

Northern Damselfly

Coenagrion hastulatum

Status

GB Red List: Endangered

BDS Species and Habitat Management Sheet #5



Northern Damselfly male. Christophe Brochard

ID Features

Length: 31mm

The Northern Damselfly is one of three *Coenagrion* species found in Scotland. This species is the smallest of three *Coenagrionids* and the only one to have a green underside to the eyes and face. This green colouration can also extend to the thorax in both sexes. As with all *Coenagrionids*, the Northern Damselfly has a small black line, or 'spur', on the side of the thorax.

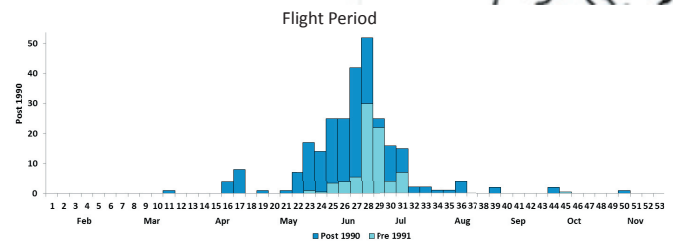
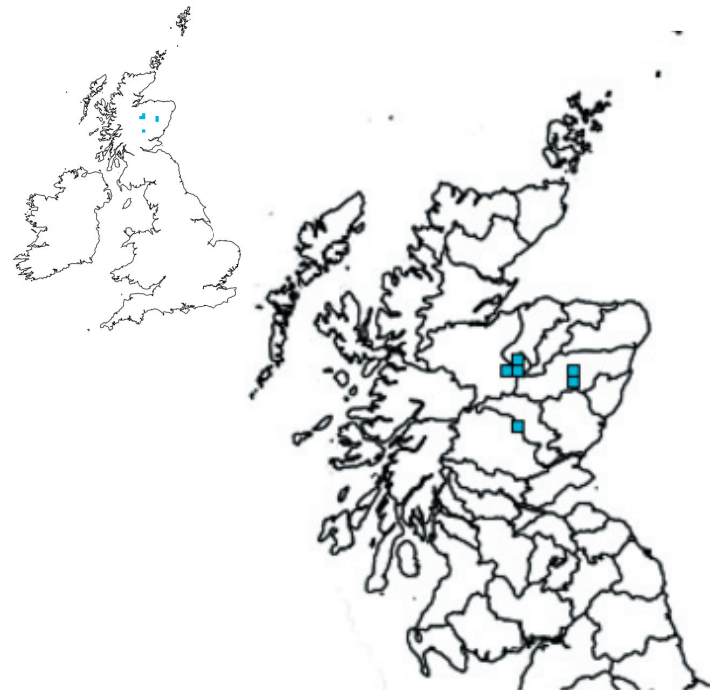
Males: Males are blue with variable black markings, though segment two typically has a black 'ace of spades' shape with a line at each side. Segments eight and nine are blue with two small black spots.

Females: Females are pea-green with the top of the abdomen being mostly black.

Larvae: Larvae take at least two years to develop. Length: 14-15mm. Antennae have 6 segments and prominent spotting on the head. The caudal lamellae are long and narrow with distinct, dark nodal constriction and a dark perpendicular nodal line.

Threats

The main threat to the Northern Damselfly is the infilling of sites by vegetation through natural succession; active management is needed to maintain sites in good condition. Lowering of the water table through afforestation is a further threat. The Azure Damselfly is now found at a number of Northern Damselfly sites and it is not yet known to what extent the two species will compete. Some sites close to urban areas may be at risk from development.



Northern Damselfly female. Damian Pinguey



The 'ace of spades' on segment 2 of the male. Christophe Brochard



A Northern Damselfly larva. Christophe Brochard

Behaviour

Flight season: May – August (mainly June / July). This species flies weakly amongst emergent vegetation rather than over open water and is less conspicuous than other blue damselflies. Flight is well below the top of the vegetation, usually about 20-60cm above water. Eggs are laid 'in tandem' into floating and emergent vegetation. The pair sometimes submerge in the process.

Males: In calm, sunny weather the males perch on low vegetation at or near water level, keeping a short distance from other males.

Habitat

With a limited distribution in Speyside, Deeside and Perthshire, the Northern Damselfly has been recorded from a range of water bodies including acidic and neutral waters, ranging from large lochs, small well vegetated ponds, to tiny pools and an acid basin mire. Smith & Smith (1999) considered that larvae have a limited niche habitat within this range. Many sites have a strong association with long established pine or birch woodlands. These are usually sheltered and have an optimum water depth of 30-60cm with open water. They have areas of sparse emergent vegetation of sedges and Water Horsetail. Though some sites can have a ring of emergent vegetation around the loch, larvae are not usually found where the vegetation is dense. Many sites have a system of natural inflow and outflow.

Emergence

Emergence begins in May. Larvae climb out of water up to 8cm above the water on sedges, bogbean, water horsetail and heather. The adult emerges from the larval skin, leaving behind the shed skin called an exuvia. The process can take several hours, and it can take a few days for an adult to achieve mature colouration.

Life Cycle

Adults

Weak flyers, found close to water. Damselflies live for just a few weeks as adults.

Mating

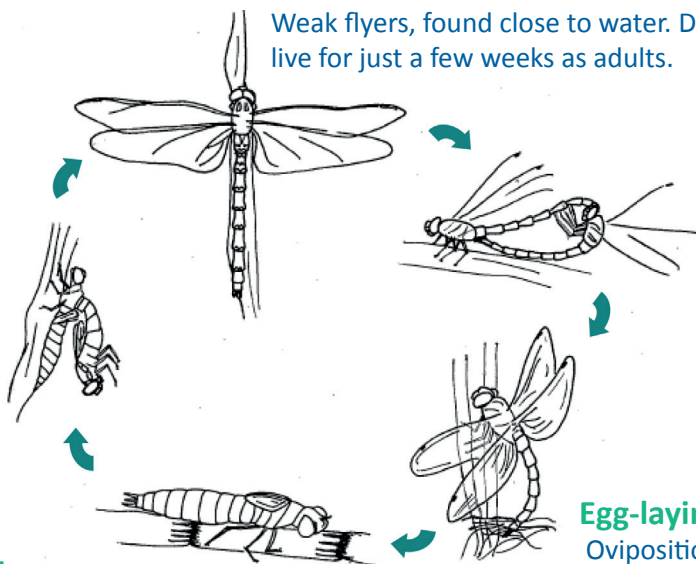
Takes place in the 'wheel' formation. Mating pairs perch on stems about 15cm above the water.

Egg-laying

Oviposition is completed in tandem, the pairs sometimes submerging in the process.

Larva

The larva lives underwater for 2 years, clinging to the underside of vegetation in fairly open water.



Habitat Management Advice

Careful removal of silt and vegetation to maintain a balance of open water and vegetation should be carried out in autumn every few years. Encroaching trees and scrub should be cleared. The use of natural silt traps may be useful.

Case study: Castle Fraser near Kemnay, Aberdeenshire

The Northern Damselfly population at Castle Fraser Flight Pond has been monitored since 2008. As the site is isolated (around 20 miles from others with the species) along with concerns about effects of a fish population, management requirements of the pond and forestry and the significant footfall in the area, we looked at ways to keep the species secure. Wetlands are an important oasis for a wide variety of species and are usually limited within landscapes. When there are no prospects for creation of new wetland and existing sites are not maintained, there is a danger that aquatic populations are lost altogether as pools eventually turn to wet heath and then to woodland over time. We decided to create a new pond habitat around 80 metres east of the existing one, and manage the area of sphagnum which lies south of the flight pond. Various constraints on the land use meant that the new pool would be much smaller but the aim was to try and create a successful wetland area with as many of the same features as possible, but in miniature. The new pool would receive inflow from an existing ditch and a basic test pit was dug to check viability. Peat core samples were taken and then the digger was brought in on a cold and snowy day in March 2011, creating drawdown zones and scalloped edges to maximise diversity, and of course digging to a depth and size to give the new creation longevity. Within a year the pool had started to colonise naturally with nearby vegetation, pondweeds and common invertebrates. Within two years we had the first Northern Damselfly adults emerge and since then have had a good population at the pool – we can measure their success by counting the exuviae that they leave behind on the vegetation. Five years on, the pool fits in well within the landscape and really it would be difficult to know that it hadn't always been there. The area of sphagnum to the south is being maintained through annual rush cutting and the removal of small scrub. - Juliette Dinning



Pond in March 2011. R Dewar



Pond in May 2011. J Dinning



Pond in May 2016. J Dinning



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