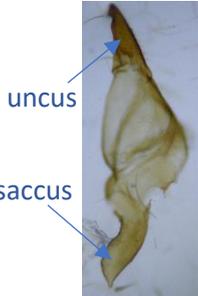


Presumed **November Moth** *Epirrita dilutata* with abnormal genitalia

North Elmham, 14<sup>th</sup> October 2017 – Dave Appleton

After macerating in 10% KOH and gentle removal of some scales it was not immediately possible to identify the projections on the 8<sup>th</sup> abdominal sternite, so I attempted to tease out the genital capsule for closer examination.



The uncus emerged easily but the valvae were not attached to it. The vinculum/saccus was attached and together these remained attached to the abdominal sternites (the last of which appeared membranous).

Inside the 7<sup>th</sup> & 8<sup>th</sup> abdominal segments there was a sac-like structure which was free, i.e. not attached to the sternites or the uncus/saccus. Although it is possible that it had been attached to the uncus/saccus only gentle pressure had been applied to ease the latter out so it could not have been firmly attached.



This sac-like structure was dominated by two bulging near-spherical lobes, the sides of which were bordered by a hardened ridge containing a dentate projection. These dark ridges with their projections resembled the costal margins of the valvae of November/Pale November Moths but the two lobes were fused and did not resemble valvae that had developed normally. At the point where the two lobes were fused there was a pair of hardened ridges – presumably the opposite margins of the mal-developed valvae? – although shorter than the edges of a normal valva

Entirely inside the sac-like structure, but attached to its edges, was a structure that was recognisable as the gnathos. Emerging from the sac (and attached to the sac) was the aedeagus, sharply bent but otherwise similar in structure to that of normal *Epirrita*. Next to where the aedeagus emerged there was a hole, the only opening to the sac-like structure.

Also inside the sac-like structure, but entirely free, was a small hardened structure which I have not been able to identify. It easily passed out of the opening in the sac and appears in the photos above beneath the aedeagus. An enlarged view appears to the right.



In the picture to the left you can see lots of long narrow scales floating freely in the water – these had been inside of the sac-like structure but emerged through the opening when gentle pressure was applied to the structure.

The last non-membranous abdominal sternite (the 8<sup>th</sup> I presume?) was somewhat conical in shape (i.e. significantly narrower at the tip than the base) and lacked the expected obvious divisions between

the upper and lower sides. On close examination it was possible to detect a slight division between upper and lower plates, however these plates were not clearly defined and the distal edge contained no hardened projections as is usually the case with male *Epirrita*. The photo (right) appears to show appear two dark lines at these divisions but there were no such lines – what you see is simply where the wall of the segment has folded slightly as one side has pushed in.



What I take to be the 9<sup>th</sup> abdominal sternite (?) was entirely membranous except for two small smudges. I am not sure if these could be related to the projections normally found on the 8<sup>th</sup> sternite as they are of similar size and shape, albeit much less well developed.

I presume this was a male November Moth whose genitalia had malformed during development. I suppose there is also a possibility that it is intersex but there are not parts that are clearly reminiscent of female genitalia while on the other hand most parts are recognisable as belonging to male genitalia, even if they are not formed normally. Externally the structure of the wings resembled those of a male.