

**PLATYHELMIA.**

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**INTRODUCTION.**

WITH the exception of three species of Trematodes, all the members of this Phylum collected in the Clare Island district belong to the class Turbellaria. As the opportunities of collecting material were limited, it was considered wiser to devote the time available to the collection of the free-living Turbellaria. The latter group is of much greater interest than the parasitic Platyhelminths from the faunistic point of view, as the life-history of the latter is so closely involved with that of their hosts.

**Class TURBELLARIA.**

Very little work has hitherto been done on this group in Ireland. Thompson's "Natural History of Ireland," published in 1856, contains a record of 10 species (22, p. 421<sup>1</sup>). In 1893, Hartog (15, p. 117) recorded 4 species from fresh water near Cork. In 1900 Gamble (9, p. 812) recorded 22 species of marine Turbellaria from Valencia Harbour. In 1908 (21, p. 205), I recorded 15 species from Co. Dublin, of which 6 were marine and 6 fresh-water species.

The area investigated in connexion with the Clare Island Survey includes the shores of Clare Island, the waters of Clew Bay down to about 20 fathoms, and the shores and shallow waters of Blacksod Bay. A number of Polyclads from Ballinakill Harbour are also included. A few fresh-water species were found on Clare Island and in the lakes adjoining Clew Bay. The area most thoroughly searched was the littoral zone on the eastern side of the Mullet peninsula. This district was visited in March and September in the years 1909-1911, and the shore was examined from Barranagh on the north to Carrigeenmore on the south. The rocks here consist of schist and granite. On the sinuous coast-line, patches of rock alternate with stretches

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<sup>1</sup> The numbers printed in heavy type refer to the Bibliography at the end of this paper.

of clean sand, both passing seaward into extensive *Zostera* beds. The method usually adopted was to collect weeds from the rocks and pools, and especially *Laminaria* roots from near low-water mark, and soak them in dishes of salt water for two or three days. The *Turbellaria*, together with large numbers of other animals, collect on the side of the dish nearest the strongest source of light, and are easily removed with a pipette. A number of specimens was also obtained from weeds dredged in shallow water in Blacksod Bay. In Clew Bay, *Turbellaria* were chiefly obtained from *Laminaria* roots torn up by the trawl and dredge.

The list of fresh-water species is obviously very incomplete, and no terrestrial forms were found, though it is almost certain that *Rhynchodemus terrestris*, Müller, occurs in the district. On the other hand, considerable time was spent in studying the marine species, and the present list probably affords a fairly accurate representation of the littoral and shallow water *Turbellarian* fauna of the west coast of Ireland.

#### SUMMARY OF RESULTS.

The present list of *Turbellaria* includes 50 species and one variety, 5 being found in fresh water, and 45 in salt water. Of these, 29 are additions to the Irish fauna, and the following 5 species have not previously been recorded from the British Isles :—

- Stenostomum unicolor, *O. Schmidt*.
- Proxenetes gracilis, *von Graff*.
- Proxenetes tuberculatus, *von Graff*.
- Hyporculus venenosus (*Ulf.*).
- Trigonostomum setigerum, *O. Schmidt*.

The following 5 species were found in fresh water :—

- Stenostomum leucops (*Ant. Dug.*).
- Stenostomum unicolor, *O. Schmidt*.
- Typhloplana viridata (*Abildg.*).
- Planaria alpina, *Dana*.
- Dendrocoelum lacteum (*O. F. Müller*).

The geographical distribution of the *Turbellaria* is still too imperfectly known for any conclusions to be drawn from the following list. It is composed chiefly of species which one would expect to find in the district.

The following is a complete list of the species found. Those marked with an asterisk are additions to the Irish fauna.

TABLE OF SPECIES.

SPECIES.	Shores of Clare Island.	Dredged in Clew Bay.	Shores of Blacksod Bay.	Dredged in Blacksod Bay.	Other Stations.
ACOELE.					
*Proporus venenosus ( <i>O. Schm.</i> ) . . . . .	—	—	×	×	—
*Aphanostoma rhomboides ( <i>Jensen</i> ), . . . . .	—	—	×	×	—
*Convoluta flavibacillum, <i>Jensen</i> , . . . . .	—	—	×	×	—
<i>C. convoluta</i> ( <i>Abildg.</i> ), . . . . .	×	—	—	—	—
RHABDOCOELIDA.					
*Stenostomum leucops ( <i>A. Dug.</i> ), . . . . .	—	—	—	—	Clare Island.
* <i>S. unicolor</i> , <i>O. Schmidt</i> , . . . . .	—	—	—	—	Clare Island.
*Microstomum groenlandicum ( <i>Levins.</i> ), . . . . .	—	—	×	×	—
*Macrostomum appendiculatum ( <i>Fabr.</i> ), . . . . .	—	—	×	×	In salt water.
*Provortex balticus ( <i>M. Schultze</i> ), . . . . .	—	—	×	×	—
<i>P. rubrobacillum</i> , <i>Gamble</i> , . . . . .	—	—	×	—	—
*Maerenthalia intermedia ( <i>Graff</i> ), . . . . .	—	—	×	—	—
*Astrotorhynchus bifidus ( <i>M. Int.</i> ), . . . . .	—	—	×	—	—
<i>Proxenetes flabellifer</i> , <i>Jensen</i> , . . . . .	—	—	×	—	—
* <i>P. cochlear</i> , <i>Graff</i> , . . . . .	—	—	×	—	—
* <i>P. gracilis</i> , <i>Graff</i> , . . . . .	—	×	×	×	—
* <i>P. tuberculatus</i> , <i>Graff</i> , . . . . .	—	—	×	×	—
<i>Promesostoma marmoratum</i> ( <i>M. Schultze</i> ), . . . . .	×	—	×	×	—
* <i>P. oyoideum</i> ( <i>O. Schm.</i> ), . . . . .	—	—	×	×	—
*Typhloplana viridata ( <i>Abildg.</i> ), . . . . .	—	—	—	—	Clare Island.
*Hyporeus venenosus ( <i>Uj.</i> ), . . . . .	—	—	×	—	—
*Trigonostomum setigerum, <i>O. Schm.</i> , . . . . .	×	—	—	×	—
<i>T. armatum</i> ( <i>Jensen</i> ), . . . . .	—	×	×	—	—
<i>T. penicillatum</i> ( <i>O. Schmidt</i> ), . . . . .	—	—	×	—	—
*Acerorhynchus caledonicus ( <i>Clap.</i> ), . . . . .	×	—	×	—	—
<i>Polycystis Naegeli</i> , <i>Köll.</i> , . . . . .	—	×	×	×	—
<i>Phonorhynchus helgolandicus</i> ( <i>Metschn.</i> ), . . . . .	×	×	×	×	—
*Gyatrix hermaphroditus, <i>Ehrbg.</i> , . . . . .	×	—	×	×	—
*Fecampia erythrocephala, <i>Giard.</i> , . . . . .	—	—	×	—	—
<i>Plagiosomum Girardi</i> ( <i>O. Schm.</i> ), . . . . .	—	—	×	×	—
* <i>P. sulphureum</i> ( <i>Graff</i> ), . . . . .	—	×	—	—	—
* <i>P. elongatum</i> ( <i>Gamble</i> ), . . . . .	—	—	×	—	—
<i>P. vittatum</i> ( <i>Leuck.</i> ), . . . . .	×	—	×	—	—
* <i>P. Koreni</i> , <i>Jensen</i> , . . . . .	—	—	×	—	—
<i>Vorticeros auriculatum</i> ( <i>Müll.</i> ), . . . . .	—	—	×	—	—
<i>Pseudostomum quadrioculatum</i> ( <i>Leuck.</i> ), . . . . .	—	—	×	×	—
*Allostoma austriacum ( <i>Graff</i> ), . . . . .	—	×	×	—	—
<i>Monocelis fusca</i> , <i>Oersted.</i> , . . . . .	×	—	—	—	—
<i>M. lineata</i> ( <i>Müll.</i> ), . . . . .	×	—	×	—	—
TRICLADIDA.					
<i>Procerodes ulvae</i> ( <i>Oersted.</i> ), . . . . .	×	—	—	—	—
<i>Planaria alpina</i> , <i>Dana</i> , . . . . .	—	—	—	—	Clare Island.
<i>Dendrocoelum lacteum</i> ( <i>Müller</i> ), . . . . .	—	—	—	—	{ Clare Island and mainland.
POLYCLADIDA.					
<i>Stylochoplana maculata</i> <i>Quatr.</i> , . . . . .	—	×	×	×	—
<i>Leptoplana tremellaris</i> ( <i>Müll.</i> ), . . . . .	×	×	×	×	—
* <i>L. droebachensis</i> , <i>Oersted.</i> , . . . . .	—	—	×	—	—
* <i>L. fallax</i> , <i>Quatr.</i> , . . . . .	—	—	×	×	—
<i>Prostheceraeus vittatus</i> ( <i>Montagu</i> ), . . . . .	—	—	×	×	{ Westport Channel. Ballynakill Hbr. Ballynakill Harbour.
<i>Cycloporus papillosus</i> , <i>Lang</i> , . . . . .	—	—	×	×	—
* <i>C. p. var. laevigatus</i> , <i>Lang</i> , . . . . .	—	×	×	—	—
<i>Eurylepta cornuta</i> ( <i>Müller</i> ), . . . . .	—	×	×	×	{ Annagh Island. Ballynakill Harbour.
<i>Oligocladus sanguinolentus</i> ( <i>Quatr.</i> ), . . . . .	—	×	—	—	—
<i>Stylostomum variabile</i> , <i>Lang</i> , . . . . .	—	×	×	×	—

## SYSTEMATIC PART.

No attempt has been made to give the full synonymy of the species. In each case, several references are given to monographs where a full description and figures will be found, in order to fix the identity. Under the head of "Habitat" is given a list of the localities where the species has been found in the Clare Island district. This is followed by the wider "Distribution," beginning with the British Isles.

## ACOELA.

## Family PROPORIDAE.

*Proporus venenosus* (O. Schm.).

1893. Gamble, 5, p. 440.

1905. Graff, 13, p. 5.

*Habitat*.—Blacksod Bay. Dredged in 1-3 fms., September. Shores of Mullet, in Laminaria roots and in weeds from rock-pools, March and September.

*Distribution*.—Plymouth; Concarneau; Mediterranean; Adriatic; Black Sea.

## Family CONVOLUTIDAE.

*Aphanostoma rhomboides* (Jensen).

1893. *A. elegans*, Jensen. Gamble, 5, p. 443.

1905. Graff, 13, p. 12.

*Habitat*.—Blacksod Bay. Dredged in 1-2 fms., September. Shores of Mullet, in weeds from rock-pools, September.

*Distribution*.—This is a decidedly northern type. Plymouth; Barents Sea; Norway; Christiania Fiord; Helgoland.

*Convoluta flavibacillum*, Jensen.

1878. Jensen, 17, p. 28.

1893. Gamble, 5, p. 448.

1905. Graff, 13, p. 17.

*Habitat*.—Blacksod Bay. Dredged in 4 fms., September. Shores of Mullet, in weeds from rock-pools, September.

*Distribution*.—Millport, Port Erin, Plymouth; White Sea; Barents Sea; Concarneau; Teneriffe; Sebastopol.

**Convoluta convoluta** (Abildg.).

1893. *Convoluta paradoxa*, Oersted. Gamble, 5, p. 445.

1905. Graff, 13, p. 18.

*Habitat*.—Shore of Clare Island, in Lithothamnion, May.

*Distribution*.—Valencia Harbour; shores of Great Britain, Isle of Man, Channel Islands; Barents Sea; coasts of Western Europe; Mediterranean; Black Sea.

## RHABDOCOELIDA.

Family **CATENULIDAE**.**Stenostomum leucops** (Aut. Dug.).

1909. Graff, 14, p. 68.

*Habitat*.—In weeds from stream on Clare Island, April.

*Distribution*.—Great Britain; common over Europe; Siberia; North America.

**Stenostomum unicolor**, O. Schmidt.

1909. Graff, 14, p. 69.

*Habitat*.—In weeds and moss from pools on Clare Island, August.

*Distribution*.—Germany; Switzerland; Prague; Moscow.

Family **MISCROSTOMIDAE**.**Microstomum groenlandicum** (Levins.).

1893. Gamble, 5, p. 449.

1905. Graff, 12, p. 77.

*Habitat*.—Blacksod Bay. Dredged in 2-4 fms., September. Shores of Mullet, in weeds from rocks, September.

No trace of eye-pigment could be seen in any of the numerous specimens found. In this respect they agree with those found by von Graff at Millport, and by Gamble at Plymouth.

*Distribution*.—Millport, Plymouth; Bergen; Greenland.

**Macrostomum appendiculatum** (Fabr.).

*M. hystrix*, Oersted.

1905. Graff, 12, p. 80.

This species is usually found in fresh water. Von Graff, however (*tom. cit.*), records it from brackish or salt water from Venice, Ancona, and Sebastopol; whilst Pereyaslawzewa records *M. ventriflavum*, which von Graff

regards as a synonym of the present species, from Theodosia on the Black Sea. The specimens I found were in rock-pools, far distant from any source of fresh water.

*Habitat*.—Blacksod Bay. Shores of Mullet, from weeds in rock-pools, September.

*Distribution*.—Widely distributed over Great Britain and Europe in fresh water. Also found in the United States.

#### Family GRAFFILLIDAE.

##### *Provortex balticus* (Schultze).

1882. Graff, 11, p. 345.

1893. Gamble, 5, p. 468.

*Habitat*.—Blacksod Bay. Shores of Mullet, in weeds, September.

*Distribution*.—Millport, Port Erin, Plymouth; West Greenland; West Norway; Baffin Bay; Barents Sea; White Sea.

##### *Provortex rubrobacillus*, Gamble.

1893. Gamble, 5, p. 469.

The intestinal walls were full of amber-coloured cells like Algae.

*Habitat*.—Blacksod Bay. Dredged in 5-6 fms., September.

*Distribution*.—This species has been found, up to the present, only in the British Isles. It was found by Gamble at Plymouth and Valencia Harbour.

#### Family BYRSOPHLEBIDAE.

##### *Maehrenthalia intermedia* (Graff).

1882. *Byrsophlebs intermedia*, Graff, 11, p. 276.

1893. *B. i.*, Gamble, 5, p. 456.

1905. *Maehrenthalia i.*, Graff, 12, p. 97.

*Habitat*.—Blacksod Bay. Shores of Mullet, in weeds from rock-pools, September.

*Distribution*.—Millport, Port Erin, Plymouth.

This species does not appear to have been found outside the British Isles.

#### Family ASTROTORHYNCHIDAE.

##### *Astrotorhynchus bifidus* (McIntosh).

1875. *Mesostomum bifidum*, McIntosh, 18, p. 108.

1878. *Gyrator Schmidtii*, Jensen, 17, p. 51.

1882. *Pseudorhynchus bifidus* (McI.), Graff, 11, p. 316.

1893. *P. b.*, Gamble, 5, p. 459.

1905. *Astrotorhynchus bifidus* (McL.), Graff, 12, p. 100.

*Habitat*.—Blacksod Bay. Shores of Mullet, in Laminaria roots, March.

*Distribution*.—Millport, St. Andrews, Port Erin, Plymouth; West Greenland; Färoes; Bergen; Baffin Bay; White Sea; East North America.

#### Family PROXENETIDAE.

##### *Proxenetes flabellifer*, Jensen.

1882. Graff, 11, p. 277.

1893. Gamble, 5, p. 456.

*Habitat*.—Blacksod Bay. Shores of Mullet, September. Rare.

*Distribution*.—Valencia Harbour, Millport, Port Erin, Plymouth; White Sea; Barents Sea; Pala Guba; Bergen; Black Sea.

##### *Proxenetes cochlear*, von Graff.

1882. Graff, 11, p. 279.

1893. Gamble, 5, p. 457.

*Habitat*.—Blacksod Bay. Shores of Mullet, in weeds from rock-pools. September.

*Distribution*.—Millport, Plymouth; White Sea; Bergen; Roscoff; Orotava; Madeira.

##### *Proxenetes gracilis*, von Graff.

1882. Graff, 11, p. 280.

Although this species has not yet been recorded from the British Isles, I have found it to be fairly common at various places on the Irish coast. It is easily recognized by the characteristic shape of the chitinous penis-sheath.

*Habitat*.—Clew Bay. Dredged in  $4\frac{1}{3}$ – $5\frac{1}{3}$  fms. near the Harbour, Clare Island, August.

Blacksod Bay. Dredged in 1–4 fms., September. Shores of Mullet, in weeds from rock-pools, September.

*Distribution*.—Madeira and Orotava; Mediterranean; Adriatic.

##### *Proxenetes tuberculatus*, von Graff.

1882. Graff, 11, p. 281.

This species is easily recognized by the tubercular structure of the head and tail. It has not previously been recorded from the British Isles.

*Habitat*.—Blacksod Bay. Shores of Mullet, in Laminaria roots, March.

*Distribution*.—This species has been seen previously only by von Graff, who found it in his aquarium at Graz, to which place it had probably come from the North Sea.

**Promesostoma marmoratum** (M. Schultze).

1882. Graff, **11**, p. 269.

1893. Gamble, **5**, p. 450.

This variable species is very common in Irish waters. Von Graff divides it into two sub-species (**12**, p. 115), *Promesostoma marmoratum marmoratum* (M. Sch.) and *P. m. nudum*, von Graff, distinguished by the presence or absence of reticular pigment in the mesenchyme. Both these forms occur in the Clare Island district, the second form, which is quite without pigment, being much the more abundant. The var. *maculata* of Jensen (**17**, p. 32), in which the reticular pigment is found only near the eyes, also occurred in weeds from rock-pools in Blacksod Bay.

*Habitat*.—Clare Island. South-east shore, in weeds from rock-pools, August.

Blacksod Bay. Dredged in 2-3 fms., September. Shores of Mullet, in weeds from rock-pools, September.

*Distribution*.—Valencia Harbour, Skye, Millport, Port Erin, Plymouth; Greenland; White Sea; Barents Sea; Baffin Bay; North Atlantic; Baltic Sea; Mediterranean; Adriatic; Black Sea; Woods Hole, Massachusetts.

**Promesostoma ovoideum** (O. Schmidt).

1882. Graff, **11**, p. 272.

1893. Gamble, **5**, p. 451.

*Habitat*.—Blacksod Bay. Dredged in 4 fms., September. Shores of Mullet, in Laminaria roots, and in weeds from rock-pools, March and September.

*Distribution*.—Plymouth, Port Erin; Baffin Bay; Greenland; Messina, Naples, Lesina.

Family **TYPHLOPLANIDAE**.**Typhloplana viridata** (Abildg).

1882. Graff, **11**, p. 304.

*Habitat*.—Clare Island. In moss from pools, August.

*Distribution*.—Manchester, Scotland; Greenland; Europe; United States.

Family **TRIGONOSTOMIDAE**.**Hyporcus venenosus** (Ulj.).

1905. Graff, **12**, p. 110.

This species, which is easily characterized by the structure of the chitinous penis, has not previously been recorded from the British Isles.

*Habitat*.—Blacksod Bay. Shores of Mullet, in Laminaria roots and weeds from rock-pools, March.

*Distribution*.—North Sea; Mediterranean; Sebastopol.

***Trigonostomum setigerum*, O. Schmidt.**

1882. Graff, 11, p. 338.

1905. Graff, 12, p. 113.

All the specimens of this species which I have examined had four separate eyes. Those from Blacksod Bay had a patch of dark-brown reticular pigment on the head, agreeing with the sub-species *T. s. lunulatum* of von Graff (12, p. 114), who observed it at Naples. There seems to be very little value in these distinctions founded on the presence or absence of pigment, on which von Graff has relied in defining a number of sub-species. The coiled chitinous penis of this species is very characteristic.

*Habitat*.—Clare Island. South-east shore, in weeds from rock-pools, August.

Blacksod Bay. Dredged in 4 fms., September.

*Distribution*.—Concarneau; Orotava; Madeira; Mediterranean; Adriatic Black Sea.

***Trigonostomum armatum* (Jensen).**

1878. *Kylosphacra armata*, Jensen, 17, p. 45.

1893. *Hyporhynchus armatus* (Jensen), Gamble, 5, p. 466.

*Habitat*.—Clew Bay. Dredged in 5–10 fms. off Malranny, August.

Blacksod Bay. Shores of Mullet, in weeds from rock-pools, September.

*Distribution*.—Valencia Harbour, Port Erin, Plymouth; Bergen.

***Trigonostomum penicillatum* (O. Schmidt).**

1882. Graff, 11, p. 341.

1893. Gamble, 5, p. 467.

*Habitat*.—Blacksod Bay. Shores of Mullet, in weeds from rock-pools, September.

*Distribution*.—Valencia Harbour, Plymouth; Lesina, Messina, Naples.

**Family POLYCYSTIDIDAE.**

***Acorrhynchus caledonicus* (Clap.).**

1882. Graff, 11, p. 319.

1893. Gamble, 5, p. 460.

*Habitat.*—Clare Island. South-east shore, in weeds from rock-pools, August.

Blacksod Bay. Shores of Mullet, in weeds from rock-pools, September.

*Distribution.*—Skye, Millport, Port Erin, Plymouth; Barents Sea; Bergen; Helgoland.

***Polycystis Naegelii*, Kölliker.**

1882. Graff, 11, p. 322.

1893. Gamble, 5, p. 462.

*Habitat.*—Clew Bay. Dredged in Inishlyre Harbour, in 2–4 fms., March. Clare Island. Dredged in 4–6 fms. near harbour, August.

Blacksod Bay. Dredged in 2–3 fms., September. Shores of Mullet, in Laminaria roots, March and September.

*Distribution.*—Valencia Harbour, Millport, Port Erin, Plymouth; Bergen; Orotava; Madeira; Mediterranean; Adriatic; Black Sea.

***Phonorhynchus helgolandicus* (Metschn.).**

1882. Graff, 11, p. 328.

1893. Gamble, 5, p. 464.

*Habitat.*—Clare Island, south shore, in Lithothamnion, May.

Clew Bay. Dredged in 5–10 fms., off Mulranny, August.

Blacksod Bay. Dredged in 4 fms., September. Shores of Mullet, in weeds from rock-pools, September.

*Distribution.*—Valencia Harbour, Millport, Port Erin, Plymouth; Greenland; Baffin Bay; White Sea; Bergen; Wimmereux; Adriatic; Stamford, Conn.; Woods Hole, Massachusetts.

***Gyratrix hermaphroditus*, Ehrbg.**

1882. Graff, 11, p. 332

1893. Gamble, 5, p. 465.

This species is known from fresh, brackish, and salt water. At Plymouth it has been found only in the early winter, in rock-pools which are sometimes brackish. The specimen dredged in Blacksod Bay was much smaller than any of the others found, though quite mature.

*Habitat.*—Clare Island. In weeds from rock-pool on south-east shore, August.

Blacksod Bay. Dredged in 4–5 fms., March. Shores of Mullet, in weeds from rock-pool, September.

*Distribution.*—In fresh water, it is widely spread over Europe; Rochester, U.S.A.

In salt water it is recorded from St. Andrews, Plymouth; Madeira; Sebastopol.

Family **FECAMPIIDAE**.

**Fecampia erythrocephala**, Giard.

1903. Caullery and Mesnil, 3, p. 131.

Only the cocoons of this species were found. These are very common on stones, and even on Laminaria roots, on many parts of the Irish coast.

*Habitat*.—Blacksod Bay. Shores of Mullet, March.

*Distribution*.—Port Erin, Plymouth; France (Fécamp, Yport, Audresselles, St. Vaast-la-Hogue, Tatihou, Saint-Martin).

Family **PLAGIOSTOMIDAE**.

**Plagiostomum Girardi** (O. Schm.).

1882. Graff, 11, p. 394.

1893. Gamble, 5, p. 693.

This is the commonest Turbellarian in the district.

*Habitat*.—Blacksod Bay. Dredged in 2-5 fms., March and September. Shores of Mullet, in rock-pools and in Laminaria roots, March and September.

*Distribution*.—Valencia Harbour, Plymouth; Naples, Trieste, Messina.

**Plagiostomum sulphureum** (von Graff).

1882. Graff, 11, p. 387.

1893. Gamble, 5, p. 472.

*Habitat*.—Clew Bay. Dredged in 9-11 fms., August.

*Distribution*.—Port Erin; Trieste; Lesina.

**Plagiostomum elongatum** (Gamble).

1893. Gamble, 5, p. 473.

A single specimen was obtained, which agreed closely with Gamble's description, except that there was no pigment between the eyes.

*Habitat*.—Blacksod Bay. Shores of Mullet, in Laminaria roots, March.

*Distribution*.—Plymouth.

**Plagiostomum vittatum** (Leuck.).

1882. Graff, 11, p. 389.

1893. Gamble, 5, p. 475.

*Habitat.*—Clare Island. South-east shore, in weeds from rock-pools, August. Blacksod Bay. Shores of Mullet, in Laminaria roots and in weeds from rock-pools, March and September.

*Distribution.*—Valencia Harbour, Dublin Bay, Millport, Port Erin, Plymouth; Færoes; Bergen; Helgoland; Walcheren; Ostend; Wimmereux.

**Plagiostomum Koreni, Jensen.**

1878. Jensen, 17, p. 56.

1882. Graff, 10, p. 392.

1893. Gamble, 5, p. 476.

*Habitat.*—Blacksod Bay. Shores of Mullet, in weeds from rock-pools, September.

*Distribution.*—Millport, Port Erin, Plymouth; Bergen.

**Vorticeros auriculatum (Müller).**

1882. Graff, 11, p. 399.

1893. Gamble, 5, p. 478.

*Habitat.*—Blacksod Bay. Shores of Mullet, in Laminaria roots, March.

*Distribution.*—Valencia Harbour, Millport, Port Erin, Plymouth; Norway Wimmereux; Naples, Trieste, Messina, Ancona.

Family **PSEUDOSTOMIDAE.**

**Pseudostomum quadrioculatum (Leuck.).**

1882. 11, p. 410.

1893. Gamble, 5, p. 483.

*Habitat.*—Blacksod Bay. Dredged in 1–4 fms., September.

*Distribution.*—Valencia Harbour, Skye, Port Erin, Millport, Plymouth; West Norway; Færoes; Helgoland; Ostend; Mediterranean; Adriatic; Black Sea.

Family **ALLOSTOMATIDAE.**

**Allostoma austriacum (Graff).**

1882. Graff, 11, p. 403.

1893. 5, p. 480.

One of the commonest littoral Turbellaria.

*Habitat.*—Clew Bay. Dredged off Malranny in 5–10 fms., August.

Blacksod Bay. Dredged in 4–6 fms., March and September.

Shores of Mullet, in Laminaria roots and weeds from rock-pools, March and September.

*Distribution.*—Port Erin, Plymouth, Trieste; Black Sea,

Family **MONOCELIDIDAE**.***Monocelis fusca***, Oersted.

1882. Graff, 11, p. 421.

1893. Gamble, 5, p. 488.

*Habitat*.—Clare Island. South-east shore, August.*Distribution*.—Valencia Harbour, Dublin Bay, Millport, Port Erin, Plymouth; White Sea; Bergen; Färöes; Dröback; Denmark; Helgoland; Cuxhaven; Ostend; Wimmereux; Black Sea; Woods Holl, U.S.A.***Monocelis lineata*** (O. F. Müller).

1882. Graff, 11, p. 418.

1893. Gamble, 5, p. 487.

*Habitat*.—Clare Island. East shore, May; south-east shore, August.

Blacksod Bay. Shores of Mullet, in Laminaria roots and weeds from rock-pools, March and September.

*Distribution*.—Valencia Harbour, Dublin Bay, Hebrides, Firth of Forth, Millport, St. Andrew's, Port Erin, Plymouth; West Greenland; Baffin Bay; White Sea; Norway; Baltic; North Sea; Orotava; Madeira; Mediterranean; Black Sea.

## TRICLADIDA.

Family **PLANARIIDAE**.***Dendrocoelum lacteum*** (O. F. Müller).

1909. Bohmig, 14, p. 155.

*Habitat*.—Clare Island. Very common in the streams and pools, and in damp places, May.

Mainland. Lough Moher, Co. Mayo, August. Roonah Lough, August.

*Distribution*.—Common throughout the British Isles. Widely spread over Europe; North America.***Planaria alpina***, Dana.

1909. Bohmig, 14, p. 170.

*Habitat*.—In streams on Clare Island.*Distribution*.—Common in Ireland, Isle of Man, Great Britain; in cold streams and lakes, usually at high altitudes, in Europe.

Family **PROCERODIDAE**.**Procerodes ulvae** (Oersted).

1893. Gamble, 5, p. 493.

1909. Wilhelmi, 23, p. 316.

This species is very common round the Irish coasts, though it has been only once recorded. It is found under stones, almost up to high-water mark, and often occurs in immense numbers.

*Habitat*.—Clare Island. Shores near harbour, May. Although I often searched for this species, I did not succeed in finding it in Blacksod Bay.

*Distribution*.—Dublin Bay, Berwick Bay, west coast of Scotland; Denmark; Baltic; Norway; France; Sweden; Holland; Belgium; Black Sea; White Sea.

## POLYCLADIDA.

Family **PLANOCERIDAE**.**Stylochoplana maculata** (Quatr.).

1893. Gamble, 5, p. 497.

*Habitat*.—Clew Bay. Dredged in 2–4 fms., Inishlyre Harbour, March. Dredged in 4–6 fms., near harbour, Clare Island, August. Blacksod Bay. Dredged in 2–5 fms., March and September. Shores of Mullet, in Laminaria roots and weeds from rock-pools, March and September.

*Distribution*.—Valencia Harbour, Port Erin, St. Andrews, Berwick Bay, Firth of Forth; Guernsey, Jersey, St. Malo, St. Vaaste-la-Hogue.

Family **LEPTOPLANIDAE**.**Leptoplana tremellaris** (Müller).

1893. Gamble, 5, p. 498.

I was in the habit of referring all specimens belonging to the genus *Leptoplana* to this species, till September, 1911, when I found that the two following species were quite common at Blacksod Bay.

*Habitat*.—Ballinakill Harbour. 2 miles E.  $\frac{1}{4}$  N. of Clare Island lighthouse, dredged in 21 fms.

Blacksod Bay. Dredged in 3–4 fathoms. Common on shores of Mullet. Mature in September.

*Distribution*.—British Isles; shores of western Europe; Baltic; Mediterranean; Black Sea; Red Sea.

***Leptoplana fallax* (Quatrefages).**

1845. Quatrefages, 20, p. 135.

This species is easily recognized by the great length of the coiled chitinous penis.

*Habitat*.—Blacksod Bay. Dredged in 1 fathom. Under stones on shores of Mullet. September, mature.

*Distribution*.—Plymouth; France.

***Leptoplana droebachensis*, Oersted.**

The specimens, referred with some hesitation to this species, differed from *L. tremellaris* in the greater complexity of the reproductive organs, and from *L. fallax* in having only a slightly curved chitinous penis.

*Habitat*.—Blacksod Bay. Under stones on shore of Mullet. September, mature.

*Distribution*.—Plymouth.

Family **EURYLEPTIDAE**.***Prostheceraeus vittatus* (Montagu).**

1893. Gamble, 5, p. 504.

*Habitat*.—Clew Bay. Under stones in Westport Channel, May. Ballynakill Harbour.

Blacksod Bay. Dredged in 4 fms., September. Shores of Mullet, under stones, March and September.

*Distribution*.—Valencia Harbour, Roundstone, Strangford Lough, Devon coast, Falmouth, Plymouth, Scotland; Channel Islands; Scandinavia; Denmark; France; Mediterranean.

***Cycloporus papillosus*, Lang.**

1893. Gamble, 5, p. 506.

*Habitat*.—Ballynakill Harbour. Dredged in 6–8 fms., October. Also found on the shore, in January.

Blacksod Bay. Dredged in 2–3 fms., September. Shores of Mullet, under stones, March.

The variety *laevigatus*, Lang, was also found in the following localities:—

Clew Bay. Dredged in 13–16½ fms., 3½ miles S.E. ½ E. of Clare Island lighthouse, May.

Blacksod Bay. Shores of Mullet, under stones, March.

*Distribution*.—Dublin Bay, Port Erin, Puffin Island, Plymouth; Naples.

***Eurylepta cornuta* (O. F. Müller).**

1893. Gamble, 5, p. 507.

*Habitat.*—Clew Bay. Shores of Annagh Island, Westport Bay, May.

Ballynakill Harbour. Dredged in 6–8 fms., October.

Blacksod Bay. Dredged in 4–6 fms., September. Shores of Mullet, under stones, March and September.

*Distribution.*—Valencia Harbour, Belfast Lough, Berwick shore, Firth of Forth, Plymouth, Guernsey; St. Malo, Bordeaux; Dröback; Naples.

*Oligocladus sanguinolentus* (Quatr.).

1893. Gamble, 5, p. 509.

A single specimen of this rare species was found on Laminaria roots brought up in the trawl from 13–16 fathoms in Clew Bay. It is readily distinguished from other Irish Polyclads by the conical projection of the head between the tentacles, and by the position of the mouth in front of the brain. This species is comparatively rare in Irish waters, as I have only seen two specimens. Gamble found it in Valencia Harbour.

*Habitat.*—Clew Bay. Dredged in 13–16 fms., 1 mile E. by S.  $\frac{1}{2}$  E. of Clare Island lighthouse, on Laminaria roots.

*Distribution.*—Valencia Harbour, Port Erin, Plymouth; Jersey; Naples; Adriatic.

*Stylostomum variabile*, Lang.

1893. Gamble, 5, p. 511.

*Habitat.*—Clew Bay. Dredged in 17–19 fms., 2·6 miles S.E. by E.  $\frac{1}{2}$  E. of Clare Island lighthouse, May. Dredged in 13–17 fms., 3·5 miles S.E. by  $\frac{1}{2}$  E. of Clare Island lighthouse, on Laminaria roots, May. Dredged in 9–11 fms., 5·8 miles N.E.  $\frac{1}{3}$  N. of Carrowmore summit, on Laminaria roots, August.

Blacksod Bay. Frequently dredged in 2–6 fms. March and September. Common on shore of Mullet, under stones and on Laminaria roots, March and September.

*Distribution.*—Valencia Harbour, Firth of Forth, St. Andrew's, Port Erin, Falmouth, Plymouth; Naples.

TREMATODA.

*Phyllonella soleae*, Ben. et Hesse.

1864. Beneden et Hesse, 1, p. 70.

1890. Cunningham, 4, p. 93.

This species is very frequently found clinging to the ventral surface of the Common Sole (*Solea vulgaris*). In the figures given by Beneden and Hesse, and also by Cunningham (*tom. cit.*), the posterior sucker is represented as having two pairs of hooks. In all the specimens I have examined, a third

pair of small hooks is present, placed behind the curved points of the largest pair (fig. 1).



FIG. 1.

*Habitat*.—Two specimens were found on a Common Sole taken in a seine net, 2 miles east of Clare Island.

*Distribution*.—East Atlantic.

***Tristomum molae*, Blanchard.**

1847. Blanchard, 2, p. 326.

*Habitat*.—In the Irish National Museum are a number of specimens of this worm, found on the gills of the Sun-fish (*Orthogoriscus mola*) taken near Achill, by the late A. G. More.

*Distribution*.—Atlantic.

***Stephanophiala laureata* (Zeder).**

1909. Nicoll, 19, p. 398.

*Habitat*.—In the intestine of the Common Trout, from stream on Clare Island, and from Owenwee River, Westport.

*Distribution*.—A “fairly frequent parasite of the Common Trout (*Salmo fario*).” Also found in the Grayling. Europe.

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