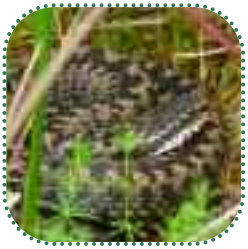
Amphibians & Reptiles

in South Wales










Neath Port Talbot County Borough
Bwrdeistref Sirol Castell-nedd Port Talbot

SWWARG

ENVT0836

Amphibians and Reptiles in South Wales


Grass Snake © SWWARG

Amphibians and reptiles are two ancient groups of animals that have been on the planet for a very long time. The study of amphibians and reptiles is known as Herpetology. To simplify matters, both groups of animals will be referred to throughout this booklet collectively as Herpetofauna. Examples of both groups of animals live throughout South Wales and display a fascinating range of behaviour and survival tactics.


Common Lizard- female © SWWARG

Herpetofauna populations in South Wales are under ever increasing pressure due to a variety of reasons such as habitat loss, colony isolation and human encroachment. There are many ways in which we can assist this group of misunderstood animals, which this booklet will attempt to highlight so that the reader can make their own valuable contribution towards helping to conserve both the animals and their habitat.

The difference between Amphibians and Reptiles


Smooth Newt © ARC

Amphibians, such as frogs, toads and newts, possess a porous skin that, when moist, exchanges oxygen meaning they breathe through their skin. All amphibian species in South Wales have to return to water for breeding purposes. Adult amphibians lay spawn in fresh water bodies which then hatch and pass through a larval or tadpole stage prior to metamorphosing into miniature versions of the adults.

- Generally possess smooth, moist skin
- Generally slow moving
- Generally in or around water


Common Toad © SWWARG

Reptiles such as snakes and lizards, like amphibians, are cold blooded or ectotherms. This means that they must warm themselves up externally, either by basking in direct sunlight, or by thermoregulation. Thermoregulation is a method of gaining heat by placing the body against objects that retain heat. Slow-worms use thermoregulation and are commonly found in heat generating compost heaps or beneath heat retaining objects such as discarded tyres or sheets of metal. Reptiles possess a watertight skin and either produce live young that are perfect miniatures of the adults or, in the case of the Grass Snake, watertight, shelled eggs.

- Possess dry, scaly skin
- Fast moving, agile and alert

Reptiles and the Law:
All the native reptiles of South Wales are afforded protection under sub-section 9 of the Wildlife and Countryside Act 1981

Offences:
The protection under the above legislation means that it is illegal to:
Kill or injure a reptile, trade/sell a reptile.

What Amphibians might I see in South Wales?

The Common Frog *(Rana temporaria)* is easily distinguished from the Common Toad due to its smooth, moist skin and strong thrusting hind legs, which enable it to jump impressive distances. Frogs also


Common Frog © ARC

display an instantly recognizable dark patch of skin behind the eye, above the line of the mouth, and have an overall more athletic appearance than toads. The species varies greatly in colour and pattern and can vary from very pale yellow through to browns and greens to almost black with reddish individuals (nearly always female) also occurring.

Don't let the name "Common Frog" mislead you; they are far from common and would benefit greatly from a little help from people. Creating your own pond in your garden for these animals to use as a valuable breeding site is an excellent way to start. Frogs emerge from hibernation in late January to mid February in South Wales and lay clumps of spawn in shallow areas of fresh water. They will regularly make use of garden ponds that are created for them.

Common Toads *(Bufo bufo)* have drier, rougher skin than frogs. Behind the eyes on the side of the head are a pair of noticeable "bumps" which are in fact glands that can produce a distasteful

secretion as a defence against predators. Toads tend to hop rather than jump and are almost as variable as frogs in colour, although most tend to be a shade of brown often with a tinge of olive green.


Common Toad © ARC

Common Toads are also far less common these days than in the past. They travel to traditional breeding ponds in mid February to March to breed, producing long strings of spawn which the females wind around the stems of aquatic plants. The breeding season is a dangerous time for a toad and many are killed on roads when travelling to and from their breeding ponds. Although less likely to use garden ponds to breed in than frogs, toads can benefit from simple habitat piles being created.

The Common or Smooth Newt *(Lissotriton vulgaris)* can grow to about 10cm in length and vary in colour from pale, yellowish brown to almost black. They are slow moving (although they can swim pretty fast when they need to) and have smooth skin. The breeding season lasts from March through to June and takes place in water. The female normally lays eggs normally singly or in pairs, attaching them to the leaves of aquatic plants and then folds the leaf over the egg with their hind legs. Males grow a continuous undulating crest along the length of the back and tail as well as fringes of skin around the toes of the hind feet. Males also develop large spots on the upper body during the breeding season. For the remainder of the summer, newts live out of the water and take refuge in shady areas such as log piles in gardens, venturing out at night to feed upon small invertebrates.


Smooth Newt © ARC

Palmate Newts *(Lissotriton helveticus)* are the smallest newt species in South Wales and can reach 9cm in length


Palmate Newt - Male © Fred Holmes


Female Palmate Newts are commonly confused with Female Smooth newts © ARC

although they are often considerably smaller. Their breeding behaviour and life cycle are almost identical to that of Smooth Newts, although the male's crest is far less pronounced than is the case with Smooth Newts and has a straight edge. There is a noticeable "thread" or filament at the end of the tail of a breeding male as well as webbing on the hind feet.

The Great Crested or Warty Newt *(Triturus cristatus)* is the rarest amphibian in South Wales and is a protected species.

Great Crested Newt - Male © Fred Holmes

Great Crested Newt - Female © Fred Holmes

Measuring as much as 16cm in length, they can be twice the length of the two commoner newt species. The upper body is a very dark uniform brown, almost black, whilst the belly is a beautiful marbled pattern of very bright orange and black. The skin is much rougher than is the case with the other two newt species, which is why the animals are sometimes called Warty Newts. Their breeding and life cycle are very similar to the other two newt species although Great Crested Newts are chiefly nocturnal and can be difficult to detect in ponds during the daytime.

Males develop impressive high crests whilst in breeding condition, which appear spiky. There is a distinct break in the crest where the body ends and the tail begins.

Great Crested Newts and the Law

The Great Crested Newt is a European protected species and is afforded protection under Schedule 5 of the Wildlife and Countryside Act and the Conservation (Natural Habitats) Regulations 1994

Offences:

The protection under the listed legislation means that it is illegal to:

- Kill, injure or capture a Great Crested Newt;
- Disturb a Great Crested Newt in its place of shelter or breeding;
- Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead Great Crested Newt or any part of a Great Crested Newt.

If any activities are undertaken that result in any of the above an offence would be committed under the law. If prosecuted, fines of about £5,000 can be applied or 6 months imprisonment.

What Reptiles might I see in South Wales?

The Common or Viviparous Lizard *(Zootoca vivipara)* reaches around 18cm in length, the majority of which is tail.


"Typically coloured pregnant (Gravid) female" © SWWARG


Common Lizard - Male © John Wilkinson


Black (Melanistic) Lizard © SWWARG

They are very fast moving and alert animals and have dry skin covered in very small scales. The colour can vary from a pale straw brown through varying shades of green to instances where individuals can be entirely black. The upper side of the body is generally covered with a complex pattern of speckles and stripes whilst the belly is generally a variety of shades of orange covered with black speckles in the case of males and grey or a pale peachy orange with no speckling in the case of females. Lizards feed on a wide range of invertebrates such as spiders, aphids and grass hoppers. The young viviparous lizards are born at the end of June or July and apart from appearing to be black, are perfect miniature versions of the adults. The word viviparous means live bearing. The females do not produce eggs but give birth to fully formed live young.
Never pick a lizard up by its tail! Common Lizards can shed their tails as a defence mechanism and are able to grow a replacement over time. Lizards require undisturbed areas, which receive the sun for most of the day; South facing, unkempt vegetated banks are a favourite haunt as well as log and stone piles.

The Slow-worm *(Anguis fragilis)* is a shy species of legless lizard that spends most of its time in the roots of plants and the surrounding soil hunting for worms and other invertebrates that live in the soil. Slow-worms can reach 40 – 45cm in length.


Slow-worm - Blue Spotted Male © ARC


Female Slow Worm © ARC

The small white slug that causes so much damage in vegetable gardens is another favourite food item. The skin, although comprised of scales, is incredibly smooth and can vary in colour from a pale grey through to beautiful copper hues. Entirely black animals do occur although they are extremely rare. Male Slow-worms are a uniform colour all over whilst females tend to have darker sides and one or more stripes running the entire length of the upper body. Like the Common Lizard, the Slow-worm can shed its tail if necessary and does not lay eggs. Baby Slow-worms appear at around the same time as baby Common Lizards and are stunning little beasts, the upper body varying from bright gold to silver or copper with a noticeable stripe running the length of the back. The sides and belly are black. Compost heaps, which provide heat and prey, are a favourite haunt of the Slow-worm.

Grass Snakes *(Natrix natrix)* are completely harmless to humans and are also the largest land based reptile in the UK. The British record for a Grass Snake is 180cm in length, but 65 – 80cm is about average.


Grass Snake © ARC

Typical Grass Snake colouration is varying shades of olive green/brown but black animals do occur on occasion. The eyes


Grass Snake © ARC

are a pale olive green with round black pupils. A distinguishing feature is the area of skin on the back of the neck of the animal which is generally a varying shade of yellow often referred to as the "collar". Grass Snakes feed chiefly upon amphibians and small fish and are often found close to fresh water. Females lay eggs during June or July, seeking out heat generating spots such as heaps of wood chip, vegetation or manure to do so, and commonly making use of compost heaps. Baby Grass Snakes appear from mid August onwards. Providing much needed undisturbed egg laying and hibernation sites is one easy way to help Grass Snakes.

Although the Adder or European Viper *(Vipera berus)* is Britain's only venomous snake, much hysteria is generated about this animal and it has certainly developed an undeserved reputation. Shy and


Male Adder © SWWARG

retiring, Adders only generally bite humans when somebody is foolhardy enough to try and pick one up, when the animal is simply trying to defend itself. Adders are smaller and chunkier in appearance than Grass Snakes; an animal of 75cm in length is exceptionally large. The background colour is pale grey or brown in the case of


Female Adder © SWWARG

males, with a black stripe running the length of the body, which is nearly always a zig-zag. Females are slightly larger, the zig-zag being one of a multitude of shades of browns and the remainder of the body a paler shade. Coppery coloured animals are common and the eyes are red with vertical pupils. The Adder feeds upon small mammals such as mice and voles as well as lizards. Adders do not produce eggs but give birth to live, perfect miniature versions of the adults from mid July through to mid September.


Ginger baby Adders are often seen © SWWARG

Adder Bite; the Facts

There have been no reported fatalities due to Adder bite in Britain for over 20 years. Adders will only ever bite in defence, i.e. if they have been trodden on or picked up. An Adder's first line of defence is to disappear into nearby vegetation rather than bite something much larger than itself. 70% of Adder bites received by humans are "dry" i.e. no venom is injected. The very old and the very young are the most likely to be adversely affected by Adder venom. If you think that you may have received a bite from an adder;

Do not:

- tie a tourniquet
- cut the bite to suck out the venom
- try and treat it yourself in any way

Do

Go to your local hospital where they will more than likely monitor you until you recover naturally or if very young, old or weak they may administer anti-venom

Remember

Do not allow dogs off the lead in known Adder country; they are far more likely to be bitten than you are

Where do Amphibians and Reptiles live?

Herpetofauna live in a variety of habitats throughout South and West Wales.


Pond © SWWARG

The most important factors regarding suitable habitat for amphibians are access to water for breeding and safe refuge on land. Reptiles need areas that receive a lot of sun and a complex variety of vegetation of varying height, it doesn't matter what the vegetation is so much as its structure.

Typical herpetofauna habitats;

Ponds and surrounding habitat, heathland, woodland rides and edges, bramble and gorse banks, coastal paths & sand dunes.

Allotments can also be a haven for herpetofauna, especially if one or two plots are disused and undisturbed. Frogs, toads and newts often live in the undergrowth and provide a free pest control service; every allotment would benefit greatly from having its own wildlife pond. Slow-worms and Grass Snakes can also make use of compost heaps.

Ex-industrial land, also referred to as "Brownfield sites", often provide well-drained habitat for herpetofauna and support populations throughout South Wales.

Railway embankments, hedges and roadside verges are also favoured herpetofauna habitat, and are particularly popular with Slow-worms and other lizards. They also double up as corridors which animals can use to travel along and expand populations.


Common Lizard © SWWARG

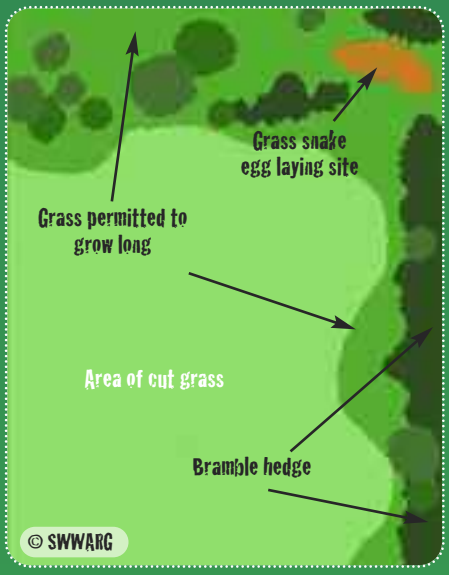
Habitat loss

Herpetofauna in South Wales have suffered substantial loss of habitat in recent years. Development of land for commercial use, housing and the creation of new road systems takes its toll, whilst modern agricultural practice and parkland management schemes are seldom sympathetic to the requirements of herpetofauna. Large areas of habitat that previously supported significant populations have now disappeared from all over Britain, which means that what

little remains must be conserved. Such action alone is no longer enough, as Herpetofauna colonies in many areas have become isolated from one another due to habitat loss. When suitable habitat that exists between herpetofauna colonies (known as corridors) such as hedgerows are removed, animals are no longer able to travel from one colony to another and the smaller colonies in particular can become weak, fall into decline rapidly and eventually disappear completely due to inbreeding. New areas of suitable habitat need to be created to replace what has been lost in order to help isolated colonies to connect with each other once more.

What can I do to help herpetofauna in South Wales?

Herpetofauna in South Wales need your help. There are a variety of ways in which people can do so.



Park managers and ground workers are well placed to ensure that herpetofauna suffer fewer losses. Slight changes in grass and scrub cutting regimes can accommodate the needs of herpetofauna. Something as simple as not cutting grass quite so tight to a hedge line, or leaving an undulating edge rather than a straight one can make a big difference. Delaying bramble clearance until November, leaving small areas of uncut grass or permanent piles of brash, logs and grass cuttings in quiet corners can also provide many benefits for herpetofauna.

Although on a smaller scale, garden wildlife ponds, habitat piles and compost heaps all provide valuable resources for herpetofauna. If one in every ten gardens in the same area included a wildlife pond for example, then a network of ponds

would be created which would significantly increase the amphibian population of the area and in turn, Grass Snakes also. In early spring, toads migrate to traditional ponds to breed. Often, the


Bucketful of Toads© SWWARG

toads have to deal with the hazard of crossing busy roads and many are killed. Once breeding is over, the toads then have to return to their home territories and take the risk once again. Dedicated "Toads on Roads" patrollers operate, assisting individual colonies with crossing busy roads throughout the country. There are many colonies that are not so lucky. Perhaps you may know of a toad crossing site? If so, why not set up your own patrol?

Pond creation

Even the smallest pond can be a haven for amphibians. Frogs, Smooth Newts and Palmate Newts can be quick to take advantage of new ponds.
Dig your pond with gradual sloping sides. The majority of life in a pond is among the shallowest area or "draw-down zone". Ponds with gradual sloping sides have the widest draw-down zones and therefore the potential to support the greatest diversity of life. This feature also makes ponds much safer places for children and pets. A garden pond doesn't have to be any deeper than 80cm at its deepest point and can also be significantly shallower if desired. Where possible, create a series of smaller ponds of varying size and depth rather than a single large one.


Pond© SWWARG

Once your pond is filled with water throw in subsoil from your previous excavations. Topsoil is too rich and will leave you with nitrate and algae problems. Don't worry that the water is now a horrible brown colour and that the whole thing looks a mess. It won't stay that way for long.

Resist the urge to add fish to the pond. Amphibians fare far better in ponds that do not contain fish. They may survive on occasion in certain situations where fish are present but they will thrive in a fish free pond.

If the ground suits, and in the case of larger projects in parkland for example, the excavation may hold water without the need for a liner. It is often better in such cases not to introduce plants but to allow nature to take its course.
If you cannot wait and want to plant your pond, then do so with native plants which

will provide ideal conditions for the maximum amount of wildlife. Nurseries can supply native plants that are screened for disease if you shop around. Don't take plants from established ponds, you may inadvertently introduce disease. Choose a native oxygenator species such as Hornwort which can just be thrown as it is into the water. It will root itself in time if left undisturbed.

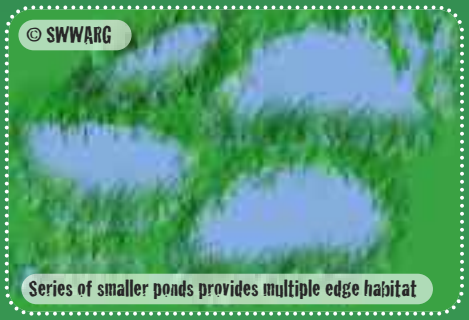
Garden ponds are normally too small to support Water Lilies, which can out grow the average pond rapidly and shade out the life giving sunlight. There are many other native flowering aquatic plants which are far better suited to small ponds which can be sourced from nurseries. Water Forget-me-not, Water Soldier, Water Crowfoot and Frogbit are all good choices.

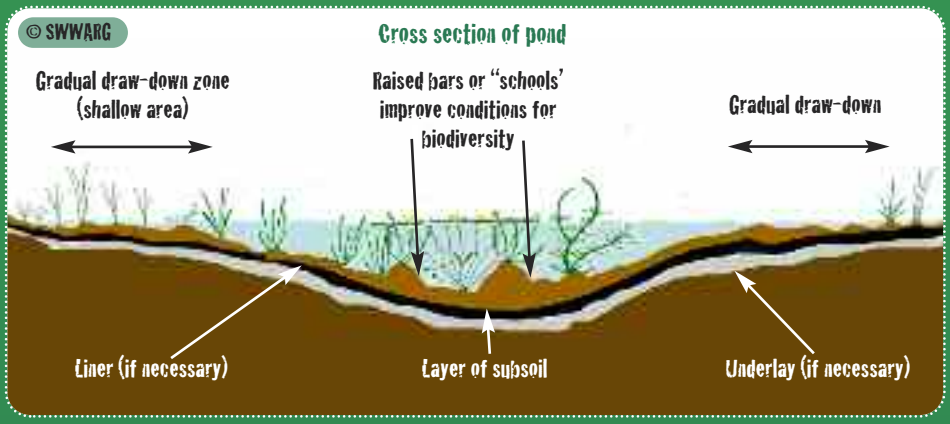
Ensure that the greater area of the pond edge is comprised of vegetation or grass. Concrete paving slabs around a pond edge not only make it difficult for baby frogs and newts to emerge but can also heat up considerably during the summer and very quickly dehydrate and kill any emerging amphibian which hauls itself out onto it.

A new pond will rapidly fill with plant life and will eventually choke if left unchecked. When your pond matures in a few years time, clear excess weed from your pond in November which will cause the least disturbance to amphibian populations. Be fairly ruthless as the weed will grow back and open water areas are also desirable. Do not throw the weed that you remove from the pond onto the compost heap straight away though.

Leave it in piles for a few days at the side of the pond to allow any invertebrate life or overwintering amphibian larvae stranded in the weed to make its way back to the pond.

The above are merely guidelines, a booklet of this size does not provide scope to go into detail regarding pond creation. Check out the contacts list on the last page of this booklet for more detailed information and advice.





Build a Hibernation Site.

Cutaway showing...

Hay can be added for extra warmth

Placing a heap of hay on top of a pile of logs is another method of boosting heat and invertebrate levels

Suitable hibernation sites or "Hibernacula" are extremely important for herpetofauna of all kinds and can be lost due to development, often without anybody even knowing. Such tragedies can seriously deplete a colony if the hibernation site is destroyed whilst in use.

Creating suitable hibernacula for herpetofauna is simple enough. Materials such as hardcore, rubble, brash or logs can be built into a pile and left undisturbed in a quiet area of the garden. If you position your pile or bank of material from east to west, it will be naturally south facing and receive sunlight for the majority of the day as long as it is not shaded by buildings or trees. If you

can, cover the bank of material loosely with soil. If you have recently excavated a pond, then you should have plenty to hand. Herpetofauna will be able to access the nooks and crannies among the rubble and/or brash beneath the soil and in doing so will get below the frost line. The larger that you can make the hibernacula the better. In time, vegetation will grow on the hibernacula, or you could plant your own choice of native plants.

Create an Egg Laying Site for Grass Snakes

Grass Snake egg cases found in compost heap © ARC

Areas of suitable habitat around ponds with amphibian populations can attract Grass Snakes to take advantage of the feeding opportunities. If you have created a wildlife pond in your garden and amphibians have colonised, do not be annoyed or upset if you receive a visit from a Grass Snake. Grass Snake numbers have reduced drastically across Britain in recent years; to receive a visit from one should be viewed as confirmation that you have done a good job of creating a wildlife pond if sufficient numbers of amphibians are present to support visits from a Grass Snake. Some larger ponds may be able to provide an opportunity for Grass Snakes to stay a while longer, in which case you can help them further by providing an egg laying site for them. Compost heaps, wood chip piles, grass cuttings and even manure heaps all provide sufficient heat to incubate Grass Snake eggs. The larger the egg laying site is the better, but smaller compost heaps are sometimes used by females. Try to avoid disturbing the heap between mid June and October to enable any eggs present to hatch safely.

Young Grass Snakes © ARC

Park staff have a wonderful opportunity to provide larger egg laying sites that are often used by multiple females. Amassing a pile of woodchip and grass cuttings in a quiet corner that receives sunlight and leaving it alone will benefit Grass Snake populations significantly. If the heap is in a corner of a field for example, the grass cutting regime could be adapted to omit that corner, the resulting longer grass obscuring the heap from unwanted attention.

How can I become more actively involved?

Amphibian & Reptile Groups of the UK (ARGUK) is a network of volunteer groups throughout Britain that conduct habitat and pond restoration and creation projects as well as Toad Patrols and surveying likely habitat. ARGUK work closely with Local Authority Biodiversity teams and the Amphibian and Reptile Conservation (ARC) to help out herpetofauna wherever possible. Contact your local ARG to become actively involved with herpetofauna conservation. It doesn't matter if you have little or no experience, interest and enthusiasm is all that is required and new members are always welcome.

Useful contacts;

Neath Port Talbot CBC Biodiversity Unit
www.npt.gov.uk/biodiversity – 01639 686168

Carmarthenshire County Council Conservation Section
www.carmarthenshire.gov.uk - 01267 224653

Bridgend CBC Countryside & Tourism Section
www.bridgend.gov.uk - 01656 643160

ARGUK - www.arg-uk.org.uk

SWWARG (formerly known as WGARG)
www.swwarg.co.uk c/o Chaela Carrell,
Secretary of SWWARG 01639 686168

ARC - www.arc-trust.org
01202 391319

Pond Conservation
www.pondconservation.org.uk

Countryside Council for Wales - www.ccw.gov.uk
0845 1306229

Acknowledgements

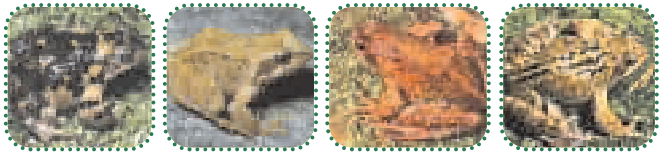
Images and diagrams courtesy of SWWARG, additional images courtesy of ARC, Fred Holmes and John Wilkinson.

Thank you for reading.
Peter Hill & Mark Barber - South & West Wales Amphibian & Reptile Group.

ARG UK
Amphibian and Reptile Groups of the United Kingdom

Amphibians likely to be encountered/Amffibiaid rydych yn debygol o ddod ar eu traws

Common Frog/Y Broga

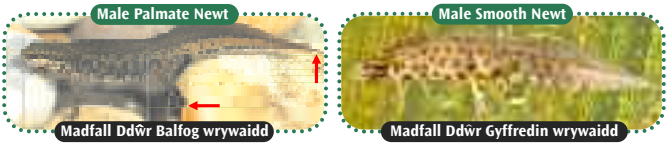


Frogs have smooth skins and are athletic. Dark patch usually present behind the eye. They have variable colouration and markings.
Mae croen llyfn gan frogaod ac maent yn athletaidd. Fel rheol, mae ganddynt ddarn o liw du y tu ôl i'r llygaid. Mae ganddynt liwiau a marciau amrywiol.

Common Toad/Y Llyffant Du

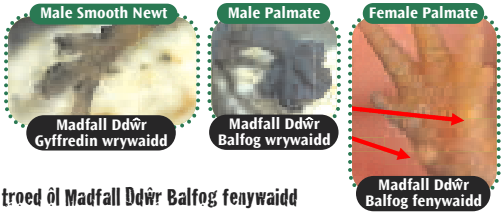
Toads have drier, rougher skin than frogs. Toads have a pair of noticeable "bumps" behind the eyes on the side of the head.
Mae croen llyffantod yn fwy sych a garw na chroen brogaod. Mae gan lyffantod ddau lwmp amlwg y tu ôl i'r llygaid, ar ochr y pen.

Palmate Newt/Y Fadfall Ddŵr Balfog



Male does not develop crest - but rather a low ridge running along the back.
Mae gan y gwryw grib isel ar hyd ei gefn yn hytrach nag un llawn fel y Fadfall Gribog Fwyaf.

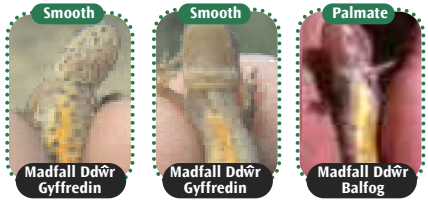
But note Smooth Newt.../Ond sylwch ar y Fadfall Ddŵr Gyffredin...



Male Smooth Newts in peak condition can develop skin flaps around hind and toes.
Gall Madfallod Dŵr Cyffredin gwrywaidd ar eu hanterth ddatblygu fflapiau croen o gwmpas eu coesau ôl a bysedd eu traed.

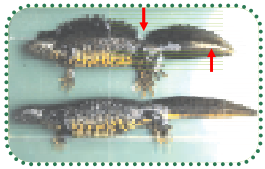
Underside of back foot of female Palmate Newt/Ochr isaf troed ôl Madfall Ddŵr Balfog fenywaidd
Two pale tubercles/nodules. Dau gnepyn/nodiwl gwelw.

Smooth V's Palmate/Madfall Ddŵr Gyffredin neu Fadfall Ddŵr Balfog



The belly of both sexes of Smooth Newt is yellow to orange with black spots and the spots on the throat, although not always present, provide a good way of telling this species apart from Palmate Newts. The throat of the Palmate Newt is plain pink or yellow.
Mae bol y Fadfall Ddŵr Gyffredin yn felyn i oren â smotiau du yn y ddau ryw. Er nad ydynt yn bresennol bob amser, mae'r smotiau ar y gwddw yn ffordd dda o wahaniaethu rhwng y rhywogaeth hon a Madfallod Dŵr Palfog. Mae gwddw'r Fadfall Ddŵr Balfog yn binc neu felyn, heb farciau.

Great Crested Newt/Y Fadfall Gribog Fwyaf



Larger than Smooth Newt (to 16cm). Male has break in crest at base of tail. Silvery/white tail stripe on tail prominent.
Mae'n fwy na'r Fadfall Ddŵr Gyffredin (hyd at 16cm). Mae toriad yng nghrib y gwryw wrth waelod y gynffon. Streipen wen/arian amlwg ar y gynffon.