

Scarce Blue-tailed Damselfly

Ischnura pumilio

Status
GB Red List: Near Threatened



Identification

Length: 26-31mm. This species is easily mistaken for the more common Blue-tailed Damselfly (*Ischnura elegans*). However, the 'blue tail' of the male is closer to the tip, covering parts of three segments, and the rear edge of the pronotum lacks a distinctive lobe.

Male: Blue thorax and eyes with narrow shoulder (antehumeral) stripes. The abdomen is mainly black on top with all-blue S9 and partially blue S8 and S10. Two tiny black dots may be present on S9. Immature males are paler and greener.

Female: Greenish eyes and side of thorax with indistinct brown-green shoulder stripes. The wing spots are browner and less clearly two-toned than in the male. Immature females have distinctive orange colouration ('aurantiaca' form).

Larvae: 15-18mm when fully developed. The femora have no, or an indistinct, coloured band at the tip. The caudal lamellae are sub-nodate.

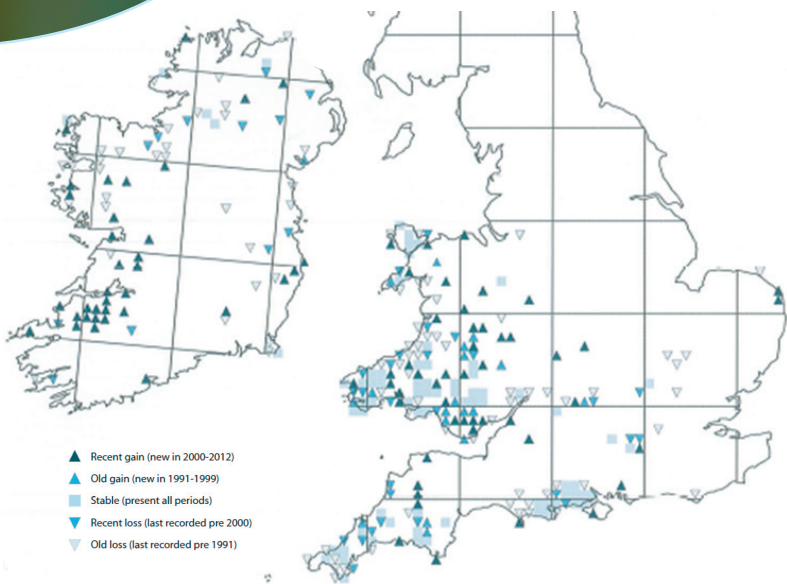
Distribution

At the turn of the 19th century, the species was considered almost extinct in Britain. It has since undergone a period of range expansion eastwards but remains uncommon. In Britain, the species is at the northern limits of its range. However, it may spread further with climate change.

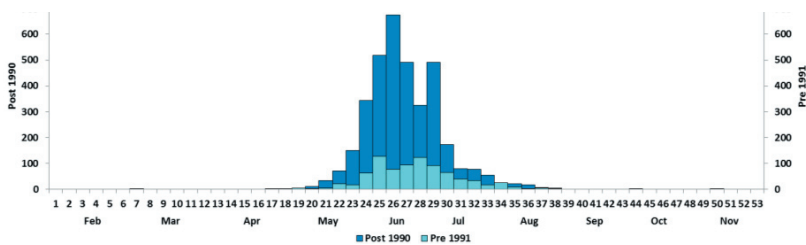
Behaviour

The Scarce Blue-tailed Damselfly flies weakly and low over its habitat. Despite this, the species has high dispersive abilities, travelling long distances via favourable air-currents.

Distribution Map



Flight Chart



Lifecycle

The female oviposits alone. The eggs are laid into emergent, soft-stemmed aquatic plants, such as grasses and rushes, just above the water line. The eggs hatch in around 17 days, although this can be delayed by drought. Larvae usually develop in one year, but two generations per year are normal in southern Europe and may sometimes occur in Britain. Larvae live in, or on, silty and muddy substrates associated with early successional plants. Emergence is influenced by temperature, usually running from late May to late June.

Habitat

The Scarce Blue-tailed Damselfly is often associated with heathland, sometimes occurring alongside the Southern Damselfly (*Coenagrion mercuriale*) and Small Red Damselfly (*Coenagrion tenellum*). It is also found on a range of semi-natural and artificial habitats, such as recent mineral extraction sites, as well as streams, ditches and new ponds. Colonisation of artificial sites explains much of the species' recent range expansions.

The most natural sites are seepages and flushes on Irish heaths, bogs and fens. Shallow margins of lakes, streams and ponds can be inhabited. Such sites are particularly suitable when poached by livestock. Shallow depressions, such as wheel ruts, filled with water also create suitable habitat if they remain disturbed. Temporary ponds may also be colonised.

The important micro-habitat features associated with these sites are shallow water (both still and slow flowing) which is warm year round. A silty substrate and minimal vegetation is important, as are low levels of shade. These conditions are usually maintained by continued disturbance. The species can tolerate a range of water qualities, acidic and alkaline, and can even tolerate slightly brackish waters.

For a species which colonises temporary habitats such as these, rapid development and a high dispersive ability are essential attributes.

Threats

Alterations of hydrology, such as drainage that diverts water away from existing seepages and flushes, causes habitat loss and fragmentation. Reworking or restoration of quarry sites also leads to the loss or drying out of seepages, streams and pools. Cessation of quarry working can lead to the loss of pumped water in artificial channels. This can cause flooding at the bottom and sides of quarries, where breeding has occurred.

Unmanaged sites succumb to plant succession and encroachment, destroying the open conditions the species favours.

Management Advice

It is important to maintain sites at an early successional stage, with open conditions. Water levels and flow should be maintained at both artificial and natural sites. Drainage should not be implemented on occupied sites and planned abstractions appraised in relation to the likely effects on the species.

Disturbance is a key factor in managing for the species, preventing succession and maintaining bare areas. Livestock can be used to graze vegetation and poach ground near to runnels and other suitable habitat. Cutting or mechanical disturbance are suitable alternatives if grazing is not possible.

At some sand and clay quarry sites, suitable conditions have been inadvertently maintained by vehicles, producing wheel ruts with shallow warm water and bare substrates. However, these conditions need to be maintained or succession renders the site no longer suitable.

Some emergent vegetation needs to be retained in and near breeding areas to provide sites for oviposition and roosting. Where possible, periodic creation and clearance of a series of open ponds may help to retain the species in an area. Similarly, potential new ponds can be created close to existing sites to encourage colonisation.

The small-scale habitat requirements of this species are often overlooked by land managers. In addition, many sites are lost through a lack of maintenance of the required conditions. The Scarce Blue-tailed Damselfly needs to be carefully considered in any management plan for suitable sites. It should be a conservation priority to retain colonies where they currently exist, with a focus on trying to provide on-going management for the species.

Sources

Cham, S., Nelson, B., Parr, A., Prentice, S., Smallshire, D. & Taylor, P. (2014). Atlas of the Dragonflies in Britain and Ireland. Field Studies Council.

Smallshire, D. & Swash, A. (2014). Britain's Dragonflies. Wild Guides.

Ischnura pumilio habitat at Titterstone Clee Hill, Shropshire. Inset: *Ischnura pumilio* larva
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