

Seashore Diptera.

By

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THOUGH it is easy to write down this heading, it is by no means so to define it. The simplest and best definition seems to be "A dipteron which spends a considerable portion of its existence in salt or brackish water," but our present chaotic knowledge of the early life histories of shore diptera does not advance us far towards clearing up the doubtful period, and we are thrown back on the shore frequenting perfect insects, many of which are of wide distribution.

The insects have been grouped by surroundings and not topographically as it seems probable that more use can be got out of the list under this arrangement than in any other.

ROCKY SHORES.

Salt water pools on the rocks.

Clunio marinus Hal. Between Penlee Point and Rame Head. Uncommon.

Wet rocks.

Thalassomyia frauenfeldii Schiner. This fly occurred in fair numbers on the big blocks of chalk at Durlleston Bay near Swanage, but several visits to the rocks between Bovisand and Wembury failed to produce any result, possibly the rocks under the Hoe would have given better results.

Wet rocks covered with growing seaweed. Big rocks.

Aphrosylus raptor Hal. Mount Batten Rum Bay, Bovisand, Coast Guard Station, East Prawle—it seems possible that this fly may spend some portion of its perfect state under water, as at the last mentioned locality they were flying at low water about the seaweed covered rocks quite a hundred yards from the shore. Fairly common.

Small rocks.

Aphrosylus ferox Hal. Mount Batten Rum Bay, Torcross. Common.

More or less dry rocks.

Fucellia maritima Hal. Stonehouse in front of the Winter Villa, Torcross; but common everywhere, perhaps has a preference for wet rocks and sandy shores.

Fucellia fucorum Fln. Sand Hills at Bantham, and heaps of dead seaweed on the shore—perhaps not so common as the preceding species.

Under dead seaweed on both rocky and sandy shores.

Scatophaga villipes Tett. On one occasion in fair numbers under seaweed in the little bay near the Picklecombe Lodge of Mount Edgcumbe Park; Torcross, a few with an interesting entirely red-legged variety; rare in Devonshire though more common in Cornwall, while it becomes quite common in the Scilly Isles (St. Marys).

Under dead seaweed both on rocky and sandy shores.

Scatophaga litorea Fln. Common all round the coast.

Ceratinostoma ostiorum Hal. Stonehouse in front of the Marine Villa on human ordure near high-water mark, generally distributed round the coast though hardly to be called common anywhere.

Limosina limosa Fln. A few under seaweed in the little Picklecombe Bay.

Borboridæ. Two or three species with the last, but no records kept of identification.

Malacomyia sciomyzina Hal. A few under seaweed in this bay, it occurs here and there along the coast but is never common.

Cælopa pilipes Hal. Probably not uncommon but no record kept.

Fucomyia frigida Fln. In great numbers in the Picklecombe Bay, apparently the perfect insects were just emerging from a glutinous seaweed with thick almost circular stalks; many of the flies were deformed, the glutinous secretion of the seaweed having stuck their wings together. Common and generally distributed all round the coast.*

Orygma luctuosum Mg. Common everywhere, but appears to prefer the dry seaweed and other marine rejectamenta lying along the high-water mark of muddy creeks such as Millbrook and St. John's Creek.

Phoridæ. A few under seaweed in Picklecombe Bay, but no record kept of the species.

On thrift blossom.

Eristalis aeneus Scop. Fairly common in the early spring on the rocks between Bovisand and Wembury, probably breeds in the rocky pools and fissures in the rock.

* See a paper by Major E. V. Elwes, "The Life History of a Shore Fly," which appeared in Vol. II, No. 1 of the Journal of the Torquay Natural History Society, 1915

E. sepulchralis Linn. In the early spring in company with the last species, but wanders much further inland far into the Midlands where it breeds in the horse ponds. According to Lundbeck, *Diptera Danica*, Part V, *Syrphidæ*, these two species spend their early lifetime as is recorded below against *Stratiomyia longicornis*.

SANDY SHORES.

Wet sand.

Chersodromia hirta Walk. Under loose sea weed and also running about on the wet sand. Cawsand Bay and Torcross. Common.

Ch. cursitans Zett. Cawsand Bay and Torcross under wet seaweed. Common. It is an interesting question as to what becomes of these Empids at high water—do they make rafts of the seaweed and sail away to sea? or are they carried with the seaweed up to high-water mark and left there to run away on to the dry sands? Against this latter idea it may be noted that the *Chersodromia* found on the dry sand belongs as a rule to a third species.

Actora aestuum Mg. On wet sand and marine rejectamenta as a rule, common but apparently absent from our district—it is particularly abundant on the wet sands between the mouth of Poole Haven and the village of Studland, but is very difficult to catch being probably the most alert fly to be found in the British Isles.

Dry sand, marram grass and sand hills.

Edoparea buccata Flin. Bantham Sand Hills on the Marram grass. Torcross on herbage on the shore, but rare in Devonshire.

Ochthiphila flavipalpis Hal. Bantham on the Marram grass.

Thereva annulata Fab. Bantham sitting on the ground among the Sand Hills, common on one of my visits to Bantham, but *Therevidæ* are almost absent from S. Devon.

Spilogaster protuberans Zett. Bantham on the sand between the plants of Marram grass. Rare.

Pebbly beds of small streams running across the sandy bays.

Hecamede albicans Mg. Below the Whitsand Bay Hotel on small pebbles in the bed of a stream running across the beach.

MUD FLATS AND SALT MARSHES.

Mud flats.

Machærium maritimæ Hal. Probably occurs on the wet mud flats of Millbrook, St. John's Creek, Warleigh, etc., but as these flats are unex-

plored nothing can be said about their inhabitants. This fly was in numbers in Poole Haven on the mud alongside of the Goathorn Peninsula, their surroundings there having much resemblance to those around Warleigh.

The flies were bred by Mr. Joshua Brown from cocoons found on the sands at a bay about two miles beyond Weston-super-Mare ; he also bred them from cocoons found in like situations at Weymouth. These cocoons are pale grey elongate ovals and appear to be composed of fine sand, and are to be seen in the B.M. Collection.

See "Brown, The Entomologist," Vol. VII, p. 207 and p. 215, 1874.

Hydrophorus bisetus Hal. A common seashore fly which occurs in great numbers at Poole Haven on the Parkstone side of the Sand Banks Peninsula.

Stratiomyia longicornis Scop. Possibly occurs in the neighbourhood of Warleigh and round the shores of the Lynher and Notter ; it was bred in 1874 by Mr. B. L. Rye from a larva found on the Lymington Salterns under rotting sea weed. This specimen is now in the B.M. Collection ; it may be noted, however, that Stratiomyidæ are rare insects in Devonshire.

Salt marsh.

Hæmatopota italica Mg. Sheviock Wood near the water's edge of the Lynher Creek, probably occurs elsewhere round the creek at the beds of Sea Lavender and Sea Aster.

Tephritis plantaginis Hal. Probably occurs abundantly at Sea Aster on the banks of the Lynher and Notter, as it has been taken in numbers in like situations at Walton-on-Naze, Parkstone, Port Talbot and other places round the coast.

Atylotus latistriatus Brauer. Possibly occurs about the mouth of the Notter at Sea Lavender, as several specimens were taken at Walton-on-Naze and Poole Haven in a similar locality.

Lispe litorea Flu. Probably occurs on the black mud of the salt marshes and at the edge of the ditch of the sea wall.

Lispe tentaculata. Very common in company with the last species, but it extends in the British Isles far inland on the mud round the edges of the horse ponds.

There are many species of Dolichopodidæ and Ephydridæ which occur on the mud flats and salt marshes along other parts of the coast and which are bound to occur round Plymouth, e.g. :

DOLICHOPODIDÆ.

Thinophilus flavipalpis.

Tachytrechus two or more species and others.

EPHYDRIDÆ.

<i>Parydra</i>	more than one species.
<i>Ephydra</i>	do.
<i>Cænia</i>	do.
<i>Scatella</i>	do.

On the salt water pools, both on the rocks and in the salt marshes, a Dolichopid is often seen skimming along the surface of the water, this fly is generally *Hydrophotus bipunctatus*, but other species may have like habits.

The small streams trickling down the rocks on to the beach below are visited by many flies which may be called "Shore Flies," though many of them wander far inland, examples of these are :

DOLICHOPODIDÆ.

<i>Syntormon pallipes</i> .
<i>Liancalus virens</i> .

ANTHOMYIDÆ.

Many small species of *Cænosiniæ*.

ACALYPTRÆ.

Many families and species.

Another haunt which claims attention is the ditch on the land side of the sea wall. Here may be met with :

Two or more species of <i>Ceroxys</i> ,
<i>Dolichopodidæ</i> of many species and genera,
<i>Sciomyzidæ</i> and other <i>Acalyptratæ</i> .

Lundbeck, in *Diptera danica*, Part IV, *Dolichopodidæ*, records 17 species as sea shore dwellers. Probably all these species occur in the neighbourhood of Plymouth.