogs are scavengers and will eat a wide variety of prey types. The tadpoles have distinctive tentacles.



Adult clawed frogs. Alexander Haas

Terrapins



European pond terrapin (*Emys orbicularis*).
Anthony Von Plettenberg Laing

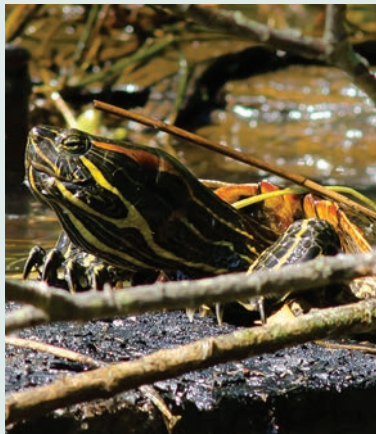
These familiar animals have been popular in the pet trade and in the past, were imported in huge numbers. The trade has tended to focus on the attractive hatchlings. Sadly these attractive hatchlings grow into less attractive and harder to maintain adults. These unwanted adults have often been 'dumped' into local ponds.

Many terrapins originating from the pet trade are capable of surviving the UK climate, but they do not seem to be able to breed successfully. Hence, sightings tend to stem from released individuals. Occasionally, especially in publicly accessible ponds in residential areas, they are found in some numbers, which seems to be a result of many pets being dumped in the same pond – possibly for 'company'.

There is no current estimate of numbers in the wild, but it seems likely that thousands have been released across the UK.

Many released terrapins are red eared terrapins, *Trachemys scripta elegans* from North America. The import of this sub-species into the EC is now illegal but the animals are long-lived and can still be found in the UK, as can other terrapin species.

Red eared slider (*Trachemys scripta elegans*).
Chris Dresh



Wall lizard

(*Podarcis muralis*)



Male green backed wall lizard. Fred Holmes

There are more than 30 populations of wall lizards scattered throughout southern England and one confirmed population present in south Wales. Their distribution confirms multiple releases of this non-native species rather than natural spread.

The wall lizard grows to about 19 cm, but more than half of this length is tail. The male has a proportionately larger head than the female and often has bright green markings on its back. The female although often predominantly brown, can also be green backed, usually a paler shade of green than the male.

Male (left) and female (right) brown phase wall lizards. John Wilkinson



Western green lizard

(Lacerta bilineata)



Pair of basking western green lizards.
Will Atkins, LEHART

Western green lizard. Will Atkins, LEHART



The western green lizard is significantly bigger than the wall lizard. It is native to Jersey but a non-native population has been established on cliff tops in Bournemouth. Escapees have been reported elsewhere in the UK, but no other breeding colonies have been confirmed to date.

Aesculapian snake

(Zamenis longissimus)



An Aesculapian snake that has recently eaten a rat.
Will Atkins, LEHART



Aesculapian snake. Will Atkins, LEHART

Typically a resident of humid European broad leaf woodlands, the Aesculapian snake can reach two meters in length, is non venomous and feeds predominately on rodents and nestling birds. Two isolated populations have been confirmed in the UK, one in north Wales and another in the south of England.

Have you seen alien amphibians or reptiles?

Alien, or non-native, amphibians and reptiles range from unwanted pet terrapins, surviving as non-breeding animals, to long-established, breeding populations such as midwife toads and wall lizards.

You can help by reporting your sightings of alien amphibians and reptiles and, in particular, four that are associated with water bodies and are relatively easy to identify;

a Marsh frog and relatives

b North American bullfrog

c Midwife toad

d Terrapins

Alien Encounters is a website for information on and reporting sightings of non-native amphibians and reptiles in the United Kingdom. It is part of the National Amphibian and Reptile Recording Scheme. Follow the link on the next page.



Pool frog (*Pelophylax lessonae*). Chris Dresh

Yellow bellied sliders, left (*Trachemys scripta scripta*) and red eared slider, right (*Trachemys scripta elegans*). Chris Dresh



How can I help stop the spread of aliens?

- If buying a pet consider your options carefully. **Don't** buy an animal that is likely to outgrow the space you have available or outlive the likely interest of its carer.
- **Don't** release unwanted pets into the wild. Such action is illegal, can threaten native wildlife and is often not the best option for the pet.
- **Please** report sightings of non-native species. National and international strategies dealing with non-native species rely significantly upon detection and surveillance.

Whether to remove an alien species from the wild will depend on a range of considerations, notably the potential risk it poses and the practicality of removal. It is best to seek expert advice if you have seen an alien species. In the case of large, long established populations, it will often not be appropriate to attempt removal. Newly introduced and likely high risk species would normally be a priority for removal. These issues are increasingly the subject of legislation and government policy.

Pueblan milksnake (*Lampropeltis triangulum campbelli*) another escapee from captive collections. Fred Holmes

Useful links

Additional help to identify alien amphibians and reptiles is available from the *Alien encounters* website.

www.alienencounters.narrs.org.uk

The *ARC* website contains information on native and introduced amphibians and reptiles.

www.arc-trust.org

GB Non Native Species Secretariat.

www.nonnativespecies.org

The national network of *Amphibian and Reptile groups* (ARGUK) is a source of local expertise.

www.arguk.org

The Reptiles and Amphibians of the UK website contains excellent identification information covering some alien species.

www.herpetofauna.co.uk





A group of school children experience their first native reptiles in the field with ARC Trust. Lynn Joseph.

Amphibian and Reptile Conservation is a national wildlife charity committed to conserving amphibians and reptiles and saving the disappearing habitats upon which they depend.

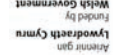
Our vision sees amphibians and reptiles thriving in their natural habitats, and a society inspired and committed to their conservation. Our campaigns and projects engage the public in conserving reptiles and amphibians, encouraging new audiences to take part in actions to help save these charismatic species.

www.arc-trust.org

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rhywogaethau carismatig hyn.

amffibïad, gan annog cynulleidfaoedd i gymryd rhan mewn gweithgareddau i helpu i achub y Mae ein hymgyrchhoedd a'n prosiectau'n cael y cyhoedd i ymwneud â gwarchod ymlusgiaid ac chymdeithas sydd wedi ymrwymo i'w gwarchod ac sy'n cael ei hysbrydoli i wneud hynny.

Ein gwledigaeth yw gweld amffibïad ac ymlusgiaid yn ffynnu yn eu cynefin naturiol, a

amffibïad ac ymlusgiaid ac achub y cynefin y maen nhw'n dibynnu arno cyn iddo ddifflannu. **Amphibian and Reptile Conservation** Elusen genedlaethol sydd wedi ymrwymo i warchod

Grŵp o blant ysgol yn gweld eu hymylusgiaid brodorol cyntaf yn y cae gydag Ymddiriedolaeth ARC. Lynn Joseph



Sut allia i helpu i atal lledaeniad rhywogaethau estron?

Cysylltiadau defnyddiol
 Gallwch gael mwy o help i adnabod amffibïaid ac ymlusgiaid estron ar wefan www.aliencounters.narrs.org.uk

Mae gwefan ARC yn cynnwys gybodaeth am amffibïaid ac ymlusgiaid brodorol ac estron. www.arc-trust.org

GB Non-native Species Secretariat
www.nonativespecies.org

Mae gwefan *The Reptiles and Amphibians of the UK* yn cynnwys gybodaeth arbenig o dda i'ch helpu i adnabod rhywogaethau ac mae'n rhoi sylw i rai rhywogaethau estron.
www.herpetofauna.co.uk



- Os ydych yn prynu antfai anwes ystyriwch eich dewisiadau'n ofalus. **Peidiwch** â phrynu antfai sy'n debygol o fynd yn rhy fawr i'r lle sydd gennyh ar ei gyfer neu un y mae'r sawl sy'n edrych ar ei ôl yn debygol o goll! diddordeb ynddo.
- **Peidiwch** â gollwng antfaiïaid anwes i'r gwylt. Mae hyn yn anghyfreithlon. Gallant fod yn ffigyrtiad i rywogaethau brodorol ac yn aml iawn nid dyma'r dewis gorau i'r antfai anwes ychwaith.
- Rhowch wybod os ydych yn gweld rhywogaethau estron. Mae strategaethau cenedlaethol a rhyngwladol ar gyfer ymdrin â rhywogaethau estron yn dibynnu llawer iawn ar eu canfod a'u gorchywlio.

Mae angen ystyried nifer o ffactorau cyn penderfynu a ddyli'd symud rhywogaeth estron o'r gwylt, gan gynnwys y peryg posib a pha mor ymarferol yw ei symud. Y peth gorau i'w wneud os ydych wedi gweld rhywogaeth estron yw gofyn am gynngor arbenigwr. Os yw'r boblogaeth yn un fawr, sydd wedi hen sefydlu'r hun, yn aml iawn ni fydd yn brodorol ceisio'i symud. Rhoddir blaenoriaeth fel arfer i rywogaethau sydd newydd gael eu cyflwyno a rhywogaethau sy'n debygol o achosi risg uchel. Mae mwy a mwy o ddeddfwriaethau a pholisïau'n cael eu cyflwyno gan lywodraethau i ymdrin â'r materion hyn.

Lampropeltis triangulum campbelli (Fuebian milksnake), rhywogaeth arall sydd wedi dianc o gasgliadau caeth. Fred Holmes

Ydych chi weld amffibïaid neu ymlusgiaid estron?

Mae amffibïaid ac ymlusgiaid estron yn amrywio o grwbannod dŵr croyw – antfaiïaid anwes ar un adeg cyn i'w perchnogion gael digon arnynt – sydd wedi goroesi fel antfaiïaid nad ydynt yn magu, i boblogaethau magu sydd wedi hen sefydlu eu hunain, fel llyffantod magu a madfallod y mur.

Gallwch helpu drwy roi gwybod am unrhyw amffibïaid ac ymlusgiaid estron y byddwch yn eu gweld, yn enwedig pedair rhywogaeth sy'n gysylltiedig â chwyneffioedd dŵr ac sy'n gymharol hawdd i'w hadnabod;

- a Broga'r gors a'i berthnasau**
- b Marchlyffant Americanaidd**
- c Llyffant magu**
- d Crwbannod dŵr croyw**

Mae gwefan *Alien Encounters* yn cynnwys gybodaeth am amffibïaid ac ymlusgiaid estron ym Mhrydain a gallwch roi manylion yno am rywogaethau rydych wedi eu gweld. Mae'n rhan o'r Cynllun Cenedlaethol Cofnod Amffibïaid ac Ymlusgiaid. Dilynwch y ddolen gyswilt ar y dudalen nesaf.



Broga'r dŵr (*Pelophylax lessonae*). Chris Dresh



Trachemys scripta scripta elegans (red-eared slider) ar y dde. Chris Dresh

Neidr Esgwlapaidd (*Zamenis longissimus*)



Neidr Esgwlapaidd sydd wedi bwyta llygoden fawr yn ddiweddar.
Will Atkins, LEHART

Mae'r neidr Esgwlapaidd fel arfer yn byw mewn coetir llydandail llath ar dir mawr Ewrop a gall dyfu i fod yn 2 fetr o hyd. Nid yw'n wenwynig ac mae'n bwyta cnoflodd a chywion yn bennaf. Mae dwy boblogaeth wahanol wedi cael eu cadarnhau ym Mhrydain, y naill yng ngogledd Cymru a'r llall yn ne Lloegr.



Neidr Esgwlapaidd. Will Atkins, LEHART

Madfall werdd y gorllewin (*Lacerta bilineata*)



Par o fadfallod gwyrdd y gorllewin yn torheulo.
Will Atkins, LEHART

Mae madfall werdd y gorllewin gryn dipyn yn fwy na madfall y mur. Mae'n dod o nys Jersey yn wreiddiol ond mae poblogaeth estron wedi'i sefydlu ar y clogwyni yn Bournemouth. Catfyd cornod o sbesimenau wedi dianc mewn rhannau eraill o Brydain, ond nid oes cytrefi magu eraill wedi'u cadarnhau eto.



Madfall werdd y gorllewin. Will Atkins, LEHART

Madfall y mur

(*Podarcis muralis*)

Mae mwy na 30 o boblogaethau o fadfallod y mur yma ac acw yn ne Lloegr ac mae un boblogaeth wedi'i chadarnhau yn Ne Cymru. Mae eu dosbarthiad yn cadarnhau nifer o achosion o ryddhau'r rhywogaeth estron hon yn hytrach nag ymllediad naturiol. Mae madfallod y mur yn tyfu i tua 19cm, ond mae mwy na hanner yr hyd hwn yn gyntffon. Mae gan y gwrwy ben ychydig bach mwy na'r fenyw, ac yn aml iawn mae ganddo farciau gwyrdd llachar ar ei gefn. Er bod y fenyw'n frown gan mwyaf galli hitheu hefyd fod â chefn gwyrdd, ond fel arfer nid yw mor llachar â'r gwrwy.



Madfall y mur gwrw â chefn gwyrdd. Fred Holmes



Madfallod y mur gwedd frown, gwrw (ar y chwith) a benyw (ar y dde). John Wilkinson

Crwbanoedd dŵr croyw

Mae'r antifeiliaid cyfarwydd hyn wedi bod yn boblogaidd yn y fasnach antifeiliaid anwes, ac roeddent yn cael eu mewntorio yn eu cannoedd ar un adeg. Roedd y fasnach yn tueddu i ganolbwyntio ar y rhat bychain del yn fuan ar ôl iddynt ddog allan o'r wyau. Yn antfodus, mae'r creaduriaid bychain del hyn yn tyfu'n oedolion lla deniadol ac mae mwy o wath gofalu amdanynt. Mae'r oedolion hyn nad yw pobl eu heisiau yn aml wedi cael eu 'gadael' mewn pylau dŵr lleol.



Crwbanoedd dŵr croyw (*Emys orbicularis*). Anthony Von Plettenberg Laing

Mae llawer o grwbanoedd dŵr croyw sydd wedi deillio o'r fasnach antifeiliaid anwes yn gallu goroesi hinsawdd Prydain, ond nid yw'n ymddangos eu bod yn llwyddo i fagu. O ganlyniad, unigolion sydd wedi cael eu rhyddhau yw'r rhan fwyaf o'r rhat sy'n cael eu gweld. Weithiau, yn enwedig mewn pylau dŵr hawdd mynd atynt mewn ardaloedd preswyl, mae cryn dipyn ohonynt i'w gweld, efallai oherwydd bod llawer o antifeiliaid anwes wedi cael eu gadael yn yr un pŵll dŵr – i fod yn 'gwmni' i'w gilydd o bosib.

Nid oes genym amcangyfrif ar hyn o bryd o'r niferoedd sy'n byw yn y gwylt, ond mae'n debyg bod miloedd ohonynt wedi cael eu rhyddhau ledled Prydain.

Mae llawer o'r crwbanoedd dŵr croyw sydd wedi cael eu rhyddhau yn grwbanoedd *Trachemys scripta elegans* (*red-eared terrapin*) o Ogledd America. Erbyn hyn mae'n anghyfreithlon mewntorio'r isrywogaeth hon i'r Gymanedd Ewropeaidd ond mae'r antifeiliaid yn byw'n hir ac mae'r rhywogaeth hon, a rhywogaethau eraill, i'w gweld ym Mhydain o hyd.



Trachemys scripta elegans (red-eared slider). Chris Dresh

Broga bodiog Affricanaidd

(*Xenopus laevis*)

Mae'r broga bodiog Affricanaidd, a all fod hyd at 13cm o hyd, yn treulio'r rhan fwyaf o'i amser yn y dŵr ac mae'n edrych yn wahanol iawn i'r brogaod a'r llyffantod rydym yn gyfarwydd â hwy. Mae'r brogaod hyn yn edrych yn llawer mwy fflat, ac mae eu llygaid ar ben eu penna. Yn lle clustiau, mae llinellau ystylosol yn mynd yr holl ffordd ar hyd y corff ac oddi tano, a'r rhain sy'n eu galluogi i synhwyro symudiadau a dirgrynadau yn y dŵr. Mae ganddynt dair cratanc byr ar bob troed ol. Maent yn defnyddio'u bysedd sensitif, eu synmwyr arogi, a'u system llinell ystylosol i ddod o hyd i fwyd. Mae brogaod bodiog yn sborionwyr ac fe wnant fwyta llawer o wahanol fathau o ysglyfaeth. Mae gan y penbyliaid dentactiau nodweddiadol.



Penbwl datblygedig yn arddangos y tentactiau nodweddiadol. Alexander Haas



Brogaod bodiog llawn dŵr. Alexander Haas

Marchlyffant Americanaidd

(*Lithobates catesbeianus*)

Mae hwn yn llyffant mawr a all dyfu i 20cm o hyd. Mae'n wylidwrus ac nid yw'n hawdd cael golwg iawn arno. Er hyn, mae'n galw'n uchel yn yr haf felly mae'n hawdd ei adnabod. Mae ei alwad yn debyg i swn gwartheg yn breu, sy'n egluro'i enw Saesneg 'bullfrog'.

Oherwydd bygythiad ecolegol y rhywogaeth hon, ni chaniateir ei mewntorio i'r Undeb Ewropeaidd. Mae'r siawns o ddod o hyd i farchlyffant ym Mhrydain yn fach iawn, ond er hynny mae dwy boblogaeth wedi cael eu canfod yn ne Lloegr yn y deng mlynedd diwethaf. Mae'n bwysig iawn eich bod yn rhoi gwylbod am unrhyw farchlyffantod sy'n cael eu canfod.

Mae penbyliaid marchlyffantod fel arfer yn cymryd dwy neu dair blynedd i ddatblygu, ac maent yn tyfu'n fawr iawn o'u cymharu â phenbyliaid brogaod a llyffantod datadennog brodorol.

Mae'n hawdd cymysgu rhwng marchlyffantod a brogaod y gors (sydd hefyd yn frogaod mawr a smnlyd). Mae rhai nodweddion, fodd bynnag, sy'n gwahaniaethu'r ddwy rywogaeth:

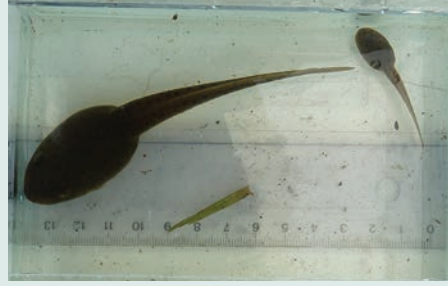
1 Wrth alw ar ei gilydd, mae marchlyffantod yn llenwi un goden leisidol o dan y gwddf yn hytrach na dwy goden o bobtu'r pen fel sydd gan froga'r gors.

2 Nid oes gan farchlyffantod gribau cefnystlysol sy'n amlwg fel arfer ar frogaod y gors.

3 Mae galwad y ddwy rywogaeth yn wahanol; mae marchlyffantod yn gwneud swn tebyg i wartheg yn breu tra mae brogaod y gors yn gwneud swn meinach, tebyg i adar dŵr.



Marchlyffant benywaidd. Jon Cranfield



Penbwl bwyddyn taf o'r gymharu â phenbwl zil neu 3edd fwyddyn. Jon Cranfield, Herpetologic.

Madfall ddwr gribog Eidalaidd

(*Triturus carnifex*)

Mae'r fadfall ddwr gribog Eidalaidd (*Triturus carnifex*) yn debyg iawn o ran golwg a maint i'r fadfall ddwr gribog trodorol (*Triturus cristatus*). Yn aml, ond nid bob amser, mae bol oren y fadfall ddwr gribog Eidalaidd yn dywyllach nag un y fadfall ddwr gribog trodorol, ac mae ymylon y bliotiau du yn tueddu i fod yn feddalach. Yn debyg iawn i'r rhywogaeth trodorol, mae gwrywod yn datblygu pigau amlwg ar eu cefnau yn ystod y tymor magu. Mae gan fadfallod ddwr gribog Eidalaidd benywaidd yn aml streipen fertigol fel en sy'n anghyffredin yn y rhywogaeth trodorol.

Gall maddallod ddwr cribog Eidalaidd oresi mewn llawer mwy o wahanol gynefinoedd na'r rhywogaeth trodorol a gallant hefyd gresi gyda hwy. Dangosodd sefyllfa debyg yn y Swistir fod y rhywogaethau estron wedi disodli'r maddallod ddwr cribog trodorol a sefydlu'n hunain fel y rhywogaeth drechol.



Bol madfall ddwr gribog Eidalaidd. Simon J. Tonge



Madfall ddwr gribog trodorol (*Triturus cristatus*) er cymharfaeth. Chris Dresh

Madfall ddwr gribog Eidalaidd. Henk Wallays



Madfall ddwr Alpaidd

(*Ichthyosaura alpestris*)

Er gwaetha'i henw, mae'r fadfall ddwr Alpaidd yn byw ar gynefinoedd isel yn ogystal ag uchel ar dir mawr Ewrop.

Mae'r oedolion tua'r un faint â maddallod ddwr cyffredin brodorol, ond mae'r rhai benyw'n tyfu ychydig yn fwy, hyd at 11cm. Gall y gwrywod magu fod yn las gan mwyaf. Mae gan y rhai benyw batrwm cleisïog. Mae'r bliotiau yn lliw oren llachar, melyn ambell waith, heb smottiau (ond mae'n bosib y bydd smottiau du ar yddfau rhai sbesimenu).

Mae arferion magu maddallod ddwr Alpaidd yn debyg i arferion magu maddallod brodorol.



Madfall ddwr Alpaidd fenywaidd. Fred Holmes



Pâr o fadfallod ddwr Alpaidd gwrywaidd yn y blaen. Benyw yr arfai mwy yng nghefn y llun. Will Atkins, LEHART

Rhywogaethau estron o Amffibiaid ac Ymlusgiaid ym Mhrydain



Broga'r gors (*Pelophylax ridibundus*). Chris Dresh



Neidr Esgwlapaid (*Zamenis longissimus*). Will Atkins, LEHART

Rhywogaethau y cadarnhawyd eu bod yn bresennol ac yn magu ym Mhrydain

Madfall ddwr Alpaidd	<i>Ichthyosaura alpestris</i>
Madfall ddwr gribog Eidalaid	<i>Triturus carnifex</i>
Llyffant magu	<i>Alytes obstetricans</i>
Broga bodlog Affricanaidd	<i>Xenopus laevis</i>
Marchlyffant Americanaidd	<i>Lithobates catesbeianus</i>
Broga'r gors	<i>Pelophylax ridibundus</i>
Broga'r ddwr Iberaidd	<i>Pelophylax perezi</i>
Broga bwytdwy	<i>Pelophylax kl. esculentus</i>
Broga'r ddwr (cytras deheuol)	<i>Pelophylax lessonae</i>
Madfall werdd y gorllewin	<i>Lacerta bilineata</i>
Madfall y mur	<i>Podarcis muralis</i>
Neidr Esgwlapaid	<i>Zamenis longissimus</i>

Mae'r rhywogaethau o amffibiaid ac ymlusgiaid wedi dianc sy'n cael eu gweld yn fwy rheolaidd y dyddiau hyn yn cynnwys y neidr yd (*Pantherophis guttatus*) a'r neidr lygod Rwsiaidd (*Elaphe schrenkii*). Mae nifer o rywogaethau eraill y gwyddom eu bod yn bresennol ond nad ydynt o bosib yn magu, neu na wyddom yn iawn beth yw eu statws. Mae'r rhain yn cynnwys crwbodod ddwr cryw *Trechemys scripta elegans* (*red-eared terrapin*) sydd i'w gweld mewn safleoedd amrywiol, trefol yn bennaf, ond nad oes cadarnhad eto eu bod yn llwyddo i atgennhedlu. Mae'r rhywogaethau eraill sydd wedi cael eu cantod yn ddiweddar, ond na wyddom yn iawn beth yw eu statws ar hyn o bryd na wyddom yn iawn beth yw eu statws ar hyn o bryd yn cynnwys: broga'r coed (*Hyla arborea*), y Bombina bombyna (*fire-bellied toad*), y neidr ardyzog a rhywogaethau amrywiol eraill o grwbodod ddwr cryw.



Madfall y mur (*Podarcis muralis*) ar y chwth a madfall werdd y gorllewin (*Lacerta bilineata*) ar y dde. John Wilkinson



Madfall ddwr gribog Eidalaid. Henk Wallays

Gallai newid yn yr hinsawdd effeithio ar lwyddiant rhywogaethau estron ym Mhrydain. O ganlyniad, mae angen i nifer o amffibiaid ac ymlusgiaid, gan ddarganfod ble maent i'w cael, a ydynt yn sefydlu poblogaethau magu ac a ydynt yn debygol o gynyddu mewn nifer yn y dyfodol.

Beth yw'r problemau sy'n cael eu hachosi gan rywogaethau estron?

Rhywogaethau estron neu egsotig yw'r rhai hynny nad ydynt yn perthyn yn naturiol i amgylchedd penodol, ond sydd wedi cael eu cyflwyno, yn fwrriadol neu'n ddamwainiol, gan bobl. Fel arfer, nid yw rhywogaethau estron yn ffynnu gan nad ydynt wedi addasu i'w hamgylchedd newydd. Fodd bynnag, mae ychydig ohonnynt yn gallu goroesi yn eu cartref newydd, a gall rhai achosi llawer o broblemau, gan droi'n bia difrifol (neu'n 'oresgynnol') mewn achosion eithafol.

Gall rhywogaethau estron effeithio ar rywogaethau brodorol mewn llawer o ffyrdd. Enghreifftiau o'r amffiblaid a'r ymlusgiaid hyn yw'r llyffant *Rhinella marina* (cane toad) yn Awstralia a'r neidr *Boliga irregularis* (brown tree snake) ar nyys Guam.

Yn fwyaf penodol, gallai rhywogaethau estron achosi problemau drwy gystadlu neu ysglyfaethu. Problem arall nad yw mor amlwg yw bod rhywogaethau estron ambell waith yn



Ni wyddom a yw'r neidr d, sy'n dod o Ogledd America yn wreiddiol, yn magu yn y Deyrnas Unedig, ond mae'n neidr sy'n dianc yn rheolaidd o gasgladau caeth. Fred Holmes



Marchlyffant Americanaidd (*Lithobates catesbeianus*). Trevor Rose

Broga bwyliadwy (*Pelophylax kleschevitsi*). Chris Dresh



cario clefydau nad oes gan rywogaethau lleol fawr o ymwrthedd iddynt os o gwbl. Gallai clefydau o'r fath fod yn rhannol gyfrifol am ymddirwyiad amffibiaid yn tyd-eang. Nid ydym yn deall popeth eto am effaith clefydau o'r fath ym Mhrydain ond bydd agwedd ragofalus at rywogaethau estron yn lleihau unrhyw risgiau o'r fath.

Yn y rhan fwyaf o achosion, nid yw amffibiaid ac ymlusgiaid estron yn ftygrythiad mawr ym Mhrydain hyd y gwyddom. Un rheswm posib am hyn yw bod ein hinsawdd fwy'n y cyfyngu ar botensial atgenhedlu y rhan fwyaf o fertebratau estron ectothermig (h.y. rhai y mae tymheredd eu corff yn amrywio).

Er hyn, mae rhai'n gallu ffynnu yn ein hinsawdd a gallant fod yn ysglyfaethwyr neu'n gystadleuwr i rywogaethau brodorol. Un rhywogaeth o'r fath yw'r marchlyffant Americanaidd, sy'n ysglyfaethwr mawr, ac sy'n gallu cario clefydau yn yr amgylchedd y mae wedi cael ei gyflwyno. Mae'n cael ei ystyried yn un o'r rhywogaethau estron goresgynnol mwyaf problemaus yn y byd, felly dyllid gwneud pob ymdrech i atal y rhywogaeth hon rhag sefydlu'i hun ym Mhrydain.

Sut ddaethon nhw yma?

Mae amffiblaid ac ymlusgiaid estron wedi cyrraedd Frydain mewn ffyrdd amrywiol. Mae rhai rhywogaethau wedi cael eu cyflwyno o ran chwilffrydedd – neu gan bobl oedd yn meddwl y byddent yn 'gwella' ein ffawna brodorol. Mae hyn wedi bod yn digwydd ers blynyddoedd ac mae cofnodion o

greaduriaid yn cael eu cyflwyno fel hyn cyn grynhered â'r 19eg ganrif. Mae rhywogaethau eraill wedi cyrraedd fel teithwyr cudd. Er enghraifft, credir bod y llyffant magu (*Alytes obstetricans*) wedi cael ei fewnforio gyda phlanhigion ar gyfer y diwydiant methrinrifydd. Mae'r ffaith fod poblogaethau



Broga'r dŵr (*Pelophylax lessonae*), cytras deheuol. Will Atkins, LEHART

o fogaod gwyrdd/dŵr wedi cael eu darganfod yn agos at bysgodfeydd yn awgrymu y gallai'r brogaod hyn fod yn cael eu cario gyda stociau o bysgod sy'n cael eu mewntorio (fel penblyaid mae'n debyg).

Yn fwy diweddar, mae rhywogaethau estron wedi cyrraedd yn sgîl yr arfer o gadw anfelliad anwes. Mae'r rhain naill ai wedi dianc yn ddamweiniol neu wedi cael eu rhyddhau'n fwradol. Er enghraifft, anfelliad anwes wedi cael eu 'gollwng' yw crwbanoed dŵr cryw fel arfer.



Crwbanoed cryw (*Trachemys scripta elegans* (red eared terrapin)) yn torheulo. Fred Holmes

Mae tua'r un faint o rywogaethau estron o amffibiaid ac ymlusgiaid yn y Deyrnas Unedig ag sydd yna o rywogaethau brodorol – mae o leiaf dair ar ddeg o rywogaethau estron yn bresennol ac yn magu, ac wyth rhywogaeth neu isrywogaeth arall yn bresennol ond ddim yn magu. At ei gilydd, mae dosbarthiad rhywogaethau estron yn lleol iawn, felly rydych yn llai tebygol o ddod ar eu traws na'r rhywogaethau brodorol. Er hyn, mae rhai rhywogaethau estron dyfrol yn weddol gyffredin, sy'n golygu eich bod yn fwy tebygol o ddod ar eu traws.

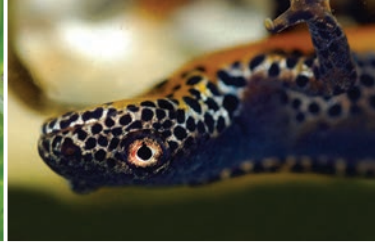


Madfall ddwr Alpadd (Ichthyosaura alpestris) ffur neotenaid. Will Atkins, LEHART Lun y tu mewn i'r clawr: Madfall y mur (Podarcis muralis); Chris Dresh

Luniau'r clawr blaen (o'r top i'r gwaelod, o'r chwith i'r dde): Llyffant magu, Jason Steel; Neidr Esgwipadd, Jason Steel; Madfall y mur, Fred Holmes; Marchiyyant benywaidd, Jon Cranfield; Madfall ddwr Alpadd wywaidd, Fred Holmes; Madfall werdd y gorllewin, Will Atkins; Broga bwytaidwy, Fred Holmes; Trachemys scripta scripta (yellow-bellied slider), ar y chwith a Trachemys scripta elegans (red-eared slider), ar y dde. Chris Dresh; Madfall ddwr griobog Eidalaid, Henk Wallays



Wall lizard



Rhywogaethau estron o amffibiaid
ac ymlusgiaid yn y deyrnas unedig

