

Invasive Crayfish Species

We have at least 6 species of introduced crayfish living in the wild in England, fewer species in Wales and Scotland and no introduced species in the wild in Northern Ireland. Most of these species were brought to provide food or angling bait and they then escaped into the wild. Many of these introduced species have a negative impact on our White-claws and our rivers.

Signal Crayfish (*Pacifastacus leniusculus*)

Signal crayfish are from North America; they were introduced to Sweden and Finland in 1960s and then distributed throughout Europe (including Britain). They are the most abundant of the introduced crayfish in the UK and now occur in many rivers in England, Wales and Scotland and are spreading along rivers, streams and canals, becoming very abundant. Signal crayfish carry crayfish plague and compete with the White-clawed crayfish for shelter. They have a ferocious appetite and a considerable impact on other freshwater animals as well as damaging our river banks through burrowing.

Male Signal crayfish are usually up to 16cm in body length (females up to 12cm) and they have smooth with generally bluish-brown to reddish-brown body colour or light- to dark-brown. The best way to recognise them is their distinctive smooth claws with a white-turquoise patch on top of their claws at the joint between the two fingers of the claw, which they open wide to “signal” to other crayfish. The underside of their claws is brick red.



Signal crayfish © D.M. Holdich



Signal crayfish © Pete Sibley

Narrow-clawed crayfish (*Astacus leptodactylus*)

Narrow-clawed crayfish, also known as Turkish crayfish, are found at sites scattered throughout England after being originally introduced to the fish market in the 1970s. They are largely present in the midlands and south-east England including London. They originate from Eastern Europe and do not occur naturally in the UK. Narrow-clawed crayfish have the potential to outcompete the White-claws and can cause angling nuisance but like White-claws they are susceptible to crayfish plague and pollution.

The Narrow-clawed crayfish has a long thin body and on average reaches 15cm in length, they are usually olive-green to honey-brown and may be mottled, their joints are often dark orange. Blue varieties of Narrow-clawed crayfish are known. Their claws are very unique with long straight “fingers”.



Narrow-clawed crayfish (*Astacus leptodactylus*) © B Case

Spiny-cheek crayfish (*Orconectes limosus*)

Spiny-cheek crayfish originate from Eastern USA they were introduced into Germany in 1890 and are found in south-east England and the Midlands. Spiny-cheek crayfish can carry the crayfish plague and have a considerable impact on other freshwater animals. Like Signal crayfish they burrow into river banks causing damage and they can also tolerate slightly polluted waters. Once they are abundant in a river they can spread quickly.

They are up to 12cm, relatively smooth and pale in colour or dark brown or olive-green. The most distinctive feature is the brown-red bands across their tails, like pyjama stripes. The tip of their claws is orange with a black band below. They get their name from the areas of little spines on either side of their heads.



Spiny-cheek crayfish (*Orconectes limosus*) © D.M. Holdich

Noble crayfish (*Astacus astacus*)

Noble crayfish originate in Europe but do not occur naturally in the UK. They were introduced to England in the 1980s when they escaped from a fish farm. They are only found in a few sites in Gloucestershire and Somerset. Noble crayfish are susceptible to crayfish plague, are declining in Europe and are not known to have any negative effect on White-claws.

The Noble crayfish are normally 16cm-12cm long, they are variable in colour from dark-brown, beige, to light -brown, occasionally brilliantly blue. They look very much like Signal crayfish, with brick red underside to their claws, but they don't have the white "signal" patch on the upper side.



Noble crayfish (*Astacus astacus*) © B. Case

Virile crayfish (*Orconectes virilis*)

Virile crayfish have been recorded in some lengths of river in the London area, these are the only known populations in the UK. They are not a European species and originate from the USA and Canada. Virile crayfish are likely to be carriers of crayfish plague and can increase in numbers quickly. Their burrowing activity causes damage to river banks.

The Virile crayfish has a body length less than 10cm and it is smooth, chestnut or chocolate in colour with a bowl-shaped or wine glass-shaped light brown pattern. Their claws are the same colour as the body on the upper surface and dirty-white on the underside; they have prominent yellow warty spots on them. They can easily be confused with spiny-cheek crayfish and other species, especially when young.



Virile and Signal crayfish © Adam Ellis



Virile crayfish (*Orconectes virilis*) © D.M. Holdich

Red swamp crayfish (*Procambarus clarkii*)

Red swamp crayfish have been recorded at a few sites in London; these are the only known populations in the UK at present. They originate from northern Mexico and southern USA. Red swamp crayfish are crayfish plague carriers. They eat large quantities of water plants as well as small animals and can turn clear lakes into muddy ones that have few or no plants. They burrow much more than Signal crayfish do and they can survive in ditches and shallow ponds that sometimes dry out in summer, where other introduced crayfish could not survive well.

Their body length averages 10cm and is rough, dark red, orange or reddish brown in colour but olive-green to brown when young. Their claws are usually red on both surfaces with warty lumps on them.



Red swamp crayfish (*Procambarus clarkii*) © S. Peay

Redclaw crayfish (*Cherax quadricarinatus*)

This species originates in Australia. It is the only crayfish allowed to be kept in aquaria – only in England and Wales, it is not allowed in Scotland or Ireland. It is a tropical species, which is thought to be unable to breed in our cool summers. Some Redclaw have survived for a while when people have been irresponsible and released their aquarium pets into ponds and streams. So far there aren't any records of them breeding in the wild as our summers are too cool. It could be confused with other Australian species of crayfish and with some blue-coloured crayfish from North America as shops selling crayfish for aquaria don't always identify them properly. It does not carry crayfish plague and is killed by it, just like White-claws.

The Redclaw can grow as long as 25cm, too big for most aquaria. The body colour is usually blue with a light brown speckled pattern and its joints may have some orange or red colour. The most obvious feature is the crimson red patch along the outside edge of the claws.



Red claw crayfish (*Cherax quadricarinatus*) © D.M. Holdich

Marbled crayfish (*Procambarus sp.*)

This species originates from the USA, and its identification has been a mystery however it is now thought to be a pathogenic form of the North American Slough crayfish (*Procambarus fallax*). The Marbled crayfish is capable of breeding when only females are present, by parthenogenesis (asexual reproduction). They are also crayfish plague carriers and voracious feeders. Although Marbled crayfish are banned from import or sale in the UK it is likely that some are being kept illegally by hobby aquarists. As it only takes one crayfish to start a population, aquarium tanks are easily over-run by them and the juveniles are very good at escaping. There is a huge risk that people may release Marbled crayfish. If this happens it won't be long before they are found in the wild and spreading along our rivers. There are no known UK sites in the wild so far.

The Marbled crayfish body length is up to 13cm but often less than 10cm and is smooth and bluish tinged to brightly blue in colour with a variable decorative pattern. Their claws are very small and marbled with the same as the body.



The UK Crayfish website is a partnership project between Buglife and the Environment Agency

Local Office Details:

You can contact Buglife's Crayfish Officer on 01752 395188

Buglife – The Invertebrate Conservation Trust, THINQTANQ, Fairbairn House, Higher Lane, Plymouth, PL1 2AN

southwest@buglife.org.uk

buglife.org.uk 01733 201210 @buzz_dont_tweet

Buglife The Invertebrate Conservation Trust is a registered charity at Bug House, Ham Lane, Orton Waterville, Peterborough, PE2 5UU

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