Signal Crayfish

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Species Description

Scientific name: *Pacifastacus leniusculus*
Native to: North America
Habitat: Most freshwater habitats

Signal crayfish are bluish-brown to reddish-brown, occasionally light to dark-brown in colour and can grow up to 12cm (females) 16cm (Males) in length. Claws are robust and smooth on both surfaces, the underside is red in colour; with a single tubercle on the inner side of the fixed finger; and a white-turquoise patch on top of the junction of fixed and moveable fingers.

Signal crayfish are now widespread across many parts of Europe, but are not present in Northern Ireland or Republic of Ireland. They are present in England, Wales and parts of southern Scotland and due to trade and travel links, this is considered the most likely pathway.

Invasive non-native crayfish are known to have a detrimental effect on populations of native white clawed crayfish. American crayfish species can be carriers of the so-called 'crayfish plague', which has been recorded in the Blackwater River, Co. Tyrone and several rivers in Republic of Ireland.

Signal crayfish construct burrows in riverbanks leaving them prone to collapse. This presents a hazard to human health and safety by weakening walkways and riverbanks, and impacting flood defenses. They can also predate on native fish eggs and aquatic invertebrates.

Under the Invasive Alien Species (Enforcement and Permitting) Order (Northern Ireland) 2019 it is offence to intentionally keep; breed; transport to, from or within Northern Ireland, use or exchange Signal crayfish; or to release it into the environment.

Key ID Features

Turquoise / white blotch on the 'hinge' of the claw

Up to 16cm (from tail to top of head)

Report any sightings via; CEDaR Online Recording - https://www2.habitas.org.uk/records/ISI, iRecord app or Invasive Species Northern Ireland website - http://invasivespeciesni.co.uk/report-sighting

Identification throughout the year

Least active during winter when much time is spent in a state of inactivity (torpor) often in burrows in riverbanks. Peak activity is during the summer. Mating takes place in autumn and early winter and females carry the developing eggs in a dense cluster attached to the underside of their tail over the winter. When the eggs hatch, young remain attached to the female. Release of the young usually begins in May-June. The life cycle then proceeds through a series of moults.

Field Signs

- Burrows in banks of water body
- Parts of dead animals including claws and body shell either on shoreline or stream edge, in bird or rodent nests, or discarded by predators
- Unlike natives, active during daylight hours

Crayfish plague - *Aphanomyces astaci*

American crayfish species can be carriers of crayfish plague - a disease caused by a fungus (*Aphanomyces astaci*). The plague does the American crayfish little apparent harm but is lethal to European species such as the white-clawed crayfish. Crayfish plague is one of the main reasons for the collapse and extinction of native white-clawed crayfish across Europe, including in Britain.

The single most effective action to prevent the spread of crayfish plague is to use the Check, Clean, Dry protocol, this should be done routinely before and after visiting a river or lake.

- **Check** your equipment and clothing for living organisms. Pay particular attention to areas that are damp or hard to inspect
- **Clean** and wash all equipment, footwear and clothes thoroughly. If you do come across any organisms, leave them at the water body where you found them.
- **Dry** all equipment and clothing – some species can live for many days in moist conditions. Make sure you don't transfer water elsewhere

For further information visit the Invasive Species Northern Ireland website - http://invasivespeciesni.co.uk/what-can-i-do/

Similar Species

The only native crayfish in the Northern Ireland is the white-clawed crayfish, which is under serious threat from invasive non-native species. It is therefore essential to be able to distinguish between this and non-native species.

White-clawed crayfish
Native
(*Austropotamobius pallipes*)

Approx. 10 cm
(from tip of tail to front of head)

Claws are dirty white to pink on the underside

White-clawed crayfish are considerably smaller than signal, generally have a brown to olive colour, unlike the red / brown of the signal and are usually more docile and less aggressive than the signal crayfish.

The cervical groove (line between head and body) of the white-clawed crayfish has spikes whereas the same groove in the signal crayfish is smooth.

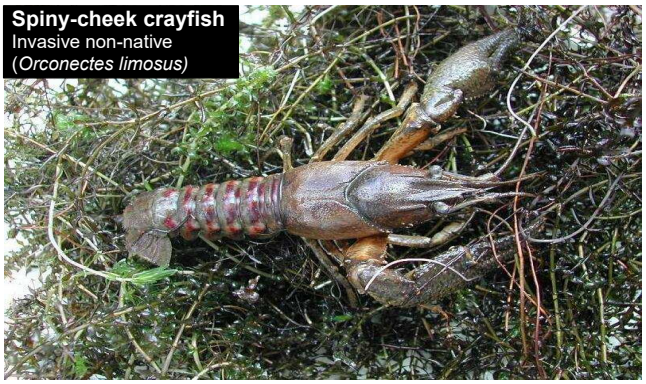
Up to 16 cm
(from tip of tail to front of head)

A number of other invasive non-native crayfish have been introduced into GB though they are less prevalent than the signal crayfish, these include:

Narrow-clawed crayfish
Invasive non-native (aka Turkish Crayfish)
(*Astacus leptodactylus*)

Usually up to 15cm, but can be larger
(from tip of tail to front of head)

Spiny-cheek crayfish
Invasive non-native
(*Orconectes limosus*)



Up to 14 cm
(from tip of tail to front of head)

References and further reading:

Pckl , M, Holdich, D and Pennerstorfer, J (2006) "*Identifying Native and Alien Crayfish Species in Europe*". Craynet

Souty-Grosset, C, Holdich, D, Noël, O, Reynolds, J and Haffner, P, (eds) (2006). *Atlas of crayfish in europe*. Museum national d'histoire naturelle, Paris

Photos from: Dawn Alvarez, David Holdich (DH), Stephanie Peay (SP).

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Adapted for Northern Ireland Environment Agency 2020

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NNSS
GB non-native species secretariat