

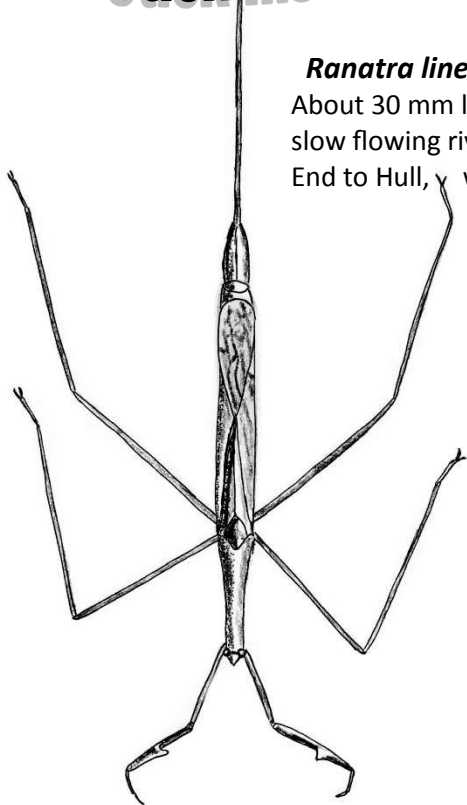
The Larger Aquatic Bugs

The aquatic bugs belong to the Hemiptera, Heteroptera. That is to say the Heteroptera is a group of about 40,000 species of insects worldwide within the group Hemiptera. Fortunately there are only around 65 species in the British Isles. The heteroptera are often referred to as true bugs having specialised mouthparts for piercing and sucking. Almost all of our British species are predators feeding on living or dead animal prey. The exception being the group often called Lesser Water Boatmen, the Corixidae or Corixid Bugs the identification of which is not dealt with here.

Whilst identification to species of many of the smaller aquatic bugs can be more complicated those described here are fairly straightforward. With a couple of exceptions all of these species are relatively large for aquatic insects and are so distinctive in shape that identification to family is very easy. Many of these families only have one species living in the British Isles and those where there are more than one can be separated with the aid of only a hand lens. **Please consider using iRecord** to enter any records you make and improve our knowledge of the distribution of these bugs: <http://www.brc.ac.uk/irecord/>

I would welcome comments and criticisms of this key so it can be improved (email: aquatics@sns.org.uk). This is version 3.1 and any newer versions can be downloaded at www.sns.org.uk/pages/downloads.shtml

1 Stick Insects & Scorpions



Ranatra linearis

About 30 mm long, found in reedy ponds or even the grassy margins of slow flowing rivers. Most records are from South East of a line from Lands End to Hull, with a few scattered sites in South Wales.

The Water Stick Insect

found in reedy ponds or even the grassy margins of slow flowing rivers. Most records are from South East of a line from Lands End to Hull, with a few scattered sites in South Wales.



The first two bugs shown here unmistakably resemble their common English names, though neither are related to their namesakes. They are unable to pierce human skin, Britain has just one species of each and, the nymphs are as easy to recognise as the adults.

***Nepa cinerea* The Water Scorpion**

About 20 mm long, found in weedy shallows of ponds or sometimes small streams all over Britain though the greatest concentration of records seem to be South East of a line from Bristol to Whitby



2 Saucer Bugs

There is one native species of **Saucer Bug** in the British Isles but there is a second species which has recently arrived from the continent (2004) and could become more widespread. At present the newcomer has only been found in a few sites close to Samphire Hoe near Dover.

Our native Saucer Bug, *Ilyocoris cimicoides* is still referred to as the Saucer Bug whilst the newer species *Naucoris maculatus* is best called the Little Saucer Bug. The two are quite distinctive and hopefully the photographs below will make it easy to recognise a saucer bug when you find one and to check which species you have found.

Ilyocoris cimicoides is our native species of saucer bug.

It is found across Britain South of a line from Ainsdale in Lancs to North East Yorkshire

It is **larger** at around 11 to 13.5 mm

There are **two main dark markings on the pronotum** made up of curved areas of spots reaching back from the front margin almost to the rear. (Green arrows) The spots extend out towards either side margin to a variable extent but do not appear as 4 distinct marks.

There is **no central dark mark on the pronotum**

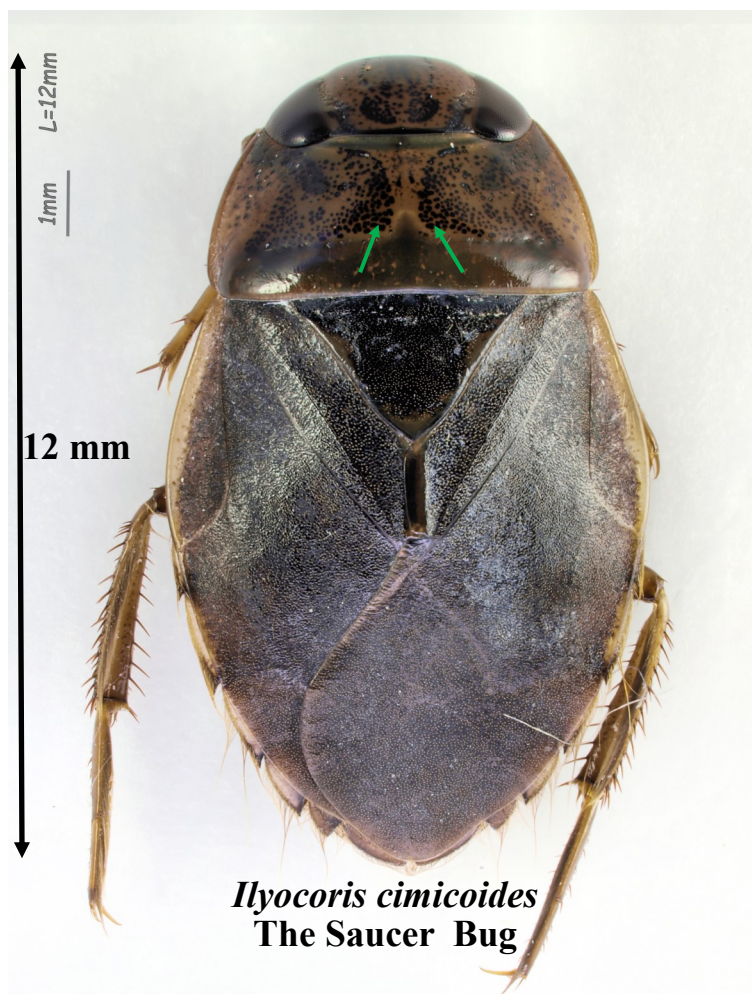
Naucoris maculatus arrived in the south of England about 2004 on the nature reserve created by spoil from the Channel Tunnel excavations.

It is **smaller** at around 9 or 10mm

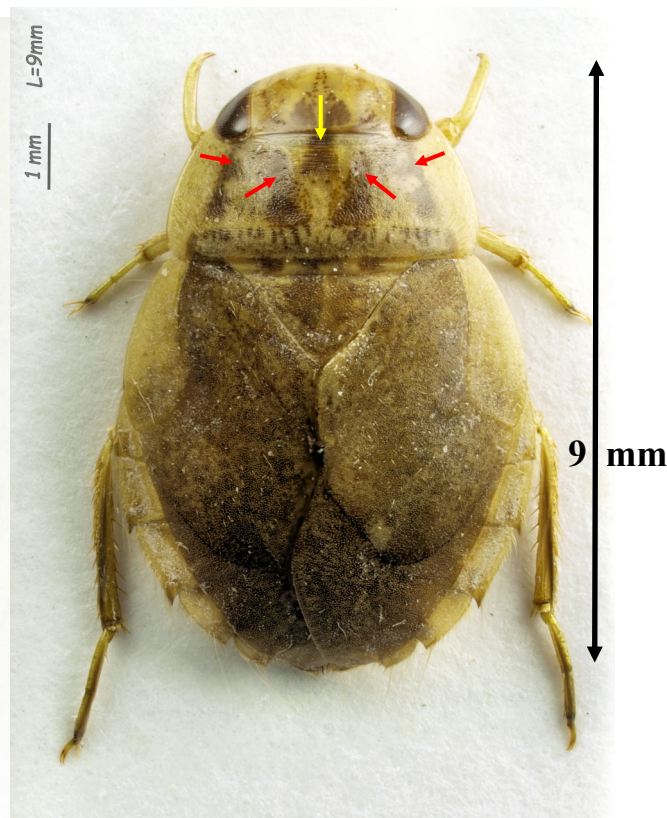
There are **four main distinct dark markings on the pronotum** reaching

back from the front margin almost to the rear. (red arrows)

There is also a **central dark mark on the pronotum** which reaches a short way back from the front margin (yellow arrow)



Ilyocoris cimicoides
The Saucer Bug



Naucoris maculatus
The Little Saucer Bug

My thanks to Sheila Brooke for loaning me this specimen to photograph

3 The River Bug

There is only one species of **River Bug** present in the British Isles and this coupled with its distinctive appearance should mean no identification problems. It is present in rivers from East Perthshire down to Cornwall but is apparently missing from the north-east, possibly because of industrial pollution. The archetypal habitat would be a moderate to fast flowing river with overhanging marginal plants and moss covered rocks but some records do show it can occur on rivers with a substrate of sand or silt. In slow flowing lowland rivers it is worth looking where there is white water at weirs. However I have found at Shrewsbury on the Severn amongst large rocks at the side of wide stretches, far removed from white water. There are records from Norfolk and a couple from Essex but so far no sign of it in Suffolk. The specimen below is from Norfolk. Typically you would find this bug by kick sampling stony riffles.



The River Bug, *Aphelocheirus aestivalis*

Dorsal view (very few river bugs are found with wings, so this is the normal form)

Ventral view showing clearly the long, sharp rostrum for piercing & sucking prey.



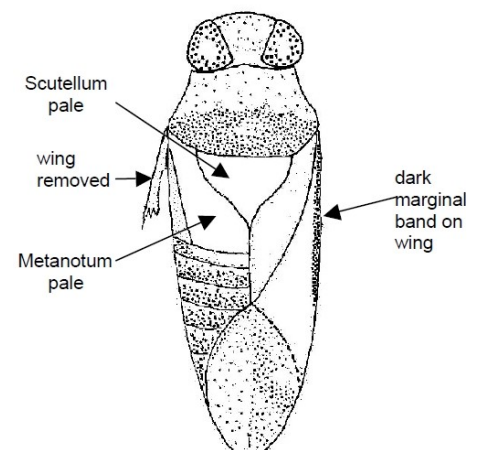
4 Water Boatmen

Water Boatmen are also often called Backswimmers. (unlike Corixid Bugs they swim upside down as in the picture below). They hang looking for prey yet still able to breathe as the hairs on the 'tail' repel water and allow air to enter their spiracles situated in grooves underneath the abdomen. They belong to the family Notonectidae. We have only four species in the British Isles however it is possible that a fifth species *Notonecta lutea* may appear in Britain in the future. This photo was kindly sent to me by Nina Jonsson of the Norwegian Institute for Nature Research.



© Nina Jonsson **The Pale Backswimmer, *Notonecta lutea***

Nina's photo shows how pale in colour the wing covers (hemelytra) of this species are. It is widespread in Europe and has spread through The Netherlands in recent years and so could cross the water any time to land on our shores. More identification detail is shown in Sheila Brooke's drawing from Het News on the right.



5 Water Boatmen ~ the Four British Species

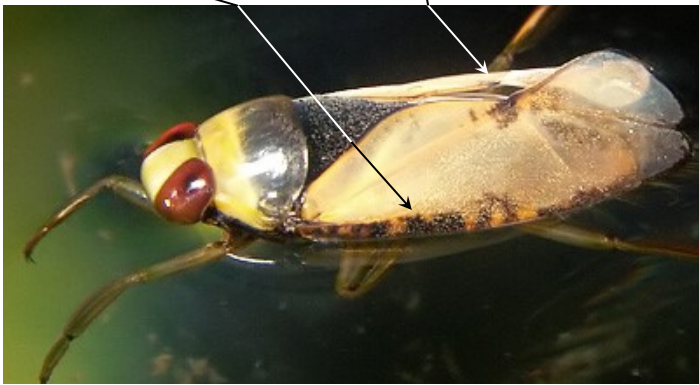
The Common Backswimmer *Notonecta glauca*

The commonest species both throughout the UK and also in Suffolk

In this species and in *N. maculata* the corners of the pronotum are rounded, blunt and do not 'embrace' the eyes, the same as shown in *N. maculata* below.

Pattern on the hemielytra is sparse, generally just a stripey line along the bottom edge, but some dark marks may occur in the centre towards the rear but never in as defined a cross shape as in *N. viridis*.

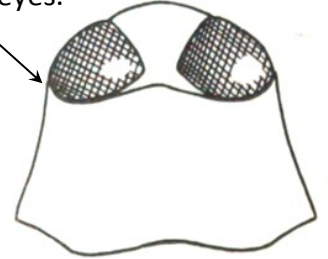
Stripey line



Notonecta viridis

Generally a Southern species in the UK, often in brackish water but extending its range into silty bottomed pools. The corners of the pronotum are pointed and 'embrace' the eyes.

The hemielytra pattern is variable, but dark marks occur in the centre & towards the rear in a distinctive cross shape.



Notonecta maculata

Mostly a Southern species. Frequent in Suffolk, often in artificial ponds & also in streams, cattle troughs or other habitats with a hard substratum

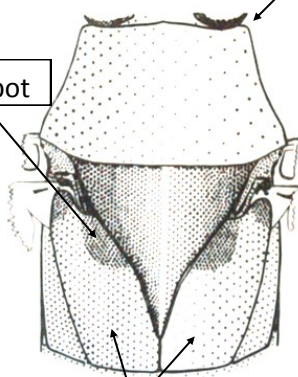
If the hemielytra are pushed aside the metanotum is orange with two black spots. All other species have an all black metanotum.

Has a mottled pattern all over the hemielytra. (But beware rare lightly mottled specimens)

Round corners on pronotum

Black spot

Orange



The White Striped Backswimmer *Notonecta obliqua*

More common in the west of the UK & often on high ground in acidic pools. Not recorded from Suffolk



The two light longitudinal stripes are diagnostic



6 Water Boatmen ~ Some extra photos

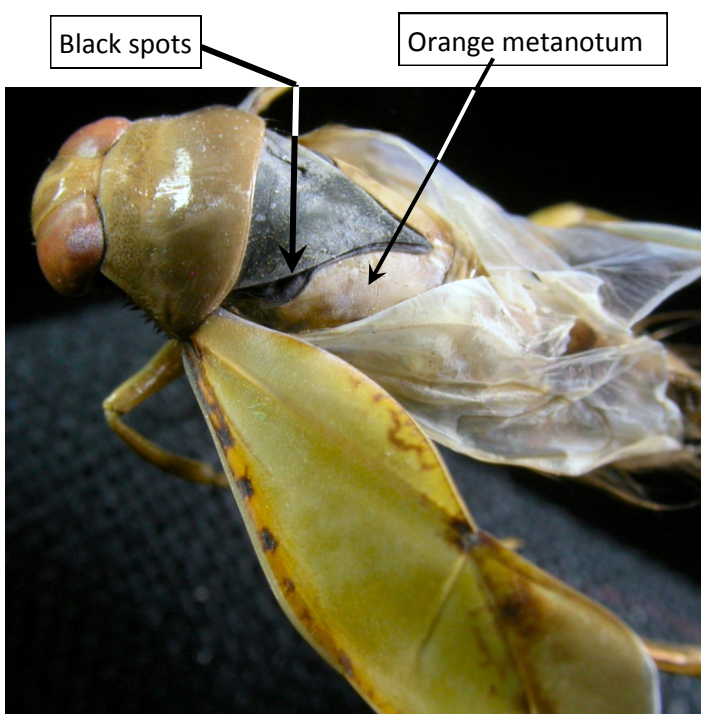


A typical specimen of *Notonecta glauca* showing the rounded corners of the pronotum



Notonecta viridis a close up of the pointed corners on the pronotum

A rare specimen of *Notonecta maculata* with unusually pale markings on the hemielytra. However it still has an orange metanotum with black spots, though unless these are seen it could be mistaken for *N. glauca*.



The wing cases (hemielytra) have been moved out to reveal the wings & beneath them the metanotum

Other Aquatic Bugs

With around 65 species of aquatic Hemiptera Heteroptera in the British Isles the photographs in this monograph represent only a small selection of our fauna.

It is planned to cover a selection of the smaller aquatic bugs in a future publication. The smaller species of the Lesser Water Boatmen in the family Corixidae will be covered in another monograph in this series at present being written / tested.

For a more complete traditional key to the Hemiptera Heteroptera the key from the Freshwater Biological Association is recommended:

FBA Scientific Publication no. 50. Adult Water Bugs ... See FBA website for availability / prices
<https://www.fba.org.uk/publications>

Version 3.1 April 2015 © Adrian Chalkley
Suffolk County Recorder: Freshwater Invertebrates
Email: aquatics@sns.org.uk
Twitter: https://twitter.com/Box_Valley