

Northern Emerald

Somatochlora arctica

Status

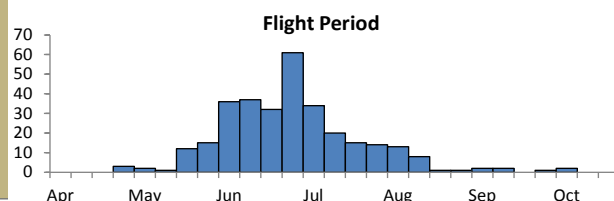
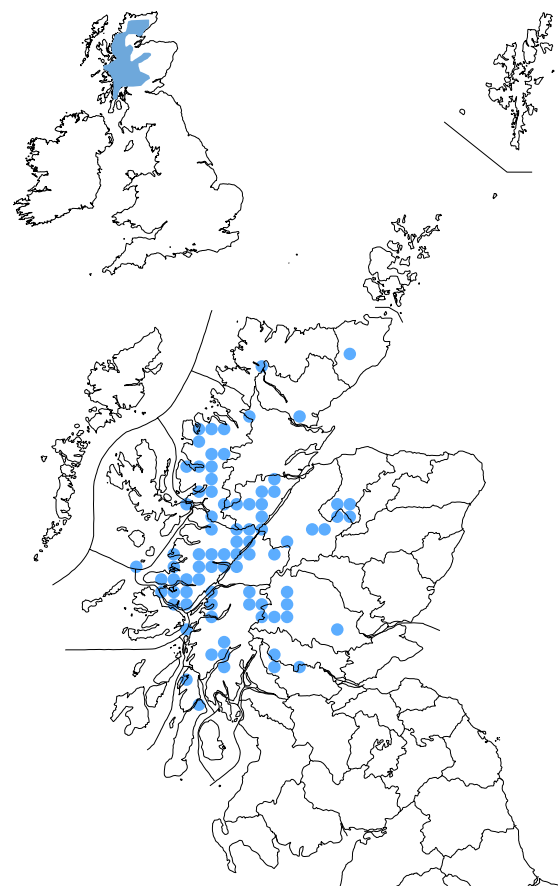
GB Red List: Near threatened

Ireland Red List: Endangered

BDS Species and Habitat Management Sheet #2



Mature male in flight. Ivan Chiandetti.



ID Features

Length: 45-51mm

This is one of three emerald dragonfly species found in Scotland, the other two are the Brilliant Emerald and Downy Emerald. The Northern Emerald is shorter than the Brilliant Emerald with a darker, almost black, metallic green abdomen with paired yellow markings at the top. It has bright green eyes when mature and a bronze-green thorax. There is a yellow spot on either side of the 'face', next to the eyes.

Males: Males have a narrow 'waist' at the top of the bulbous abdomen. The abdomen is widest in the middle, whereas the Downy Emerald's abdomen is bulbous at the end. The anal appendages on the tip of the abdomen are large and calliper-shaped. Wings have a yellow tint.

Females: The abdomen is a narrow rectangular shape. Yellow wing bases.

Larvae: Very hairy, squat and spider-like with long legs and a rounded abdomen. A fully developed larva is 17 – 20mm long.



Newly emerged (teneral) female. Dave Ashton.



The yellow spots inside the eyes. Peter Vandome.



The caliper-shaped anal appendages on males. Piet Spaans.

Behaviour

Flight season: May – September (mainly June / July).

This species forages high in treetops but mates lower in shrubs. Unlike the other two species of Emerald dragonflies in the UK, the Northern Emerald typically perches near the ground rather than in trees.

Males: In territory, males can be found flying low and erratically over bog pools and also flying between potential breeding pools, but they are elusive.

Females: Females oviposit alone by dipping their abdomens into the open water, bog moss or peat repeatedly.



Northern Emerald larvae are very hairy. Pat Batty.

Life Cycle

Emergence

Emergence begins in May. Larvae climb out of water usually up about 5cm above the water on plant stems. The adult emerges from the larval skin, leaving behind the shed skin called an exuvia. The process takes several hours, and it can take a few days for an adult to reach mature colouration.

Larva

The main life stage, the aquatic larva lives underwater for at least 2 years. They are voracious predators and they shed their skin several times as they grow. The larvae live among detritus in water up to 15cm deep beneath floating *Sphagnum*.

Adult

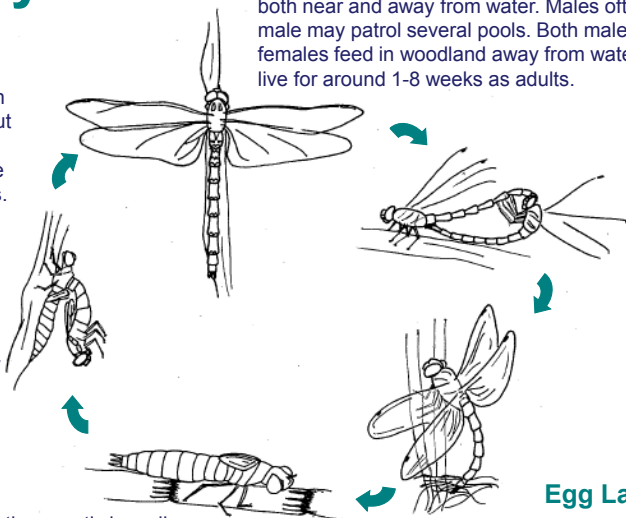
Fast flying and manoeuvrable aerial predators, seen both near and away from water. Males often fight and a male may patrol several pools. Both males and females feed in woodland away from water. Dragonflies live for around 1-8 weeks as adults.

Mating

Takes place in the 'wheel' formation. The male clasps female behind the head and she brings her abdomen up to meet him then they will fly up to the tree canopy.

Egg Laying

Females egg lay alone. When egg laying, the tip of the abdomen is repeatedly dipped in small areas of water between water-logged *Sphagnum*, or sundew or tussock clumps.



Threats

- Afforestation.
- Drainage of sites, this can be for several reasons including wind farm and road construction.
- Loss of undiscovered breeding sites.
- Peat cutting.
- Infilling of pools through vegetation succession.

Scottish Habitat

Northern Emerald dragonfly larvae are present in small runnels, ditches, including slow-flowing drainage ditches, and small bog pools with lots of *Sphagnum* and scattered cotton grass. Many breeding sites have some water movement. Breeding waterbodies are found either among open forest, including plantations, or on moorland. Within forestry plantations, this species will occupy wet clearings where there are pools, ditches and runnels that are not shaded which also have wide rides. On moorland, breeding sites are often next to woodland because adults feed amongst the tree canopy. Within a wetland site, the Northern Emerald can have a widely scattered distribution.



A bog pool at Silver Lochs, Loch Maree, Ross & Cromarty, where a larva was found. Peter Vandome.

Habitat Management Advice

Bog pool complexes and wet areas should be left open and encroaching trees and scrub cleared. Areas with poor-growth conifers could also be cleared to create rides and clearings which would be good for deer management as well as for this species. If the hydrology of the site is good and drainage ditches blocked, bog pools should form naturally. There may be many undiscovered breeding sites for this species, so surveys to protect currently unknown sites are needed.

Tansley Bog, a well-known breeding site, taken from the hillside above with Loch Maree in the background. Peter Vandome.

