Report on a Collection of Sponges from the Bay of Naples.

III. Hadromerida, Axinellida, Poecilosclerida,
    Halichondrida, Haplosclerida

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INTRODUCTION

Two papers having been already published on some groups belonging to this collection (Pulitzer-Pinna, 1972 and Pulitzer-Pinna & Pronzato, 1971) the present contribution completes the treatment of the Demospongeae. The groups here dealt with are represented by 107 species, of which one is new for the Mediterranean, 13 for the Italian coasts and 12 for science. On the whole, including the material recorded in the two previous papers, this collection has yielded 152 species of Demospongeae, of which 49 represent a new addition to the known fauna of the Bay of Naples.

Colors indicated as: C.C., followed by a number, refer to the plates of Séguy's Code universel des couleurs and, if not otherwise stated, were noted from the live specimen.

LIST OF STATIONS AND OF RECORDED SPECIES (Fig. 1)

For the convenience of the reader, also the sponges of this collection already reported in the two previous papers have been included in the following list.

   - Tetractinellida: Geodia cydonium, Sidonops geodia, Dercitus plicatus.
   - Poecilosclerida: Crambe crambe, Cramella mollia, Pseudocoria rosae, Stylopus dujardini, Anchinoe fictitiosa, Anchinoe tenacior, Clathria texensis.
2. Capo Miseno, depth 6-20 m. Cliff, boulders. Diver.
   Tetractinellida: Geodia cydonium, Ossicella lobularis.
   Epipolasia: Holosca jutiae.
   Hadromerida: Augites aportos, Spinastrella cunctatoris, Spinastrella minus, Chiona viridis.
   Asinellida: Raspacosa acetosa, Agelas oroides.
   Poecilosclerida: Mycale massa, Mycale rotula, Crambe crambe, Anichone tenax, Caloria tosiiaria.
   Haglosoclerida: Haliclonia renieroides.
   Dictyoceratida: Dysidea fragilis.
   Dendroceratida: Pirinopyllia minchini.

   Tetractinellida: Dereca plicata.
   Hadromerida: Chondresia reniformis, Proserberites longispina, Spinastrella cunctatoris, Unea umbellata.
   Asinellida: Astrella denticornis.
   Poecilosclerida: Crambe crambe, Antho involutus.
   Halichondrida: Ulosa digitata.
   Dictyoceratida: Dysidea increta, Hippopongia communis.
   Dendroceratida: Pirinopyllia spiniceps, Pirinopyllia minchini.

4. Nisida, SW, depth 1 m. Cliff. Scraping.
   Tetractinellida: Geodia cydonium, Penares helleri.
   Epipolasia: Japys johnstoni.
   Hadromerida: Cliona viridis.
   Poecilosclerida: Microciona strepitoosa.
   Halichondrida: Holactonaria panicca.

5. Punta Tisero (Copri), depth 20-30 m. Cliff. Diver.
   Tetractinellida: Erigias eustrhum.
   Hadromerida: Augites aportos, Proserberites longispina.
   Asinellida: Agelas oroides.
   Poecilosclerida: Greyella puleinar.
   Haglosoclerida: Reniera falsa, Reniera sarai.

   Tetractinellida: Geodia cydonium.
   Poecilosclerida: Mycale massa.
Tetractinellida: Stellata pumex.
Hadromerida: Terpios jugos, Cliona variiflora.
Pocillosclerida: Myxilla loricoclitosa, Todania asbelans, Microciona stimpsoni.
Halichondrida: Halichondria panicea, Hymenosiphon sanguinea.

8. Secca della Gaiola, depth 60 m. Pebbles, conglomerates, rocks. Dredge.
Tetractinellida: Plakoritis simplex.
Hadromerida: Timea irregularis, Timea stellifera.
Axinellida: Raspagination aculeata, Eurypon major.
Pocillosclerida: Myxilla massa, Sigmactinella annexa, Stylopus johannii,
Microciona toxiformis.
Halichondrida: Dictyoneilla incisa.

Tetractinellida: Geodia cylindrium.
Hadromerida: Aaptos aaptos.
Axinellida: Axinella verrucosa.

Tetractinellida: Geodia conchilega, Stryphna macronotus.
Hadromerida: Diplastrella bistellata, Timea unistellata.
Axinellida: Axinella denticornis.
Pocillosclerida: Anchiorea tenacior, Microciona gradalis.
Haplosclerida: Remiera varia, Dendroxea lini.

11. Mare Morto (Baoli), depth 20 m. Sand, mud, Zostera. Dredge.
Tetractinellida: Geodia cylindrium.
Hadromerida: Tethya cyrina.
Pocillosclerida: Myxole contucrenii, Myxole massa, Crambe crambe.

Hadromerida: Subterpios syringella, Terpios jugos.
Pocillosclerida: Hymedesmia barbiformis, Anchiorea fuscita.
Haplosclerida: Gellius angulatus.
Dictyoceratida: Irresia sp.

Hadromerida: Aaptos aaptos, Prosobrisses esphyllum.
Axinellida: Acampea acuta.

Pocillosclerida: Crambe crambe.
Halichondrida: Ciocalypta penicillata.
Haplosclerida: Halicosa mediterranea.

Tetractinellida: Erylchena enaestra.
Hadromerida: Prosobrisses modestus sp. n.
Pocillosclerida: Microciona gradalis.
Halichondrida: Dictyoneilla incisa.
Haplosclerida: Aptaopsis simulans.

Hadromerida: Tetrahya antennatum, Prosobrisses modestus sp. n., Spirostra caucasia.
Axinellida: Endozoa donaiberfili.
Pocillosclerida: Anchiorea fuscita.
Haplosclerida: Remiera cratera.

Tetractinellida: Penares belleri, Corticium caulescentrum.
Hadromerida: Prosobrisses longispina, Spirostra caucasia.
Haplosclerida: Remiera fusa.

Hadromerida: Prosobrisses longispina.
Haplosclerida: Remiera fusa, Remiera cratera.
Dictyoceratida: Spongia virgulosa.

18. Monte Vico (Ischia), depth 1-10 m. Superficial cave. Diver.
Sclerospongia: Merlia normani.
Lirihiestis: Desmochius incrustans.
Tetractinellida: Erylchena discophorus, Erylchena mammillaris, Erylchena enaestra.
Phyllophora: Jaspis johnstonii.
Hadromerida: Spirostra caucasia, Diplastrella ornatia, Timea unistellata.
Axinellida: Axinella dasycornis, Anchiorea ceratoides.
Pocillosclerida: Anchiorea fuscita.
Haplosclerida: Remiera mucosa, Remiera cratera, Dendroxea lini.
Dictyoceratida: Coccopora molliolentus, Irresia variablis.
Dendroceratida: Peridinysella mischini.
   Tetraclinidella: Gouvia cydonium, Callophora roendita.
   Hadromerida: Spirastrella constricta.
   Plocosclerida: Mycale massa.
   Halichondrida: Spongosorites trivicus.

   Tetraclinidella: Coccidium candelabrum.
   Hadromerida: Proserpina longipina, Spirastrella constricta.
   Astinellida: Halyceramia patrae, Raspascena aculeata.
   Plocosclerida: Anomina tenax.
   Halichondrida: Reniera sarat, Halichona timbria.
   Dicyoceratida: Spongiomella gracilis, Caecospongia sclaris, Ircinia variabilis.
   Dendroceratida: Aplysilla rosea, Darwiniella austriensis, Plerogyrella spinifera, Plerogyrella mincheli, Halicyca dejardinii.

21. Grotta del Mago (Ischia), depth 1-5 m. Superficial cave. Diver.
   Tetraclinidella: Coccidium candelabrum.
   Hadromerida: Aspido aspido, Testaursiculum, Proserpina longipina, Spirastrella constricta, Timera umbrinella.
   Astinellida: Astivella damoscorvis, Agelas coroides.
   Plocosclerida: Hymedesmis pachii, Anomina tenax.
   Halichondrida: Batzella troja, Dicyonella micros.
   Haplosclerida: Haplosclera ochracea, Petrosia dura.
   Dicyoceratida: Dysidea inermis, Dysidea fragilis, Spongia officinalis, Hippopompia communis, Ircinia variabilis, Ircinia spinosissima.
   Dendroceratida: Aplysilla rosea, Plerogyrella mincheli.

22. Castello (Ischia), depth 6 m. Cliff. Diver.
   Haplosclerida: Haplosclera ochracea, Dicyoceratida: Ircinia variabilis,
   Dendroceratida: Aplysilla rosea.

   Lithistida: Petromica grunoldii.
   Tetraclinidella: Icophyta acuta, Pachastrella montrifera, Pachastrella ochrochela, Thenea nudata.
   Hadromerida: Aspido aspido, Tetra santorina, Rhizaxinella pertusa, Rhizaxinella elongata, Rhizaxinella gracilis, Timera cumana sp. n.

Axinellida: Bubaris carrisi, Monocerosanthes verruculatums, Hymenoplocia typica.
Plocosclerida: Mycale massa, Hamaca haca, Hamaca megalocera sp. n., Birena tenutissima sp. n., Birena partenopea sp. n., Sigmatoxella annexe, Placungilla cornuta.
Halichondrida: Coelacanthella byginae sp. n.
Haplosclerida: Reniera sarat, Reniera sarat, Gellius flagellifer.

24. From Senna to Tre Fratelli (Vico Equense), 230 m from shore, depth 30 m. Sand, Posidonia. Dredge.
   Halichondrida: Batzella troja, Batzella frigida sp. n.

   Hadromerida: Chondrosia reniformis, Aspido aspido, Spirastrella constricta, Diplasterella ornata.
   Plocosclerida: Delicosa sp.
   Haplosclerida: Petrosia dura.
   Dicyoceratida: Ircinia variabilis.

26. From Punta Gradelle to Punta Scudo (Vico Equense), 50-200 m from shore, depth 30-50 m. Rocks, stones, boulders, Dredge.
   Hadromerida: Chondrosia reniformis, Polymastia manilensis, Suberites domuncula.
   Astinellida: Astivella damoscorvis, Raspaella ximindagu, Agelas coroides.
   Plocosclerida: Anomina ficellus, Macrocysta gradalis.
   Haplosclerida: Reniera sarat, Petrosia dura.
   Dicyoceratida: Dysidea fragilis, Facstockpica cavernosa.
   Dendroceratida: Aplysilla rosea.

27. Allinuri (Sorrento), 500 m from shore, depth 15 m. Posidonia. Dredge.
   Plocosclerida: Anomina tenax, Cladaria tosetaria.
   Dicyoceratida: Facstockpica cavernosa.

28. From Cappuccini to Sorrento, 230 m from shore, depth 50 m. Mud, dead Posidonia. Dredge.
   Plocosclerida: Mycale massa, Sigmatoxella annexe.
   Dicyoceratida: Facstockpica cavernosa, Ircinia variabilis.

29. Sorrento, 500 m from shore, depth 70 m. Mud and pebbles. Dredge.
   Hadromerida: Tetra santorina.
   Plocosclerida: Mycale massa, Anomina ficellus.
30. From Sorrento to Capo di Sorrento, 100-200 m from shore, depth 40-70 m. Mud, shingle. Dredge.  
Ascidia: Pyura pyura.  
Porcellio: Pyura pyura.  
Haplosclerids: Pellina semitorulos, Adocia simulan.  
Dickycocid: Dystidea avara.

Tetractinellida: Plakortis simplex.  
Epifpsid: Jarypis johnstonii.  
Hadrormerida: Thalassira reniformis, Spirastrella cunctatiae.  
Axiolida: Gracila etymale.  
Porcellio: Myxilla rosacea.  
Halichondrida: Halichondria aurantiaca, Hemimycotea columnella.  
Haplosclerids: Geodiscus flagellifer.  
Dickycocid: Caprospongia scalaris.

32. West of Cap of Sorrento, depth 10-23 m. Rock, detrital. Diver.  
Tetractinellida: Goeblia cyclonius, Oecarella tubularis.  
Axiolida: Axiella damicornis, Axiella cramer.  
Porcellio: Crambe cramer.  
Halichondrida: Batella inops.  
Dickycocid: Spongospora gracilis, Fasciospongia cavernosa.

33. West of Cap of Sorrento, depth 40 m. Pebbles and boulders. Dredge.  
Hadrormerida: Cliona viridis.  
Dickycocid: Ircinia variabilis.

34. Vervece (Masa Lubrence), NE, depth 70 m. Conglomerates. Dredge.  
Hadrormerida: Suberites donnoucula.  
Axiolida: Axiella damicornis.  
Haplosclerida: Reniera fusa, Reniera cramera, Adocia simulans.

36. From Cape Cerebo (Masa Lubrence) to Punta Lagno, 200 m from shore, depth 40 m. Corallines, Posidonia. Dredge.  
Hadrormerida: Suberites donnoucula.  
Porcellio: Ophiobasista triangularis sp. n.

37. From Punta Lagno towards Punta di Cala Baccoli (Masa Lubrence), 200 m from shore, depth 45 m. Shingle. Dredge.  
Tetractinellida: Erylus euastrium.  
Axiolida: Axiella damicornis, Halichondrida: Batella inops.  
Dickycocid: Halichondria aurantiaca.  
Dickycocid: Caprospongia scalaris, Fasciospongia cavernosa.

Hadrormerida: Aiptos aiptos, Cliona viridis.  
Haplosclerida: Petrosia dura, Halichondria aurantiaca, Halichonidum simulans.  
Dickycocid: Ircinia variabilis, Veronigia cavernosa.

Hadrormerida: Cliona caprana, Aiptos aiptos.  
Porcellio: Crambe cramer.  
Halichondrida: Batella inops.  
Haplosclerida: Reniera fusa, Reniera cramera, Petrosia dura, Calyx nicoensis.  
Dickycocid: Spongospora gracilis, Spongia pyrgitea, Fasciospongia cavernosa.

40. From Punta S. Lorenzo towards Punta Lagno (Masa Lubrence), 100 m from shore, depth 30 m. Posidonia. Dredge.  
Hadrormerida: Tinea geminata sp. n.  
Haplosclerida: Cliona viridis, Halichondrida: Batella inops.  
Porcellio: Axiella damicornis, Axiella vescuca, Halichondria pa-  
tera, Pararusa renata sp. n., Raspacrona stelastes.  
Dickycocid: Crambe cramer.  
Haplosclerida: Halichonidum aurantiaca.  
Haplosclerida: Reniera fusa, Pachychalina raua, Raphidias lance.  
Dickycocid: Dystidea avara, Ircinia variabilis, Veronigia cavernosa.

42. Punta del Lume (Iachia), 1000 m from shore, depth 40 m. Posidonia. Dredge.  
Hadrormerida: Telepus carinata.  
Porcellio: Crambe cramer, Anaxinae tenacior.  
Haplosclerida: Petrosia dura.  
Dickycocid: Spongospora officinalis.  
Dendroceratid: Pleurophilla minchini.
43. Spiaggia degli Inglese (Ischia), 700 m from shore, depth 35 m. Posidonia and boulders. Dredge.
   Poecilosclerida: Crambe crambe, Stylocephus nigroceps.

44. From Punta La Serafo to Casamicciola (Ischia), 600 m from shore, depth 20 m. Detrital. Dredge.
   Dicyoceratida: Isania variabilis.

45. From Casamicciola towards Punta di Monte Vico (Ischia), 750 m from shore, depth 30 m. Posidonia. Dredge.
   Poecilosclerida: Dactiriella cavernosa.
   Dicyoceratida: Cacospingia scalaris.

46. Opposite Lago Lucerno (Ischia), 750 m from shore, depth 15 m. Pebbles. Dredge.
   Tetracrinellida: Geodia clydonium.
   Hadromerida: Tethyia citrina.

47. Opposite Arco Felice (Pozzuoli), 700 m from shore, depth 25 m. Detrital, stones. Dredge.
   Tetracrinellida: Geodia clydonium.
   Hadromerida: Tethyia citrina.
   Axinellida: Raspasia aculeata.
   Poecilosclerida: Mycale massa.

48. Pozzuoli, 600-850 m from shore, depth 45 m. Mud, stones. Dredge.
   Tetracrinellida: Geodia clydonium.
   Poecilosclerida: Mycale massa.
   Haplosclerida: Pelisus semitubulosus.

49. East of Pozzuoli, 500 m from shore, depth 30 m. Mud, stones. Dredge.
   Poecilosclerida: Mycale massa.
   Dicyoceratida: Dasyidea avara.

50. Querries of Monte Olibano (Pozzuoli), 800 m from shore, depth 40 m. Detrital, sand. Dredge.
    Axinellida: Babarit vermiculata, Raspasia aculeata.
    Halichondrida: Batzella inops.

52. From Lacco Ameno to Casamicciola (Ischia), depth 60 m. Mud, pebbles, corallines. Dredge.

53. Punta La Serafo (Ischia), 770 m from shore, depth 35 m. Pebbles. Dredge.
    Poecilosclerida: Mycale contareeni.
    Dicyoceratida: Isania variabilis.

54. Secca d’Ischia, depth 30 m. Posidonia, corallines. Dredge.
    Hadromerida: Tethyia citrina.
    Poecilosclerida: Mycale massa.
    Dicyoceratida: Isania variabilis.

55. Ischia Channel, depth 40 m. Corallines. Dredge.
    Tetracrinellida: Geodia conchilega, Erylus caustrum, Pachastrella molilfera.
    Axinellida: Raspasia aculeata, Agelas corollas.

56. Punta di Mezzogiorno di Vivara, depth 40 m. Stones. Dredge.
    Epipolasida: Holoxoa forriva.
    Hadromerida: Clonidrella mucida, Cliona viridis.
    Halichondrida: Spongourites intricatus.
    Haplosclerida: Petrosia duria.

57. Lacco Ameno (Ischia), depth 110 m. Mud, boulders. Dredge.
    Axinellida: Paratima oceata sp. n.
    Haplosclerida: Apecta simulans.
    Dicyoceratida: Dystidea fragilis.

58. Punta Solchario (Procida), depth 70 m. Mud, pebbles. Dredge.
    Tetracrinellida: Erylus caustrum.
    Hadromerida: Cliona viridis.
    Haplosclerida: Rentiera implessa.
    Dicyoceratida: Isania foetida.

59. Carta Romana (Ischia), depth 45 m. Posidonia. Dredge.
    Dicyoceratida: Isania variabilis.

60. Punta Imperatore (Ischia), 550 m from shore, depth 50 m. Pebbles. Dredge.
    Hadromerida: Cliona viridis.
Pocilloclerida: Microciona toxiconemis.
Haplosclerida: Reniera sarai, Adocia simulans.

63. From Cape Negro to Punta del Chiaieto (Ischia), 100 m from shore, depth 40 m. Posidonia. Dredge.
Pocilloclerida: Anchichior tentaculor.
Halichondrida: Batzella inops.

64. From Punta di Penmata to Punta del Poggio (Bacoli), depth 50 m. Sand, dead Posidonia. Dredge.
Pocilloclerida: Coelactis instinu china.
Haplosclerida: Gerris marismedi sp. n.
Dictyoceratida: Oligoceras collectris.

65. From halfway between Punta Cornacchia and Punta Caruso to S. Montano (Ischia), depth 50 m. Sand, dead Posidonia. Dredge.
Hadromerida: SABAERIUS domuncula.
Pocilloclerida: Myxilla rosacea, Microciona assimilis.

66. Lacco Ameno (Ischia), 1600 m from shore, depth 70 m. Mud, dead Posidonia. Dredge.
Astreillida: Higginsia mediterranea sp. n.
Pocilloclerida: Tedania authelans.
Haplosclerida: Reniera impexa.
Dictyoceratida: Dystea avora.

67. West of Lacco Ameno (Ischia), 1600 m from shore, depth 60 m. Mud. Dredge.
Dictyoceratida: Dystea avora.

68. From Casamicciola to Perrone (Ischia), 1000-1400 m from shore, depth 50 m. Corallines. Dredge.
Hadromerida: Chondrosia reniformis.

69. From Castiglione to Porto d’Ischia, 1200 m from shore, depth 50 m. Pebbles. Dredge.
Hadromerida: Cliona viridis.
Pocilloclerida: Grambe crunbe.

70. Sesta di Forio (Ischia), depth 40-70 m. Rock, corallines. Dredge.
Astreillida: Baxaerm vermiculata.
Pocilloclerida: Mycale massa.

Haplosclerida: Reniera sarai.
Dictyoceratida: Verongia cavernicola.

71. Punta S. Pancrazi (Ischia), depth 10-30 m. Rock. Diver.
Dictyoceratida: Spongia laxifus, Ircinia variabilis, Ircinia sp.
Dendroceratida: Apolyllia rosea, Darwinella australiensis, Pleroplylla spinifera, Pleroplylla mihihini.

HADROMERIDA

CHONDROSIIDAE

Chondrosia reniformis Nardo
Chondrosia reniformis Nardo, 1847, p. 267

Occurrence:
Str. 3, 10-20 m. 31 Jan. 1967: PNA.018; PNA.81
Str. 25, 0-6 m, 18 Aug. 1959: Z.34/59.1; Z.34/59.11
Str. 26, 40 m, 20 Aug. 1959: Z.43/59.4
Str. 31, 25-35 m, 25 Aug. 1959: Z.66/59.7
Str. 68, 90 m, 6 Aug. 1960: Z.107/60.1

Remarks:
Specimens PNA.018 and PNA.81 were found on the back of Dromia vulgaris.

Chondrella nacula Schmidt
Chondrella nacula Schmidt, 1862, p. 39

Occurrence:
Str. 39, 25-40 m, 31 Aug. 1959: Z.84/59.13
Str. 76, 65-40 m, 29 July 1960: Z.70/60.1

Remarks:
The spherasters have a diameter of 26.8-30.8 μm.

1) Systematic position uncertain.
TETHYIDAE

Aptos auptos (Schmidt)

Aptorina auptos Schmidt, 1864, p. 33

Occurrence

Stn. 1, 10 m, 27 Jan. 1967: PNA.11a
Stn. 2, 30 m, 1 Feb. 1967: PNA.89; PNA.91; PNA.93
Stn. 9, 18 m, 1 Feb. 1967: PNA.135
Stn. 13, 20 m, 12 Apr. 1967: PNA.206
Stn. 2, 20 m, 13 Apr. 1967: PNA.218
Stn. 23, 135 m, 4 Sept. 1969: PNA.333
Stn. 21, 2 m, 10 Aug. 1968: IS.E.23; IS.E.24
Stn. 25, 5-6 m, 18 Aug. 1959: Z.44/29.1
Stn. 25, 0.5-3 m, 18 Aug. 1959: Z.44/29.5
Stn. 39, 23-30 m, 31 Aug. 1959: Z.84/59.12
Stn. 38, 45 m, 24 Aug. 1959: Z.84/59.1

Remarks

PNA.11a: insinuating
PNA.89: insinuating, cream-white
PNA.91: insinuating, cream
PNA.93: insinuating, off-white
PNA.135: hemispherical, diameter 15 mm, off-white
PNA.206: insinuating, light yellowish
PNA.218: insinuating, light yellow
PNA.333: globose, 10 x 8 mm, dull yellow
IS.E.23: cushion-shaped, 35 x 15 mm, cream
IS.E.24: a fragment, crust-shaped, 60 x 5 mm, cream
Z.44/29.1: roundish, diameter 12 mm
Z.44/29.5: a fragment, diameter about 20 mm
Z.84/59.12: amorphous, growing underneath a Spongiola gardneri
Z.84/59.1: globose, diameter 50 mm.

Tethya aurantium (Pallas)

Aclonium aurantium Pallas, 1766, p. 357
Tethya aurantium: Acr. (pars)
Tethya aurantium: Sarà & Melone, 1965, p. 123

Occurrence

Stn. 21, 3 m, 10 Aug. 1968: IS.E.2
Stn. 15, 40 m, Nov. 1972: PNA.186

Remarks

See Table 1 and under Tethya citrina.

<table>
<thead>
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<th>Specimen</th>
<th>Size (mm)</th>
<th>Color in life</th>
<th>Spherates</th>
<th>Remarks</th>
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<td>T. citrina</td>
<td>Z.64/60.1</td>
<td>4</td>
<td>Orange</td>
<td>25</td>
</tr>
<tr>
<td>T. citrina</td>
<td>Z.69/60.1</td>
<td>19</td>
<td>Orange</td>
<td>30</td>
</tr>
<tr>
<td>T. citrina</td>
<td>Z.74.1</td>
<td>45</td>
<td>Orange</td>
<td>40</td>
</tr>
<tr>
<td>T. citrina</td>
<td>Z.64</td>
<td>30</td>
<td>Dull yellow</td>
<td>120</td>
</tr>
<tr>
<td>T. citrina</td>
<td>PNA.303a</td>
<td>5</td>
<td>Dull yellow</td>
<td>120</td>
</tr>
<tr>
<td>T. citrina</td>
<td>PNA.303b</td>
<td>9</td>
<td>Dull yellow</td>
<td>120</td>
</tr>
</tbody>
</table>

Table 1 - Specimens of Tethya aurantium and Tethya citrina.

Tethya citrina Sarà & Melone, 1965, p. 123

Occurrence

Stn. 11, 20 m, 3 Feb. 1967: PNA.149
Stn. 1, 10 m, 25 July 1967: PNA.265
Stn. 46, 13 m, 27 July 1968: Z.44/60.2
Stn. 47, 25 m, 27 July 1968: Z.44/60.1
Stn. 51, 30 m, 29 July 1968: Z.67/60.1
Stn. 42, 40 m, 19 Feb. 1969: Z.14.1; Z.14.2
Stn. 23, 120 m, 4 Sept. 1969: PNA.303a; PNA.303b

Remarks

The specimens of Tethya in the collection have been assigned respectively to T. aurantium and T. citrina on the basis of the ray to center ratio of their spherates (Sarà & Melone, 1965, Tables IV and V). Having had the opportunity of studying populations of both species living together at Porto Cesareo (Gulf of Taranto) and in the Lansi Canal (Northern
Adriatic Sea), I regard the character of the spherasters as sufficient for discriminating the two species, even when other features are not available.

It might be here incidentally observed that Tethya limnetis Müller & Zahn, 1968, p. 469 is a synonym of *T. aurantium*, while the sponge attributed by these authors to *T. sacciferum* is referable to *T. citrina*.

**POLYMASTIDAE**

*Polymastia mamillaris* (Müller), 1806, p. 44

**Occurrence**

Stn. 26, 40 m, 20 Aug. 1959: Z.45/59.1; Z.45/59.5

**Remarks**

The first of these specimens, thickly incrusted on a valve of *Pecten*, bears numerous papillae up to 12 mm long. The second one is a small incrustation, 4 x 3 mm, on rock; it has a single papilla 15 mm long.

**SUBERITIDAE**

*Suberites domuncula* (Olivi)

*Aelastion domuncula* Olivi, 1792, p. 241

**Occurrence**

Stn. 26, 40 m, 20 Aug. 1959: Z.45/59.2

Stn. 26, 30 m, 21 Aug. 1959: Z.45/59.1a; Z.45/59.1b

Stn. 34, 70 m, 27 Aug. 1959: Z.75/59.1a to 1e

Stn. 36, 40 m, 27 Aug. 1959: Z.76/59.1

Stn. 63, 50 m, 6 Aug. 1960: Z.103/60.1

off the coast of Tichka, 17 Feb. 1960: Z.27

**Remarks**

1. (Z.45/59.2). Approximately globular, diameter 20 mm, lodging an *Eupagurus cauenensis* without shell. Also the amphiroid *Lencethode spinifer* was found in the interior of the sponge. The megascleres are tylotyles variable in length and in thickness, up to 280 x 4.5 μm, with a malformed head, often bearing a second swelling just below it. They are frequently transformed into tabbytyle, rarely into thinner styles, stonemes or oxeas. Microspiculae are abundant.

2. (Z.45/59.1a). About the same shape and size of the preceding specimen, with the same species of hermit crab. There is also a shell of *Nata reticulata* in perfect condition, about ten times smaller than the crab. The tylotyles are a little stronger, up to 5.6 μm thick; they represent about half of the megascleres, the rest being composed of styles, stonemes and oxeas. Microspiculae are abundant.

3. (Z.52/59.1b). Does not differ in size and shape from the specimens above. It contains a shell of *TetraHELLUSS COMMUNIS* broken at both ends, in which a hermit crab is lodged. They are very few tylotyles with a well-formed head; they generally appear as styles with just a trace of a sub-terminal swelling, measuring 290-300 x 3.5 μm; styles and oxeas, a little longer and thinner, predominate. Exceedingly rare microspiculae have been found only in the part of the sponge limiting the passage of the crab.

4. (Z.75/59.1a). Partially enveloping the shell of *Corbula vulgaris* lodging a hermit crab. Tylotyles are practically absent, the majority of the spicules being oxeas measuring about 360 x 5.6 μm. In the part of the sponge in contact with the crab a large number of the megascleres are transformed into thicker and shortened styles and stonemes, as figured by Hartman (1958, Fig. 3) from a specimen from Bayrupa. Here this peculiarity is even more marked, as some stonemes, less than 80 μm long, are 7 μm thick. Microspiculae have not been observed.

5. (Z.75/59.1b). Partially enveloping the shell of an *Aporrhais perplicata* lodging a hermit crab. The megascleres are as in the specimen above; in the part of the sponge in contact with the crab some of them undergo transformations as above, but less marked, common spicules being styles or stonemes about 300 x 4.3 μm, the latter strongly curved or even beakiform. In this part of the sponge microspiculae are more abundant; they have not been found in the other parts.

6. (Z.52/59.1c). Partially enveloping the shell of *Corbula vulgaris* lodging a hermit crab. As above, the megascleres consist of styles to oxeas with very rare tylotyles. In the part of the sponge limiting the crab's burrow transformations of the megascleres are rare. In this part a few microsclele have been found, none in the other parts.

7. (Z.52/59.1d). Partially enveloping the shell of a *Murex brandaris* lodging a hermit crab. Stipulation as above.

8. (Z.75/59.1e). Partially enveloping the shell of *Corbula vulgaris* lodging a hermit crab. Megascleres as above, but microspiculae have not been observed.

9. (Z.27). Massive and leaves, measuring 90 x 45 x 35 mm, this specimen is not associated with a hermit crab and appears broken from some support. The tylotyles have a more distinct head and are stronger than in any other specimen in this collection; they measure for the most part 350-390 x 5.7 μm. Modifications into styles and oxeas are so rare as to be negligible. Microspiculae are abundant.

10. (Z.78/59.1). Thinly partially incrusting a shell of the genus *Natica* with a hermit crab. The spicules are oxeas only, measuring 190-290 x 2.4 μm. Microspiculae have not been observed.
11. (Z.103/60.1). Partially enveloping the shell of a Cerithium with hermit crab. The spicules are exceedingly variable. Tylostyles are comparatively rare, measuring about 270 x 6 μm. Most spicules are oxeas, styles, strongyles, showing all possible variations. The largest size of these spicules is 310 x 7 μm, but many are much thinner or much shortened. Microscleres are present, but rare.

Spicule preparations from these samples appeared at first clearly divisible between Suberites fuscus and S. domuncula, mainly in accordance with the respective diagnoses given by Topsent (1900, p. 203, 225). The first group (spec. 1, 2 and 9) was characterized by the predominance of tylostyles and the presence of microstrongyles, the second one (spec. 3, 4, 5, 6, 7, 8 and 10) by the transformation of most of the tylostyles into styles and oxeas and the absence of microstrongyles. Then, as further spicule preparations were obtained from parts of the sponges on the border of the crab's passage, microstrongyles in variable number were found also in specimens 3, 5, 6 and 7, which are, otherwise, indistinguishable from specimens 4, 8 and 10. It became thus impossible to keep the two groups specifically separate: the merging of them into Suberites domuncula, as advocated by Voarins (1935) and by Burton (1953), had to be adopted.

Suberites syringilla (Schmidt)
(Fig. 2, 3)

Ratapiia syringilla Schmidt, 1868, p. 10

Occurrence
Stn. 12, 50 m, 3 Feb. 1967: PNA.155

Fig. 3. Suberites syringilla, Heads of tylostyles of spec. PNA.155.

The tylostyles have a size variable from 140 x 2.8 μm to 490 x 6.7 μm; they are rarely straight, mostly slightly curved near the base, with the largest diameter at the middle of the spicule. The head may reach 8 μm in diameter and presents as a rule an irregular vesicle. There is a marked uniformity in the shape of these spicules.

Prosuberites longispina Topsent

Prosuberites longispina Topsent, 1893, p. XLII

Occurrence
Stn. 3, 19-20 m, 31 Jan. 1967: PNA.54
Stn. 5, 20-30 m, 1 Feb. 1967: PNA.95
Stn. 16, 3-10 m, 26 July 1967: PNA.266; PNA.272
Stn. 17, 10 m, 27 July 1967: PNA.282; PNA.287
Stn. 20, 9-15 m, 8 Aug. 1968: IS.D.6b
Stn. 21, 3 m, 10 Aug. 1968: IS.E.9

Remarks
The specimens were yellow in life (C.C. 215-246, 258), increasing on rocks, on Spongaria virgulata, on Caricoporia scalaris. Generally present in very small patches, this species covers extensive areas on the walls of the underwater cave of Stn. 20.
**Proserbites epiphyton** (Lamarck)

*Alicronium epiphyton* Lamarck, 1815, p. 163

**Occurrence**

Str. 15, 20 m, 12 Apr. 1967: PNA.205

**Remarks**

Incorporating on the back of an oscurheits crab, brown-yellow with an orange tint. The tylosyles, with the characteristic "bottle-brush" head, very variable in size, measure from 130 to 360 μm by 2.5-6.7 μm.

**Proserbites modestus** sp. n.

(Fig. 4)

**Occurrence**

Str. 14, 60 m, 27 Apr. 1967: PNA.245; PNA.248

Str. 15, 20 m, 26 Apr. 1967: PNA.235

![Diagram of Proserbites modestus](image)

**Description**

This species is represented by inclusions not exceeding 1 cm, rather tenacious, paper thin. PNA.248 was yellow, the other two specimens orange-yellow.

The spiculation consists of tylosyles perpendicular to the surface which they surpass by most of their length, forming a conspicuous spiculation. When the thin sponge is removed from its support, it often leaves on it many naked tylosyles erect on their head. The tylosyles are very moderately curved, not fusiform but with their maximum diameter near the head. They measure for the most part 400-800 x 8-10 μm, but often reach 1050 x 12-14 μm; smaller ones are rare.

From the known species of this genus, including the Mediterranean *Proserbites* sp. of Vaelet (1969, p. 174), *P. modestus* is distinguished by the size and shape of its tylosyles. Typical heads of the latter are shown in Fig. 4.

Specimen PNA.235, designated as the holotype, has been deposited, together with a spicule slide of the same, in the British Museum (Natural History) with the number 1977:7-6:6. PNA.245 and PNA.248, the paratypes, are provisionally in the author’s collection.

**Terpios fugax** Duchassaing & Michelotti

**Terpios fugax** Duchassaing & Michelotti, 1864, p. 102

**Occurrence**

Str. 7, 1 m, 2 Feb. 1967: PNA.100

Str. 12, 50 m, 3 Feb. 1967: PNA.160

**Remarks**

Specimen PNA.100 was found incorporating on barnacles, PNA.160 on *Irja fuciformis;* both had a deep blue color. The tylosyles measure 160-430 x 2.7-5.4 μm.

**Rhizamnella pura** (Delle Chiaje)

**Tethya pura** Delle Chiaje, 1829, p. 131

**Occurrence**

Str. 23, 120 m, 4 Sept. 1969: PNA.310

Str. 23, 135 m, 4 Sept. 1969: PNA.336

**Remarks**

In both specimens the stalks are irregular, about 5 cm long and from 1.5 to 3 mm thick; the swellings, also irregular, have a diameter between 5 and 10 mm. The color was light yellowish brown (about C.C.339).
Spirodea
1. Tylotyles 270-1200 x 4.5-29 μm.
2. Tylotyles flexuosus, up to 2000 x 10 μm, infrequent.
3. Rapheae about 100 μm long, very abundant.

Rhizaxinella elongata (Ridley & Dendy)
*Suberies elongata* Ridley & Dendy, 1886, p. 486

**Occurrence**
Str. 23, 120 m, 4 Sept. 1969: PNA.316

**Remarks**
The stalk is 40 mm long, the single swelling has a diameter of about 3 mm. The color was yellowish drab.

Spirodea
1. Tylotyles 180-2100 x 4.5-17 μm.
2. Tylotyles 180-550 x 3.5-13 μm.

Rhizaxinella gracilis (Lendenfeld)
*Suberies gracilis* Lendenfeld, 1896, p. 130

**Occurrence**
Str. 23, 135 m, 4 Sept. 1969: PNA.330

**Remarks**
The only specimen in the collection consists of a thin elongated stalk, minutely haptid, cylindrical, 48 mm long, increasing uniformly in diameter from 0.7 to 2 mm, terminating in an irregular inflation which appears to be incomplete. The color in life was dull yellowish.

The tylotyles are fusiform, with a well-formed head containing a vesicle; they measure from 160 by 4 to 550 by 11.5 μm. Tylotyles up to 900 or 1000 μm, as previously recorded, have not been observed.

**SPIRASTRELLIDAE**

*Spirastrella cunctatrix* Schmidt

*Spirastrella cunctatrix* Schmidt, 1888, p. 17

**Occurrence**
Str. 2, 10 m, 30 Jan. 1967: PNA.21; PNA.33; PNA.37
Str. 3, 10-20 m, 31 Jan. 1967: PNA.35; PNA.35
Str. 15, 20 m, 26 Apr. 1967: PNA.236
Str. 16, 5 m, 26 July 1967: PNA.269
Str. 18, 5 m, 6 Aug. 1968: IS.A.7
Str. 19, 12 m, 6 Aug. 1968: IS.C.4
Str. 20, 12 m, 8 Aug. 1968: IS.D.2
Str. 21, 3 m, 10 Aug. 1968: IS.E.12; IS.E.15
Str. 31, 25-30 m, 25 Aug. 1959: Z.66/59.8
Str. 25, 0-5 m, 18 Aug. 1959: Z.34/59.4

**Remarks**
Field notes record the color of the various specimens, which were all incrusting, as follows: PNA.21, PNA.33, PNA.35, PNA 53 and PNA 55: red; PNA.216 and PNA.236: light orange-red; IS.A.7: orange-red (C.C. 181); IS.C.4: orange-red (C.C.182); IS.D.2: orange-red (C.C.183); IS.E.12: orange (C.C.196); IS.E.15: light orange (C.C.249).

*Spirastrella minax* (Topsent)

*Hymeropidia minax* Topsent, 1888, p. 141

**Occurrence**
Str. 2, 20 m, 13 Apr. 1967: PNA.208

**Remarks**
The only specimen in the collection consists of a very small incrustation on a rock, dull yellow.

**CLIONIDAE**

*Cliona vastifica* Hancock

*Cliona vastifica* Hancock, 1849, p. 342

**Occurrence**
Str. 7, 1 m, 2 Febr. 1967: PNA.106

**Remarks**
The specimen was light yellow, boring in the shell of a live oyster.

Spirodea
1. Tylotyles straight, 230-295 μm long, with a maximum diameter of 3.3-4.7 μm.
2. Oxeas micropinned, curved or sometimes straight, 62-118 x 2.6-4 µm. Some of them are very faintly centrostyloate.
3. Spinasters 10.7-13.5 x 1.5-3 µm, spines included, sometimes nearly straight, mostly with two to three bends.

*Cliona viridis* (Schmidt)

*Vioa viridis* Schmidt, 1862, p. 77

**Occurrence**

Stn. 1, 10 m, 24 July 1967: PNA.258
Stn. 2, 10 m, 30 Jan. 1967: PNA.41
Stn. 2, 15 m, 28 July 1967: PNA.293
Stn. 4, 1 m, 31 Jan. 1967: PNA.74
Stn. 38, 35 m, 19 Aug. 1959: Z.35/59.2; Z.35/59.3
Stn. 38, 45 m, 24 Aug. 1959: Z.54/59
Stn. 33, 40 m, 26 Aug. 1959: Z.71/59.2
Stn. 38, 40 m, 28 Aug. 1959: Z.80/59.6
Stn. 41, 40 m, 20 July 1960: Z.11/60.3
Stn. 36, 35 m, 29 July 1960: Z.70/59.5
Stn. 58, 70 m, 2 Aug. 1960: Z.80/60.2
Stn. 60, 50 m, 4 Aug. 1960b: Z.60/60.1
Stn. 69, 50 m, 6 Aug. 1960: Z.108/60.1

**TIMEIDAE**

*Timea unistellata* (Topsen)

*Hymedesmia unistellata* Topsen, 1892a, p. XXVII

**Occurrence**

Stn. 3, 10-20 m, 31 Jan. 1967: PNA.50; PNA.51
Stn. 10a, 20.3 m, 3 Feb. 1967: PNA.137
Stn. 18, 7 m, 7 Aug. 1968: IS.A.18
Stn. 21, 3 m, 10 Aug. 1968: IS.E.14

**Remarks**

The color of the species appears variable. PNA.50 and PNA.51 are small incrustations on stones, respectively bright brown and yellow-brown. PNA.137 is incrusting on a serpulid, red. The specimens marked IS (from the shadowed walls of caves) belong to widespread incrustations, red (C.C. 186, C.C.172 and C.C.181).

**Spicules**

1. Tylostyles measuring 320-380 x 2.5-4 µm.
2. Spherasters having a diameter, when fully grown, of 20-25 µm, with about 10-14 coxal rays, as figured by Topsen (1929, Fig. 1) for a specimen from this same area, have not been observed.

*Timea irregularis* Sarà & SiriBelli

*Timea irregularis* Sarà & SiriBelli, 1960, p. 37

**Occurrence**

Stn. 8, 60 m, 2 Feb. 1967: PNA.119

**Remarks**

This specimen comes from the same locality as the type. It is a thin, soft incrustation on a stone; its color, obscured by much sediment, is yellow.

**Spicules**

1. Tylostyles to subtylostyles 320-1100 x 4-10 µm.
2. Asters of three categories, closely agreeing with the original description, measuring respectively 17-21 µm, 6-8 µm and 21-40 µm in diameter.

*Timea stellifasciata* Sarà & SiriBelli

*Timea stellifasciata* Sarà & SiriBelli, 1960, p. 34

**Occurrence**

Stn. 8, 60 m, 2 Feb. 1967: PNA.118

**Remarks**

As in the case of *T. irregularis*, the present record is from the same locality where the type was found. The specimen is a small incrustation, dirty brown.

**Spicules**

1. Tylostyles straight, curved or flexuous. Originally described as up to 595 µm long, they reach here 1100 x 9 µm. Many broken ones in the preparation indicate that their size may be even larger, say 1400 x 14 µm.
2. The asters, divisible in two categories, with intermediate forms, agree with the description of the type and measure 8-20 µm.
The nearest relative of this sponge appears to be *Timea tetractis* Hentschel (1912, p. 322) known from a single specimen from the Aru Sea. From the latter, *T. cumana* mainly differs in the ornamentation of the calathop-like asters which is less dense, in the presence of asters intermediate between the two categories, and in the size of the tylostyles, which reaches in the specimen in hand a length about three times that indicated for the sponge of the Aru Island.

The specimen is a small and thin incrustation on a *Posidonia* rhizome, deposited in the British Museum (Natural History) as holotype, with the number 1977:7.6.8b

*Timea geministellata* sp. n.
(Fig. 6)

**OCCURRENCE**

Str. 40, 30 m, 31 Aug. 1959: Z.87/59

**DESCRIPTION**

The specimen is a small and thin incrustation on a *Posidonia* rhizome; it was entirely used for a preparation.

**Spiculae**

1. Tylostyles measuring 400-650 μm by 3-7 μm. They are straight or very slightly curved; their head is 6.8 μm in diameter, generally elongated, often trilobate and sometimes subterminal.

2. Glastrae with an ill-defined centre. Diverging from strongglastrae to oxyasters, they have mostly from 7 to 10 rays which are rather irregular.

![Fig. 6 - Spicules of Timea geministellata sp. n.](image-url)
and sometimes branched, and measure about 9 to 11 μm in diameter. It is possible that they do not represent a separate category but only young stages of the category below.

3. Aster of a smooth shaft bearing two terminal whorls starting as three (sometimes four) main branches that are smooth at their base, symmetrical, about perpendicular to the shaft, and bear a large, variable number of irregular outgrowths. Their size is about 15 x 13 μm. These spicules are here interpreted as modified mastax, comparable with the young stages of the diplasasters of Diplastrella bitesellata.

The peculiar form of the asters of this sponge sets it apart from all known species of Tereia. The new species here proposed is represented only by a slide, designated as holotype and deposited in the British Museum (Natural History) with the number 1977.7.8.4b.

Diplastrella bitesellata (Schmidt)

Tethya bitesellata Schmidt, 1862, p. 45

Occurrence
Sn. 10, 20 m, 3 Feb, 1967: PNA.136
Sn. 2, 20 m, 13 Apr, 1967: PNA.209
Sn. 18, 2.5 m, 7 Aug, 1968: IS.A.13; IS.A.19; IS.A.20; IS.A.23;
IS.A.26; IS.A.29; IS.A.31; IS.A.38
Sn. 34, 30 m, 29 July 1960: Z67/60.2

Remarks
The specimens PNA.136 and PNA.209, both occurring on stones, were respectively light skull red and brick-red. The color of specimen Z67/60.2 is indicated in the field notes as light brick-red. Remarkable was the range of colors shown by the specimens extensively lining the walls of the cave of Monte Vico (Sn. 18): cream, light orange (C.C.249), yellow (C.C.213), brown (C.C.247, 186 and 201). Contiguous individuals, subjected to the same degree of illumination, were observed to have different colors.

Diplastrella ornata Rützler & Sarà

Diplastrella ornata Rützler & Sarà, 1962, p. 231

Occurrence
Sn. 18, 2 m, 6 Aug, 1968: IS.B.13
Sn. 25, 0.5 m, 18 Aug. 1959: Z.34/59.7

Remarks
Both specimens were thin, inconspicuous inclusions. IS.B.15 has been scraped from a thinly-lighted wall; Z.34/59.7 was on a stone collected in the darkest part of the cave. The color in life was not noted, it is off-white in formalin.

The tylostyles may reach 950 μm in length, with a maximum diameter of 27 μm found in the shortened, strongyle ones; the characteristic diaphragm measures up to 90 μm. The number of the latter microscleres reaching their largest, branched and extremely complicated form is very abundant in specimen Z.34/59.7, rare in specimen IS.B.15. This species has been described as possessing also ossa; no such spicules have been observed in the samples in hand.

AXINELLIDA

AXINELLIDAE

Axinella damicornis (Esper)

Spongia damicornis Esper, 1794, p. 249

Occurrence
Sn. 3, 10.20 m, 31 Jan, 1967: PNA.49
Sn. 10, 20 m, 3 Feb, 1967: PNA.139
Sn. 18, 3 m, 7 Aug, 1968: IS.A.45
Sn. 21, 4 m, 10 Aug, 1968: IS.E.5
Sn. 32, 10.25 m, 26 Aug, 1959: Z.70/59.12
Sn. 34, 70 m, 27 Aug, 1959: Z.75/59.7
Sn. 37, 40.45 m, 27 Aug, 1959: Z.79/59.1
Sn. 41, 60 m, 20 July 1960: Z.8/60.3
Sn. 41, 40 m, 11 Feb, 1960: Z.15.5; Z.15.6
Sn. 26, 15.20 m, 21 Aug, 1959: Z.16.4

Remarks
The largest specimen, PNA.49, is 80 mm high and about 75 mm wide. The frequent tendency of the ossa of this species to enteroxytostylos is exceptionally pronounced in specimen Z.79/59.1, also a large one. The central swelling is present in a large part of the ossa and may reach 26 μm in diameter on a spicule 10 μm thick, with an irregular, terstological aspect.

Axinella verrucosa (Esper)

Spongia verrucosa Esper, 1794, p. 275

Occurrence
Sn. 9, 18 m, 2 Feb, 1967: PNA.130
Sn. 41, 60 m, 20 July 1960: Z.8/60.4
**Acanthella acuta** Schmidt

*Acanthella acuta* Schmidt, 1862, p. 65

**Occurrence**

Stn. 13, 20 m, 12 Apr. 1967: PNA.201

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**BUBARIDAE**

**Bubaris vermiculata** (Bowerbank)

*Hymera vermiculata* Bowerbank, 1866, p. 141

**Occurrence**

Stn. 50, 40 m, 27 July 1960: Z.49/60.2
Stn. 70, 76 m, 8 Aug. 1960: Z.110/60.1

**Remarks**

Both specimens are very thin, hispid incrustations on stones. The color in life has been recorded as dark brick-red for the first specimen, as light brick-red for the second one.

**Bubaris carceisi** Vacclet

*Bubaris carceisi* Vacclet, 1959, p. 180

**Occurrence**

Stn. 23, 135 m, 4 Sept. 1969: PNA.331

**Remarks**

A minute incrustation, soft, hispid, on a specimen of *Iscis acuta*. The styles measure for the most part 1030-2150 x 13.2-18.5 μm, a few shorter ones, about 500-700 x 15 μm, bear a slight annular swelling above the base. The vermiculated, constricted strongyles measure 600-1870 μm between the extremities and are 7-12 μm thick.

This sample, remarkable for the length of its vermiculated strongyles, agrees in spiculation with *Bubaris carceisi*, a species, however, described as erect and cylindrical. It is with some hesitation that the present identification is proposed.

**Monocrepidium vermiculatum** Topsent

*Monocrepidium vermiculatum* Topsent, 1898, p. 229

**Occurrence**

Stn. 23, 135 m, 5 Sept. 1969: PNA.341

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**Remarks**

The specimen is a very thin, hispid incrustation on a pebble; the color is a dull greenish yellow (C.C.218).

**Spicules**

1. Styles more or less curved near the base, 210 to 1300 μm long and 9 to 24 μm thick, generally bearing a faint annular swelling at their base.
2. Diactines vermiculate, twisted, tuberculated or ridged, measuring 310-480 μm by about 20 μm. The ends are stronglyate, in younger stages oxeate.

**Hymerobadisia typica** Topsent

(Fig. 7)

*Hymerobadisia typica* Topsent, 1892a, p. XXVI

**Occurrence**

Stn. 23, 120 m, 4 Sept. 1969: PNA.297

![Image of spicules](image)

**Fig. 7.** *Hymerobadisia typica*. Spicules of spec. PNA.297.

**Remarks**

The specimen is minute, gray, incrusting, with long hispidation.

**Spicules**

1. Tylostyles straight or slightly curved, measuring from 400 to 1900 μm by 6.7-20 μm, diameter of head up to 29.5 μm.
2. Rhabdokorynites 100-135 μm long, head about 12 μm thick. U-shaped centrostyle oxese as mentioned by Topsent (1904, p. 160 and 1934, p. 39) have not been observed.
DESMOXYIDAE

Halicenemia patera Bowerbank

Halicenemia patera Bowerbank, 1864, p. 184

Occurrence

Stn. 20, 10 m, 8 Aug. 1968; IS.D.4
Stn. 41, 40 m, 11 Febr. 1960; Z.15.2

Remarks

IS.D.4 was incrusting, mucous, orange yellow (C.C.182). Z.15.2 was incrusting on a Verongia cavernicola.

The tylostyles reach in both specimens 2900 x 9.19 µm. Their head is never globular, but elongate or trilobate; no short and thick ones, as figured by Topsent (1897, Fig. 1) for a discoidal specimen from the Shetlands, have been observed. The cones are markedly weaker than in the Atlantic specimens (Topsent, 1897, p. 235 and Descoings, 1966, p. 239), rarely reaching 900 x 8 µm. Constantly and conspicuously centroyloic or polytyloic in specimen IS.D.4, they are often even in specimen Z.15.2. The spiny microrosses are also weaker, rarely reaching a length of 120 µm, with a diameter generally of 3 µm, which may only in rare cases reach 7 µm. Their shape is from gently curved to sharply bent, centroyloic or not.

Higginsia mediterranea sp. n.

(Fig. 8)

Occurrence

Stn. 66, 70 m, 6 Aug. 1960; Z.104/60.5

Fig. 8 - Spicules of Higginsia mediterranea sp. n.

Description

The specimen was none or less cylindrical, erect on conglomerated corallines, so small that it was entirely used for a spicule preparation.

Spicules

1. Styles about 600-900 x 14 µm at the base; some thinner ones are also present. They are never straight, but curved or flexuous, in a variable way. Some bear near the base an annular swelling more or less developed. Rare transformations in strengthen may be observed.

2. Ones curved or slightly flexuous; many show a faint annular swelling, asymmetrically placed. They measure 560-700 by about 14 µm.

3. Acantbroxea measuring 90-130 x 5.3-6.7 µm without the spines, centrotugoluted.

Belonging to a genus not hitherto recorded in the Mediterranean, this species agrees better in spiculation with Higginsia notalensis (Carter) from S. Africa than with species recorded from areas zoogeographically nearer, as H. tebbitides Levi and H. strigilata liberiensis (Higgins) from W. Africa, H. tebbitides Topsent and H. strigilata arcuta (Higgins) from Ireland.

The only available spicule slide, designated as the holotype, has been deposited in the British Museum (Natural History) with the number 1977.7.6-5b.

HEMISTERELIDAE

Parastionea oxota sp. n.

(Fig. 9)

Occurrence

Stn. 41, 60 m, 20 July 1960: Z.8/60.12
Stn. 57, 100-110 m, 1 Aug. 1960: Z.74/60.1; Z.74/60.4

Description

The specimens are thickly incrusting on fragments of conglomerates, the largest one measuring about 4 x 3 x 0.4 cm. Field notes indicate that specimens Z.74/60.4 had a dark color in life; all three, after preservation in formalin and alcohol, are white. The aspect is hyaline, the structure cavernous and weak, the spiculation in confusion or in irregular tracts, lax.

Spicules

1. The principal cones are generally asymmetrically curved, sometimes double-bent, often flexuous, particularly in specimen Z.8/60.12. They measure 1000-1400 x 14-24 µm.

2. The accessory cones measure 250-650 x 3.7 µm; they are curved or abruptly bent, sometimes flexuous, often centroyloic.
3. The oyster, without centrum, have normally 10-12 rays and a diameter of 40-60 \( \mu \text{m} \). The number of rays may be reduced to three or even two, in which case they may acquire a length of 50 \( \mu \text{m} \).

![Diagram of oyster rays](image)

**Fig. 9 - Specices of Raspailia ovata sp. n.**

This new species is near to *Parastias ovata* (Topsent) (1927, p. 6); it is even possible that, when more material becomes available, it may fall in synonymy with the latter. However, a specific separation is suggested by the nature of the principal megalenes of the present specimen: they are always osses, mostly flexuous, never symmetrically bent, never centrotelate, without modifications to styles or tylostyles. As to the exotrons, osses and the microles, there is agreement between the two species.

A fragment of specimen Z.74/60.4, designated as the holotype, has been deposited in the British Museum (Natural History), where it has received the number 1977/7-67. Z.74/60.1 and Z.8/60.12, the paratypes, are in the writer’s collection.
Occurrence
Stn. 8, 60 m, 2 Feb 1967; PNA.128
Stn. 8, 45 m, 19 Apr 1967; PNA.225; PNA.226; PNA.227
Stn. 2, 10-16 m, 28 July 1967; PNA.289
Stn. 20, 10-12 m, 13 Aug 1968; IS.0.1
Stn. 41, 40 m, 22 July 1960; Z.49/60
Stn. 50, 40 m, 27 July 1960; Z.11/60.1
Stn. 51, 40 m, 22 July 1960; Z.69/60.4; Z.69/60.5

Remarks
All the specimens were from bright red to orange-red in life. They are from increasing to bushy, 2 to 9 square cm wide, up to 15 mm thick. The typical erect spicular columns may be sparse and rudimentary or well developed, thickly set, branching and anastomosing (Fig. 10). The variability of the acanthostyles, already noted by previous observers, is remarkable. In some specimens the largest ones currently reach a length

Fig. 11 - Reptonia acruata, Spicula of spec. Z.11/60.1.

of 400-430 μm; they are straight and bear only scanty and feeble spines; some of them, reaching 480 μm, have only a few rudimental spines at their base. These spicules are often slightly xylote.
In three of the specimens in hand I have observed a few acanthostyles certainly proper, apparently derived from the acanthostyles. These spicules have the identical sparse spinuation of the larger acanthostyles, which surpass in length, and are bent in the middle, sometimes centroylate.

Endectyon delaunayi Burton (Fig. 12, 13)
Endectyon delaunayi Burton, 1930, p. 492

Occurrence
Stn. 15, 40 m, Oct. 1972; PNA.358; PNA.382

Remarks
The two specimens are indicated in field notes as yellow, PNA.382, the largest one, is erect, stipitate, branching out in one plane, about 11 cm high and 7 cm wide. The stem is about 4 cm high and 2.3 mm thick, irregularly cylindrical, flexible and resilient. The branches are very flexible, flattened; their thickness, not uniform, is about 2.3 by 1.5 mm. The ramification is prodigious, with frequent anastomoses. The stem is smooth, the branches minutely conulose and hirsute.
The styles of the main skeleton are gently curved; at about one third of their length there is often a scarcely conspicuous swelling. They measure 170-230 x 4.7 μm. Some thinner ones are present. The presence, although infrequent, of oocytes in specimen PNA.358 seems worthy of mention: some of them are obviously modified styles but some, longer and stouter than the styles of this category, are of more difficult interpretation. Abnormal growths, exactly as figured by Burton (1930, Fig. 1, B, C, D) occur occasionally. Some rare styles bear a few sparse small spines, indicating a possible transition to the acanthostyles.
The bispacing, larger styles measure 550-1200 x 9.12 μm at the base; they are gently curved, very regular.

Fig. 12 - Endectyon delaunayi. Spec. PNA.382 (preserved).
The acanthostyles measure 90-115 x 6.7 μm without the spines, which may reach 8 μm. Two to five spines are always present at the base of the spine; three to five are normally seen just below the pointed apex, but they may be lacking; the body of the spine generally bears three to five spines, being otherwise smooth. These spines are exceedingly rare in the branches; they are present, but not abundant, at the base of the sponge.

At the very base of attachment of specimen PNA.382 practically the entire speculum of the stem consists of styles that appear quite distinct from the ordinary styles of the main skeleton, measuring 210-270 x 9.13.5 μm, their curvature nearer to the base, which is almost always fairly and asymmetrically tylote. A few millimeters above the base of the sponge they are gradually substituted by the ordinary styles. Transitions occur, but not in the branches, where this type of style is entirely absent. These styles are certainly proper, as I found them also in a specimen of this species from Porrifino (PF.363, unpublished). Cabiichi (1968, p. 223), who redescribed this species, observed at the base of his specimens from Roscoff comparable subtyleostyles, but apparently they were not so strikingly different also in size from the normal styles. It may be here reminded that in Eucystyone tenax, the type of the genus (Topsent, 1920, p. 23), a slight asymmetrical swelling of the base is a normal character of the main style.

Fig. 13 - Eucystyone delabridieli. Spicules of spec. PNA.382. A: styles of branches; B: styles of base of attachment.

E. delabridieli appears to be rather variable in its speculum. As to the skeletal structure, a comparison between Bumdt's description and Cabiichi's one indicate that it is not so well defined as to exclude some differences of interpretation. The sections obtained from my material agree better with Cabiichi's description. It is possible that the Mediterranean Batecystyone plorae Vacelet (1961, p. 37) may prove to be a synonym of this species.

EURYONIDAE

Eurypon major Sarà & Siribelli
(Fig. 14)

Eurypon major Sarà & Siribelli, 1960, p. 60

Occurrence
Str. 8, 60 m, 2 Febr. 1967: PNA.121a

Remarks
Small, thin incrustation, hispid, drah in life. The ectosomal spicules are corall, often anisostelial, with remarkably long-drawn points, measuring 150-440 x 3-7 μm. The acanthostyles are mostly 80-140 μm long, but may reach 200 μm. The tylostyles, with well-formed heads, measure more than 1700 μm, with a thickness of about 18 μm. Bladder areas with long points and larger acanthostyles are the characters indicated for distinguishing Eurypon major from E. lacazei (Topsent). Of the latter species, few specimens have been described: it is possible that, when new reports are available, these differences may be regarded as variations within a single species. An indication in this direction is the fact that, whereas the ectosomal ossae of this specimen appear on the whole definitely different from the anisostomates or pseudoxoeas figured for E. lacazei, some of them, although rare, correspond exactly to spicules

Fig. 14 - Eurypon major. Ectosomal ossae of spec. PNA.121a.
figured by Toperc (1891, Pl. 22, Fig. 3 and 1928, Pl. 8, Fig. 13). In Fig. 14, A and B represent the normal spicules, C and D uncommon ones.

I would add that the abrupt stepping-down of the points of the oecas, as figured by Sarà & Stibelll for E. major, has not been observed in this specimen.

AGELASIDAE

Agelas ovoides (Schmidt)

(Fig. 15)

Cladonia ovoides Schmidt, 1864, p. 35

Occurrence

Stn. 26, 15.20 m, 21 Aug. 1959: Z.16.1
Stn. 32, 10.23 m, 26 Aug. 1959: Z.70/59.3; Z.70/59.9; Z.70/59.10
Stn. 35, 40 m, 29 July 1960: Z.69/60.6
Stn. 2, 10 m, 30 Jan. 1967: PNA.18
Stn. 5, 30 m, 1 Feb. 1967: PNA.84
Stn. 18, 2.3 m, 7 Aug. 1968: IS.A.30
Stn. 21, 2.3 m, 10 Aug. 1968: IS.E.1

Remarks

The acanthostyles present considerable variability in the various specimens as to size and strength of spines. Extreme measures are about 80 x 4 μm and 180 x 11 μm (without the spines), the number of wheels is between 11 and 15. Modifications of the acanthostyles to acanthothece and centreostyles may occur.

Specimen IS.E.1 (Fig. 15) represents a remarkable modification of the normal, massive habit of this sponge: it is a fragment of an individual extensively coating the smooth wall of the cave (volcanic rock), having a thickness, except for the oscular elevations, of only 1 to 3 mm. The color of this sponge was orange (C.C.212); the spiculation is not distinguishable from that of the other specimens.

POECILOSCLERIDA

MYCALIDAE

Mycale contarenii (Martens)

Spongia contarenii Martens, 1824, p. 455

Occurrence

Stn. 11, 20 m, 3 Feb. 1967: PNA.151
Stn. 53, 35 m, 28 July 1960: Z.60/60

Remarks

PNA.151: thick incrustation on thimane of Posidonia, light brown. The tylostyles are 275.530 x 8-10 μm (an average one, 310 μm, long, has a thickness of 8.7 μm at the head, 7.2 μm at the neck and reaches a maximum diameter of 9.6 μm beyond its middle). Very few of the larger anisochelae have been found, measuring 38-5.48 μm. The small anisochelae, very abundant, measure 12-14.3 μm. No middle-sized anisochelae have been observed. The larger tylostyles are abundant; they have a chord of 30 to 70 μm and are about 4.5 μm thick. No tylostyles of the smaller size were found. Toxas are abundant, measuring 24 to 50 μm.

Z.60/60: incrusting on calcareous algae, gray according to field notes. The tylostyles are longer and thinner than in the other specimens, about 330-370 x 7.2 μm. The larger anisochelae are not so rare and measure 31.2 to 36 μm. The smaller anisochelae, abundant, are 11-12 μm long. The larger tylostyles are abundant and measure 43-60 μm; no smaller tylostyles are present. Toxas are rare; they measure about 30 to 50 μm.
Mycela massa (Schmidt)

Esperia massa Schmidt 1862, p. 36

Occurrence

Str. 6, 15 m, 30 Jan. 1967: PNA.16
Str. 2, 10 m, 30 Jun. 1967: PNA.26; PNA.42; PNA.43
Str. 8, 60 m, 2 Feb. 1967: PNA.114; PNA.125
Str. 11, 20 m, 3 Feb. 1967: PNA.152
Str. 19, 12 m, 6 Aug. 1968: IS.C.6
Str. 29, 70 m, 25 Aug. 1969: Z.61/59.1
Str. 47, 25 m, 27 July 1960: Z.44/60
Str. 48, 45 m, 27 July 1960: Z.46/60.1
Str. 49, 30 m, 27 July 1962: Z.48/60.2
Str. 24, 30 m, 29 July 1960: Z.67/60
Str. 70, 70 m, 8 Aug. 1960: Z.110/60
Str. 23, 120 m, 4 Sept. 1969: PNA.309; PNA.313; PNA.315; PNA.317

Remarks

The color of these specimens is from ivory to dull yellow to light brown. The sponge appears to have no constant shape; it is massive, or cushion-shaped, often insapinating. Its supports included rhizomes of Posidonia and Microcosmus subulosus. IS.C.6 (white in color) was found underneath a colony of Cnidocora cespitosa. The largest specimen, Z.110/60, measures 70 x 35 x 8 mm, but the size, generally, is much smaller.

Mycela cyrina (Schmidt)

Esperia cyrina Schmidt, 1862, p. 36

Occurrence

Str. 28, 50 m, 25 Aug. 1979: Z.60/59.1

Remarks

The single specimen is a tubular fragment measuring 150 x 25 mm, with a wall about 5 mm thick. The tube shows numerous perforations from 3 to 7 mm in diameter and ends distally with three low, open lobes. The ectosomal skeleton is a tangential net of polypicular fibers about 250 μm apart, connected by one-to-three-spicule tracts, forming irregular meshes 100-250 μm wide. The main skeleton is a reticulation formed by spicula-fibers reaching 200 μm in diameter, with meshes measuring 300-750 μm. No spongin seems to be present; the skeleton in the dry state is extremely brittle.

The subcylindrical are rather uniform in size, about 290-320 x 7 μm. The anisochelae of the largest size measure 41 μm, rarely reaching 45 μm; those of the middle size are 31-33 μm long; the small ones measure 14-15 μm. Signes of two sizes were observed, having a chord respectively of 90 and 17-24 μm. Texas are as figured by Toppen (1924, p. 95) and are 36 to 48 μm long, rarely up to 80 μm.

Mycela rotalis (Bowerbank)

Dysacera rotalis Bowerbank, 1874, p. 327

Occurrence

Str. 2, 6 m, 26 July 1967: PNA.280

Remarks

Insapinating on Cyclotella, orange in life. The subcylindrical are measure 250-300 x 4-5 μm. The anisochelae are rare, 30 to 34 and 17 to 24 μm long; no smaller ones were observed. Large signes, 60 to 70 by 3 to 5 μm, are frequent, but a smaller category was not found.

HMASANCIHDIAE

Hamacantha falcula (Bowerbank)

Halicichondria falcula Bowerbank, 1874, p. 208

Occurrence

Str. 23, 120 m, 5 Sept. 1969: PNA.319

Remarks

The specimen is an irregular mass about 10 mm in diameter, fixed on agglutinated shells. The color in life was dirty white. The megascleres are fusiform styles measuring 320-380 x 7-12 μm. The dianchelae, of three categories, measure respectively 105-135 μm, 38-50 μm (mostly 40) and 17-24 μm; some intermediates, measuring 34, 60, 70, 80 μm, have been observed. The toxas, rather rare, have a chord of 90 to 120 μm.

Hamacantha megasticta sp. n.
(Fig. 16)

Occurrence

Str. 23, 135 m, 5 Sept. 1969: PNA.342
DESCRIPTION

The single specimen in the collection is incrusting on a stone, covering about 80 square mm, and is less than 0.5 mm thick. The surface is hispid and bears a few translucent conical papillae, the largest one 5 mm high. The consistency is rather firm. The color is dirty white, but abundant fine particles of mud give to the sponge a brownish appearance.

The ectosome is not separable. The main spicules are styles lying parallel to the surface, irregularly intersecting, rarely forming some ill-defined polypicular traces; they may take, however, a longitudinal thickly-set course towards the top of the papillae. Haploidizing exostyles are implanted, singly or in tufts, perpendicularly to the surface. The microscleres are discisters, which are found either in rosettes or scattered, and raphides, in bundles or sparse.

The styles are straight or moderately curved near the base, slightly fusiform, with short points, 370 to 650 μm long, with a maximum diameter of 7 to 12 μm. The exostyles measure 480 to 800 μm by 7 to 10 μm at the base; they taper towards the distal end where they form a globular swelling generally quite distinct, having about the same diameter as the base. The terminal swelling and the shaft for a variable extent (one tenth to one fourth of its length) are roughened. The discisters, of one kind or another, measure between 220 and 280 μm by 7 to 8.5 μm; the raphides are straight or slightly curved, extremely thin, about 100 μm long.

This species may be compared with Hamacantha implicata Lundbeck (1902, p. 104), from which it differs for possessing exostyles and for the larger size of its discisters. H. implicata var. aorica Topsent (1904, p. 221), which has exostyles, has also microscleres among its microscleres; its discisters are smaller.

The single specimen has been deposited in the British Museum (Natural History) as holotype, with the number 1977:7:6:11.

LATRUNCULIDAE

Didiscus sp.

OCCURRENCE

Str. 25, 0.5-3 m, 18 Aug. 1959

REMARKS

A few characteristic discochelids in a preparation of Diplastrella onata reveal the presence of Didiscus in the Bay of Naples. In the Mediterranean, this genus had been recorded only from Egypt and the coast of Israel.

BIEMNIDAE

Biema tenuisigma sp. n.

(Fig. 17)

OCCURRENCE

Str. 23, 135 m, 4 Sept. 1969; PNA.349; PNA.352

DESCRIPTION

PNA.349 was a very small, soft and hispid incocept on a specimen of Tropis aequalis. PNA. 352, also very small, firm, was incocept on another specimen of the same species. Both samples have been entirely used for spicule preparations.

Spicules

1. Styles to substyles, slightly curved, measuring about 700-980 x 7-14.5 μm.
2. Styles curved or contorted or sharply bent near the base (rhabdostyles), often modified to oocytes, measuring 100-210 x 4-9 μm.
3. Raphides (microscleres) straight, with long and sharp points, 83-89 μm by about 1.2 μm.
4. Raphides (microscleres) straight, with long and sharp points, 27-37 μm by about 0.5 μm.
5. Signus C-shaped, exceedingly thin, measuring 9.5-13.5 μm.
Near to *Biouma variatella*, this species is mainly distinguished by the small size of its sigmas.

A spicule slide of PNA.349, designated as the holotype, has been deposited in the British Museum (Natural History) with the number 1977.7.6.1h. A further preparation from this sample and two from PNA.352 are in the writer's collection.

*Biouma partenopea* sp. n.  
(Fig. 18)

**Occurrence**

Str. 23, 135 m, 4 Sept. 1969: PNA.355

**Description**

A small incrustation on a specimen of *Iropis ances*, entirely used for a spicule preparation.

**Spicules**

1. Styles only slightly curved, measuring 800-1100 x 9.5-14.5 μm.
2. Styles, sharply bent near the base, measuring 100-250 x 4.8 μm at the base.
3. Sigmas, of uniform C-shape, not clearly separable in categories, measuring from 14.4 to 140 μm.
4. Raphides straight, with long and sharp points, measuring 45-70 μm by less than 1 μm in the middle.

The only available spicule slide, designated as the holotype, has been deposited in the British Museum (Natural History) with the number 1977.7.6.2h.

*Sigmatocella annuola* (Schmidt)

*Dermacolla annuola* Schmidt, 1870, p. 53

**Occurrence**

Str. 8, 60 m, 2 Feb. 1967: PNA.122  
Str. 28, 50 m, 23 Aug. 1959: Z.60/59.2  
Str. 23, 135 m, 4 Sept. 1969: PNA.345; PNA.347

**Remarks**

PNA.122 is a soft, mucous, brown incrustation. Z.60/59.2 consists of a series of flattened, irregular processes partly anastomosed, reaching a
maximum length of 9 cm, very soft (in formalin). PNA.343 is increasing on *Trips simplex*. PNA.347 is a small, very soft, irregular mass agglomerating various fragments.

The tyloses measure 140-590 x 5-12 μm, reaching exceptionally 885 x 18 μm; the teos are 75-110 μm long; there are sigmas of two categories, measuring 24-35 μm and 13-16 μm.

**ESPERIOPSISIDAE**

*Crambe crassica* (Schmidt)

*Suberites crassica* Schmidt, 1862, p. 66

**Occurrence**

Stn. 32, 10-25 m, 26 Aug. 1959: Z.70/59.1; Z.70/59.7; Z.70/59.15
Stn. 39, 25-30 m, 31 Aug. 1959: Z.84/59.10
Stn. 42, 40 m, 21 July 1960: Z.18/60.3
Stn. 43, 35 m, 26 July 1960: Z.33/60
Stn. 44, 40 m, 4 Aug. 1960: Z.94/60
Stn. 69, 30 m, 6 Aug. 1960: Z.108/60.2
Stn. 1, 10 m, 27 Jan. 1967: PNA.18; PNA.15
Stn. 2, 10 m, 30 Jan. 1967: PNA.25; PNA.32; PNA.44
Stn. 3, 10-20 m, 31 Jan. 1967: PNA.47; PNA.48
Stn. 11, 20 m, 3 Feb. 1967: PNA.130
Stn. 13, 20 m, 12 Apr. 1967: PNA.202; PNA.203
Stn. 1, 10 m, 24 July 1967: PNA.252

**Remarks**

PNA.47, found on a dead *Euselica casclinitis*, contains abundant desmoids and inarching; in PNA.48, also inarching on *Euselica casclinitis*, inarching are present, but very rare. PNA.15, inarching on *Microcosmus subclavisus*, contains abundant inarching. All the other specimens appear devoid of microscleres. It seems worthy of note that the only specimen possessing desmoids has also remarkably stout styles, reaching a thickness of 17-5 μm.

**COELOSPHAERIDAE**

*Coelocystis insinuans* Topsent

*Coelocystis insinuans* Topsent, 1936, p. 12

**Occurrence**

Stn. 64, 50 m, 5 Aug. 1960: Z.98/60.3

**Remarks**

The specimens were found on *Oligoceras coelcotis* Schultze. So far (Topsent, 1936; Sazò & Siribelli, 1960) this association appears to be constant.

Spicules: tyloses 260-310 x 4-5 μm; acanthostyles 120-150 x 5-6 μm; isochelae 38-45 μm; microcostabones 100-110 μm.

**CRELLIDAE**

*Crella multicolor* Topsent

*Crella multicolor* Topsent, 1925, p. 690

**Occurrence**

Stn. 1, 20 m, 14 Apr. 1967: PNA.221; PNA.223

**Remarks**

The two specimens are yellow, thinly incrusting respectively on a Bolusus and on *Facellospira casclinitis*.

Spicules: basal acanthostyles 240-290 x 3-5.4 μm at the base; pseudostyles 250-380 x 2-5-4 μm; acanthostyles 50-100 x 1.5-2 μm. The pseudostyles generally have a faint subterminal swelling at one extremity.

*Gryceilla palveinar* (Schmidt)

*Gryceilla palveinar* Schmidt, 1868, p. 14

**Occurrence**

Stn. 5, 30 m, 1 Feb. 1967: PNA.85; PNA.92
Stn. 5, 20 m, 26 July 1967: PNA.278

**Remarks**

PNA.85: incrusting on *Facellospira casclinitis*, fleshy, bright yellow.
PNA.92: incrusting on *Aiptes aiptes*, bright yellow.
PNA.278: incrusting, yellow.

Spicules: pseudostyles 290-410 x 2.5-4 μm; acanthostyles 50-80 x 1.5 μm.

**Pythos rosa** (Topsent)

*Pythos rosa* Topsent, 1892, p. XXIII

**Occurrence**

Stn. 1, 10 m, 27 Jan. 1967: PNA.8
Remarks
Small incrustation on Hippopontia communis, red.
Spicules: basal acanthostyles 100-135 x 6 μm; tornotes 230-285 x 4.5 μm; dermal acanthostyles 90-105 x 3.4 μm; inochelae 18-19.5 μm. Basal acanthostyles and inochelae are rare.

MYXILLIDAE

*Myxilla roseta* (Lieberkühn)

*Halichondria roseta* Lieberkühn, 1859, p. 521

Occurrence
Stn. 31, 20 m, 25 Aug. 1959: Z.66/59.5
Stn. 65, 30 m, 6 Aug. 1960: Z.103/60.5

Remarks
Z.66/59.5 was incrusting on *Arca harbata*, the other specimen on the shell of a *Cerithium vulgatum* with a hermit crab.
Spicules: acanthostyles 140-170 x 3.5-4.5 μm; inochelae 12-31 μm; sigmas 15.5-36 μm. The microscleres are abundant in both specimens.

*Myxilla introchotina* (Topercnt)

*Dendorys introchotina* Topercnt, 1892a, p. XXI

Occurrence
Stn. 7, 1 m, 2 Febr. 1967: PNA.113

Remarks
A small incrustation, dull light yellow.
Spicules: anisotornotes 130-170 x 4 μm, many much thinner; acanthostyles 115-150 x 6.7 μm in the middle; inochelae 12-15 μm (mostly 13 μm); sigmas 13-31 μm.

*Damiriella cavernosa* (Topercnt)

(Fig. 19)

*Damiriella cavernosa* Topercnt, 1892a, p. XXII

Occurrence
Stn. 45, 30 m, 26 July 1960: Z.36/60.1

Fig. 19 - Damiriella cavernosa. Chonosomal megascleres of spec. Z.36/60.1.

Remarks
The specimen is only a fragment, fleshy but fragile. The tylostyles measure 340-370 x 3.5-5 μm. The chonosomal strongyles are curved or slightly sinuous and measure 250-310 x 6.7 μm. Unlike those described and figured by Topercnt (1936, p. 20) for a specimen from Monaco, they do not suggest a monacrical derivation: very often both ends are slightly swollen. The accinate inochelae measure 28-33 μm and 9.5-13.5 μm.

The diagnostic character of the chonosomal megascleres seems to justify Burton's action of establishing for this species a genus *Damiriella* distinct from *Dendorys*.

*Tedania anhelae* (Lieberkühn)

*Halichondria anhelae* Lieberkühn, 1859, p. 521

Occurrence
Stn. 7, 1 m, 2 Febr. 1967: PNA.109
Stn. 66, 70 m, 6 Aug. 1960: Z.104/60.4

Remarks
PNA.109 is a very small incrustation, middle brown.
Spicules: styles 205-230 x 5-10 μm; tylostyles 190-220 x 3 μm; onychocysteae 60-190 by about 1 μm.
Z.104/60.4 is small, cushion shaped. Spicules: styles 210-280 x 5.5-8 μm; tylostyles 240-270 by about 2.7 μm; onychocysteae 72-190 by about 1 μm.
HYMENESMIIDAE

Hymedemia verrucor (Topsen)

Myxella verrucor Topsen, 1893, p. XI

*HYMENESMIIDAE*

**Hymedemia verrucor (Topsen)**

Myxella verrucor Topsen, 1893, p. XI

**OCCURRENCE**

Str. 10, 70 m, 25 Aug. 1959: Z.64/39.4

**REMARKS**

The specimen is a very thin incrustation on the tube of a polychaete. The ectosomal megascleres vary from tyloids to subtylostyles to stylostyles and are rather variable in size, measuring from 220 to 300 μm by 2.5-3.5 μm. The large acanthostyles are straight or more or less curved, moderately spinous on their proximal portion, measuring 240 to 400 μm by 5.6 μm. The smaller acanthostyles, entirely spinous, measure 110-135 μm by about 3 μm. The abundant isochelae are 24 to 29 μm long.

**Hymedemia peachii Bowerbank**

Hymedemia peachii Bowerbank, 1882, p. 64

**OCCURRENCE**

Str. 21, 2-3 m, 10 Aug. 1968: I.S.E.22

**REMARKS**

Incrustation, orange (C.C.246).

Spicules: anisostyles 180-220 x 2 μm; acanthostyles 67-290 x 3.5-6.7 μm; isochelae arcuate 21-31 μm and 14-3.5-17.3 μm.

**Hymedemia baueri Bowerbank**

Leptosia baueri Bowerbank, 1901, p. 354

**OCCURRENCE**

Str. 12, 50 m, 3 Nov. 1967: PNA.159; PNA.162

**REMARKS**

Thinly incrusting on Tribina sp., the specimens are yellow, of rather tenuously texture. The ectosomal megascleres measure 220-260 x 2.5 μm and are best defined as anisostyles. Only very few of them show a barely perceptible swelling at their thicker end. The size of the acanthostyles is 75-140 by about 5 μm at the base, without the spines, the most frequent is 75-140 by about 5 μm at the base, without the spines, the most frequent is 75-140 by about 5 μm at the base, without the spines, the most frequent is 75-140 by about 5 μm at the base, without the spines. The spinules are sparse, thicker at the base. The arcuate isochelae are thin, with a uniform length of 19-21 μm.

**Stylopus djuardini (Bowerbank)**

Hymeniacidon djuardini Bowerbank, 1866, p. 224

**OCCURRENCE**

Str. 1, 10-20 m, 27 Apr. 1967: PNA.238
Str. 8, 60 m, 2 Feb. 1967: PNA.129

**REMARKS**

PNA.238: thin, soft, incrusting on Balanus, light brown. The size of the ectosomal megascleres (a subtylostyles often becoming a subtylostyles with unequal ends) ranges from 170 to 220 μm by about 2.5 μm. The acanthostyles appear at first sight divisible in two size categories, 75-90 and 140-150 μm, but intermediates do occur. The thickness is 4.5-5 μm. PNA.129: thin, soft incrustation on a stone, mustard yellow. The acanthostyles are a little stronger than in the other specimen, ranging from 100 to 180 μm.

Most recent authors have recorded this species as *Hymedemia brownii* (B. Burton), but it seems reasonable to agree with Topsen (1936) in regarding the new name *brownii* as superfluous. It also seems to me at least practical to maintain it in the genus *Stylopus*.

**Stylopus nigrescens Topsen**

Stylopus nigrescens Topsen, 1925, p. 679

**OCCURRENCE**

Str. 43, 35 m, 26 July 1960: Z.33/60.1

**REMARKS**

A thin incrustation, soft, viscous, lightish-brown (preserved). The subtylostyles are regular and constant sizes and are sometimes faintly polytylostyles. They measure 160-200 by 1.5-2.5 μm. The acanthostyles are straight, with scarce and short spines often reduced to nodulations of the surface. They measure 80-120 x 2.7-3.4 μm and 150-190 x 4.6-6.7 μm.

**ANCHINOIDAE**

**Anchisninae fuscita (Bowerbank)**

**Microcionidae fuscita** Bowerbank, 1866, p. 124

**OCCURRENCE**

Str. 1, 10 m, 24 July 1967: PNA.257
Str. 12, 50 m, 3 Feb. 1967: PNA.161
Sn. 15, 20 m, 26 Apr. 1967: PNA. 234
Sn. 26, 30 m, 21 Aug. 1959: Z. 32/59.6
Sn. 31, 70 m, 23 Aug. 1959: Z. 61/59.4

Remarks
All the specimens were yellow. The color of the first three was noted respectively as deep red, bright red and dull red. The spiculation shows some variability. The acanthostyles measure 300-420 by 7-8 μm and 105-150 by 5 μm, the cortortes 250-350 by 3-4 μm, the abundant isochelas have a chord of 24 to 30 μm.

_Amphipora tenax_ Topsen

_Amphipora tenax_ Topsen, 1925, p. 666

Occurrence
Sn. 1, 10 m, 27 Jan. 1967: PNA. 12
Sn. 10, 20 m, 3 Feb. 1967: PNA. 143
Sn. 1, 20 m, 4 Apr. 1967: PNA. 222
Sn. 1, 10-20 m, 27 Apr. 1967: PNA. 240
Sn. 1, 10 m, 24 July 1967: PNA. 261; PNA. 239
Sn. 2, 10-16 m, 28 July 1967: PNA. 291
Sn. 18, 2 m, 6 Aug. 1968: IS. A. 9
Sn. 20, 10 m, 8 Aug. 1968: IS. D. 1
Sn. 21, 2 m, 10 Aug. 1968: IS. E. 16
Sn. 27, 15 m, 24 Aug. 1959: Z. 55/59
Sn. 42, 40 m, 21 July 1960: Z. 18/60
Sn. 63, 40 m, 4 Aug. 1960: Z. 57/60.1

Remarks
All the specimens were incrusting. The color was generally greyish-blue to dull blue, but a few specimens were light dull yellow. Specimen IS. D. 1 was remarkable for its continuously large extension of a vertical wall of the cave (more than two square meters). Its color was a dull violaceous blue (about C. C. 579).

The various specimens do not differ appreciably as to size of spicules. The streptostyles, markedly constant in shape, measure 200-240 by 2.5-3 mm, the acanthostyles respectively 170-220 by 6.7 μm and 83-100 by 4.6 μm, the isochelas 16-19 μm.

_Styloactichion fibulatum_ Topsen

_Styloactichion fibulatum_ Topsen, 1893, p. XLI

Occurrence
Sn. 18, 2-3 m, 7 Aug. 1968: IS. A. 15; IS. A. 21

Remarks
Incrusts extensively on rock, very thin, subdermal canals apparent in life, color pale yellow (C. C. 237).

_Spicules:_ acanthostyles not divisible in categories, 70-250 x 5-10 μm (without the spines); cortortes 145-180 μm long, about 1 μm thick, some showing a slight subterminal swelling at one extremity; isochelas abundant, very thin, chord 13-19 μm. Some rare arculate isochelas, measuring 30-34 μm, not certainly proper, have been observed only in a preparation of IS. A. 21.

_CLATHRIIDAE_

_Clatisgia toxiaria_ (Sarn)

_Microciona toxiaria_ Sarn, 1959, p. 14

Occurrence
Sn. 2, 10 m, 30 Jan. 1967: PNA. 23
Sn. 1, 10 m, 24 July 1967: PNA. 260
Sn. 27, 15 m, 24 Aug. 1959: Z. 55/59.2bis

Remarks
PNA. 23: small, thin incrustation on an ascidian, red. PNA. 260: small, comparatively thick incrustation with rounded lobes, orange-red. Z. 55/59.2bis: incrusting on _Fasciospongia cavernosa_.

_Microciona assimilis_ (Topsen)

_Clatisgia assimilis_ Topsen, 1925, p. 649

Occurrence
Sn. 65, 30 m, 6 Aug. 1960: Z. 103/60.4

Remarks
Incrusts.

_Spicules:_ principal acanthostyles, spinose only at the base, 200-370 x 6-10 μm; accessory acanthostyles, entirely spinose, 70-170 x 3-7 μm; auxiliary subacanthostyles 180-270 x 2.3 μm; tosa with spinose ends, 80-380 μm; palmate isochelas, not abundant, separable in two categories, 5-6 and 8-10 μm.
Microciona strepsitosa Hope

Microciona strepsitosa Hope, 1889, p. 334

Occurrence

Stn. 4, 1 m, 31 Jan. 1967: PNA.64; PNA.71; PNA.61
Stn. 7, 1 m, 2 Feb. 1967: PNA.99; PNA.101

Remarks

All the specimens are very small and thin incrustations, orange-red to brick-red.

The principal megascleres are slightly curved sublystyles with a scarcely-marked head bearing short spines or tubercles that may exceed, becoming shorter and sparser, along 10 or 20 μm of the shaft. The base may be, occasionally, stylate and nearly smooth. The points, as a rule, are sharp and well formed. The length of these spicules is generally between 250 and 500 μm, but it reaches 710 μm in specimen PNA.99, thus agreeing with Lévi's specimen from Azew (1960, p. 67). Their diameter does not exceed 9.5 μm and reaches only 7 μm in specimen PNA.64.

The echinating acanthostyles (acanthobisublystles) have a size range of 60 to 170 μm, reaching 203 μm in specimen PNA.71. Their spinulation is variable: some have the first third of their shaft nearly smooth, as figured by Siribelli (1960, p. 5) for another specimen from Naples, but this is not the rule.

The auxiliary sublystles are mostly between 200 and 350 μm by less than 3 μm.

The chela, fairly abundant in all the specimens, measure 12 to 15.5 μm.

The toxas, agreeing with those figured by Siribelli (1960, p. 5) and by Székely & Siribelli (1960, p. 68), measure from 140 to 390 μm, but do not appear separable in two categories.

Microciona strigilis (Topsent)

Clastria strigilis Topsent, 1925, p. 655

Occurrence

Stn. 8, 60 m, 2 Feb. 1967: PNA.127
Stn. 8, 45 m, 19 Apr. 1967: PNA.228; PNA.229
Stn. 60, 50 m, 4 Aug. 1960: Z.90/60

Remarks

The color was noted as deep orange-red for specimen PNA.127, as red for specimen PNA.228 and dark brick-red for specimen Z.90/60. These samples, all inconspicuous incrustations, confirm the indications from the literature that chelas and toxas may be rare or absent in this species.

Microciona gradalis (Topsent)

Clastria gradalis Topsent, 1925, p. 651

Occurrence

Stn. 10, 20 m, 3 Feb. 1967: PNA.147
Stn. 14, 60 m, 27 Apr. 1967: PNA.247; PNA.249
Stn. 26, 30 m, 21 Aug. 1959: Z.52/39.8

Remarks

All the specimens are small and thin incrustations, bright to dark red.

Antho involved (Schmidt)

Mysilla involved Schmidt, 1864, p. 37

Clastria coriacea (Bowerbank)

Isocysta coriacea Bowerbank, 1874, p. 223

Occurrence

Stn. 23, 135 m, 4 Sept. 1969: PNA.223

Remarks

The specimen is a small, hard crust on Lepas anser, covering about 10 mm². Spicules: stylate sublystles, base often irregular and with rudimental spines, 280-690 x 7.3-12 μm; acanthostyles 140-250 x 5-8 μm; acanthostylodes 90-110 x 6-7.5 μm; stylate sublystles 330-480 x 2.5-4 μm; palmate isochelae 14.5-16.5 μm; toxas 50-200 μm, the larger ones with rough points.

The larger megascleres agree better in size with those of Dendy's specimen from the Indian Ocean (1921, p. 76) than with those of the Atlantic ones (Bowerbank, 1874, Pl. LXXVI; Lévi, 1960, p. 81).

Ophitusquunga transulata sp. n.

(Fig. 20-22)

Occurrence

Stn. 36, 40 m, 27 Aug. 1959: Z.78/39
DESCRIPTION

The specimen envelops most part of a *Merex* shell measuring 25 mm, inhabited by a hermit crab. Bearing short digitate or lobate processes, it has a firm and resilient consistency and a minutely hispid surface. Oscules are not apparent. The color in life was not recorded.

![Fig. 20 and 21 - Ophihysteria translata sp. n. Two views of spec. Z.78/59 (preserved)](image)

The skeleton is a close, irregular reticulation of strongly developed horn-like fibers either free of spicules or moderately cored (not echinised) by styles. The larger fibers, cored not uniformly by one to three spicules in front, measure about 60 μm in diameter while the smaller, connecting ones, are either entirely free or occasionally cored by a single small style, and measure about 20-35 μm in diameter. The meshes are irregular, about 120-160 μm wide.

The principal spicules are styles without trace of spinulation, not separable in categories, measuring from 90 x 6 to 420 x 16 μm. The larger ones are slightly curved or almost straight, the smaller ones are straight. The latter are peculiar for having often about the same thickness as the larger ones but only one third or less of their length. The auxiliary spicules are subpilosstyles that may reach 320-630 x 4 μm, in which case they are straight, but there is an abundance of shorter, much thinner, often flexed ones. No microscleres have been observed.

This sponge seems to have no close relative among the known *Ophihysteria*, but its spicules show a considerable similarity to the megascleres of the sponge recorded as *Claethria versata* by Babić (1922, p. 244).

![Fig. 22 - Spicules of Ophihysteria translata sp. n.](image)

However, the presence in the latter of abundant chelae and toxas is a serious hindrance to considering a possible specific identity.

The specific name of *O. translata* refers to the type specimen being carried by a hermit crab.

The only specimen, designated as holotype, has been deposited, together with two slide preparations, in the British Museum (Natural History) with the number 1977.7.6.9.

**HALICHONDROIDA**

**HALICHONDRIIDAE**

*Halichondria panicea* (Pallas)

*Spongia panicea* Pallas, 1766, p. 388

**OCCURRENCE**

Str. 4, 1 m, 31 Jan. 1967: PNA.58; PNA.59; PNA.62; PNA.72
Str. 7, 1 m, 2 Feb. 1963: PNA.104; PNA.110

**REMARKS**

All these specimens had a size of only a few cubic millimeters and were from yellowish to greenish in color, soft and fragile.

In the specimens from Str. 4 the oscules have a size of about 220-330 μm which may reach 370 μm, without exceeding a thickness of 7.5 μm.

In those from Str. 7 the oscules measure 250-510 x 7-13 μm. The difference in spicular size between the two stations is worthy of note.
Halichondria aurantiaca (Schmidt)

Reniera aurantiaca Schmidt, 1864, p. 38

**Occurrence**
- Stn. 52, 60 m, 28 July 1860: Z.57/60
- Stn. 31, 25-30 m, 25 Aug. 1959: Z.66/59.6
- Stn. 41, 60 m, 20 July 1960: Z.8/60.5

**Remarks**
Specimen Z.57/60 is massive, about 100 x 90 x 25 mm. Field notes indicate its color as dark yellow. The oocytes measure from 650 to 800 μm by about 15 μm for the most part, but may reach 880 x 20 μm, that is exactly the size indicated for the type. Specimen Z.66/59.6, presently in fragments, was larger, egg-yellow in life. Its oocytes are for the most part from 600 to 700 μm long and 10-13 μm thick. The same size of spicules is found in specimen Z.8/60.5, a smaller fragment, of which the color in life was not recorded.

**Ciocalypta penticillus** Bowerbank

*Ciocalypta penticillus* Bowerbank, 1864, p. 180

**Occurrence**
- Stn. 15, 20 m, 13 Dec. 1972: PNA.394

**Remarks**
Although represented by a single specimen, this species is reported as common in the Bay by the divers of the Station. Previous reports from this area have indicated a definite prevalence of oocytes in the spiculation. The present specimen has exclusively oocytes, measuring 320-780 x 3.4-16 μm.

**Coelolypta hyalina** sp. n.
(Fig. 23, 24)

**Occurrence**
- Stn. 23, 135 m, 4 Sept. 1969: PNA.338

**Description**
The specimen consists of a hyaline, thin-walled, hollow cylinder ending in three hollow, flattened lobes, closed. The total height is about 10 mm, the diameter of the tube 2.5 mm. The skeletal frame of the main cylinder consists of ascending tracts and free spicules closely set; in the lobes the tracts are sизов, spaced, irregularly connected by secondary, thinner spicular tracts. Oocytes have not been observed; pores are visible only on the lobes, measuring about 55 μm in diameter and 50-70 μm apart. The spicules are oocytes of all sizes from 80 x 2.5 μm to 1450 x 40 μm, curved, the largest ones bent in the middle.

It is uncertain whether this specimen is complete or only a fragment.

The nearest relative of the proposed new species appears to be Coelolypta porrecta Topsent (1928, p. 167).

The specimen has been deposited in the British Museum (Natural History) as holotype, with the number 1977.7/6.10.
**Batella inops** (Topsent)

*Halichondria inops* Topsent, 1891, p. 533

**Occurrence**

Str. 65, 40 m, 4 Aug. 1960: Z.97/60
Str. 32, 10.25 m, 26 Aug. 1959: Z.70/59.8; Z.70/59.11
Str. 24, 30 m, 18 Aug. 1959: Z.32/59
Str. 30, 40 m, 27 July 1960: Z.49/60.3
Str. 32, 60 m, 28 July 1960: Z.77/60.1
Str. 39, 10.30 m, 31 Aug. 1959: Z.84/59.3
Str. 37, 45 m, 27 Aug. 1959: Z.79/59.2
Str. 21, 2 m, 10 Aug. 1968: IS.E.10; IS.E.11

**Remarks**

Z.97/60: On this same of *Posidonia*, reduced to mucous consistence by preservation in formalin, with a light, dull, violaceous color (approximately C.C.704). Strongyles regular, 214-247 x 2.5-5 µm.

Z.70/59.8: As above. Strongyles regular, 180-295 x 2.5 µm.

Z.70/59.11: As above. Strongyles regular, 205-300 x 2.5-4 µm.

Z.32/59: As above. Strongyles regular, 203-260 x 2.5-4.7 µm.

Z.49/60.3: As above. Light red in life. Strongyles regular, 214-268 x 2.7-5 µm.

Z.57/60.1: As above. Dark orange-red in life. Strongyles mostly regular, a few very faintly tyloste, 200-290 x 2.5-4.5 µm.


Z.79/59.2: Incrusting on *Balanus*. Color as above. Strongyles for the most part regular, but some with one more or less pointed end, some with a faint swelling at one end, 194-300 x 2.5-4 µm.

I.S.E.10: Incrusting on *Spongia sp.* Dark orange (C.C.182) in life. Strongyles regular, 250-340 x 2.4 µm.

I.S.E.11: Extensively incrusting on rock, mucous, slippery, orange (C.C.196) in life, crum after preservation in formalin. Strongyles regular, 225-310 x 2.5-4.5 µm.

The spicules, not abundant, are found scattered or ill-organized in whip-like tracts.

**Batella friabilis** sp. n.

*(Fig. 25)*

**Occurrence**

Str. 24, 30 m, 18 Aug. 1959: Z.32/59.1

**Description**

The specimen is an irregular, thick incrustation which also fills the cavities of a fragment of conglomerate. The surface is irregular, with low lobes; in formalin the consistence is soft, friable, the color dark reddish brown. The skeleton consists of multispicular tracts irregular, bound by sponge, organized in a close-set irregular reticulation.

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**Fig. 25 - Spicules of Batella friabilis** sp. n.

**Spicules**

1. Strongyles straight or very slightly curved, measuring 180-200 x 2.3 µm, regularly isodiametric and with well-formed ends.

2. Strongyles as above, but measuring 135-170 x 4.7 µm, with some intermediate forms.

3. Strongyles having the same size and shape of the strongyles of the second category, but with one end abruptly and sharply pointed. They appear as modified strongyles, but they are so frequent and show such a constant character that they may be regarded as forming a separate category of spicules, with diagnostic value.

The single specimen, designated as the holotype, has been deposited in the British Museum (Natural History) with the number 1977.7.6.12.

**Spongiosites intricatus** (Topsent)

*Halichondria intricata* Topsent, 1892a, p. XIX

**Occurrence**

Str. 1, 10 m, 24 July 1967: PNA.235
Str. 15, 12 m, 6 Aug. 1968: IS.C.2
Str. 32, 60 m, 28 July 1960: Z.77/60.2a
Str. 36, 40 m, 29 July 1960: Z.70/60.6
REMARKS
PNA 255: Irminating, white. Oxeas from 65 x 2 μm to 430 x 7.5 μm.
D.S.D. 2: Found underneath a colony of Cladocora cepitosa. 24 hours
after collection its surface was black, the interior violaceous. Oxeas from
50 x 1.5 μm to 520 x 8.5 μm.
Z.75/60.2a: Incrusting, black in formalin. Oxeas from 53 x 1.5 μm
to 600 x 17 μm.
Z.70/60.6: Thickly incrusting, dark green in formalin. Oxeas from 65
x 2 μm to 580 x 12 μm.
This species had been already recorded from the Bay under the name of
Toponia genibus (Schmidt).

HYMENIACIDONIDAE

Hymeniacidon sanguinex (Grant)

Spongia sanguinex Grant, 1826, p. 135

OCCURRENCE
Stn. 7, 1 m, 2 Feb. 1967: PNA 111

REMARKS
Only very small fragments have been collected, entirely used for spicule
preparations. The color was light brown. The styles measure 215-380 x
5.3-8 μm; the diameter is slightly larger in the middle than at the base.
No tyloso modifications have been observed.

Heminyxcal colomella (Bowerbank)

Dermaciadon colomella Bowerbank, 1874, p. 243

OCCURRENCE
Stn. 31, 20 m, 25 Aug. 1959: Z.66/59

REMARKS
Described in the field notes as pink, with darker circular spots.
Presently in the dried state, after preservation in formalin, it is a small
mass 17 mm high, light brown-yellow. It has dense, ascending spicular
tracts, very fragile. Calcareous granules are present. The spicules are
straight or gently curved actinostyles, styles or strongyles, size 259-375
x 2.7-4 μm. It is difficult to decide whether these modifications derive
from a fundamentally monostylous or from a disclinal spicule, and therefore
whether this species is correctly attributed to the genus proposed by
Buton, 1934, p. 556 (his figure showing subtylostyles is misleading).
Topent (1934, p. 32) regarded colomella as belonging to Batella (given
subgeneric rank in that paper), now in the Halichondriidae.

Ulosa digitata (Schmidt)

Chalina digitata Schmidt, 1866, p. 10

OCCURRENCE
Stn. 1, 20 m, 14 Apr. 1967: PNA.219
Stn. 3, 10-20 m, 3 Jan. 1967: PNA.80

REMARKS
Specimen PNA.80 was light brown in life, incrusting on a stone, cover-
ing about 20 square centimeters, 2-3 mm thick. In the preserved state, it has
a honeycombed appearance and is soft and resilient. The skeleton is made
of ascending, branching spongins fibers connected by transverse secondary
ones in a very irregular way. The surface ends of the main fibers form long
projections. The fibers are packed by closely-set spicules running longitudi-
nally. The thickness of the fibers may be indicated in 25-80 μm, but there
is a great variability. This applies also to the meshes, which may reach
1000 μm.
Specimen PNA.219 was a little mass about 1 cm, soft, conulose, resem-
bling a keratose sponge, also light brown. The skeleton is as above, but also
some thick fibers containing only scattered spicules have been observed.

Spicules
PNA.80: thicker styles 145-200 x 4.6-7 μm; thinner styles 170-190 x
2.5-4 μm; osses 170-220 x 4.5-4 μm. The latter are rather frequent and
almost invariably have one extremity malformed.

PNA.219: thicker styles 126-135 x 6-7 μm; thinner styles 120-135 x
2.3-3 μm; osses 110-140 x 2.5-4 μm, not abundant.
The stout, almost spicular fibers observed in PNA.219 and the
remarkably smaller size of its spicules may suggest the possibility of a
taxonomic distinction. Unfortunately, the available material does not allow
further investigation. Anyway, Topent (1899, p. 107), describing some
specimens of Stylofita monata (Bowerbank), a synonym of the present
species, noted considerable differences in spicule size.
In the Mediterranean, this species had been recorded only from the
Adriatic Sea.
**HAPLOSCLERIDA**

**RENIERIDAE**

*Reniura implexa* Schmidt, 1868, p. 27

**Occurrence**

Stn. 66, 70 m, 6 Aug. 1960: Z.104/60.1
Stn. 58, 70 m, 2 Aug. 1960: Z.80/60.4

**Remarks**

Both specimens are small, cushion-shaped, fragile, very mucous in life and after preservation in formalin and alcohol. Color in life green (about C.C.220), brown after preservation. The spicules are oxeas dissimilar in shape and size, with points generally short and sharp, measuring 100-270 x 1.5-7 μm in specimen IS.A.2a and 95-280 x 2.8 μm in specimen IS.A.32.
Reniura omissa Griessinger

Reniura omissa Griessinger, 1971, p. 144

Occurrence
Stn. 21, 120 m, 4 Sept. 1969: PNA.295

Remarks
As the available material consists only of a small, shapeless fragment giving no information either about the habit of the individual or about the character of its ectosome, the present identification is advanced with some hesitation.

The skeleton consists of a dense unspicular reticulation of oxeas forming irregular meshes, always smaller than the length of a spicule. A small amount of sponge is present at the nodes of the reticulation. The oxeas, measuring 250-350 × 4-12 μm (the size of the more common spicule is about 320 × 10 μm), have, for a large part, macromerite extremities. These characters agree with the description of R. omissa.

Reniura plana Topsent

Reniura plana Topsent, 1892a, p. XIX

Occurrence
Stn. 1, 20-30 m, 13 Dec. 1972: PNA.406; PNA.407

Remarks
The oxeas measure for the most part 250-280 × 6.7-9.4 μm, rarely reaching 300 μm. Much less abundant are oxeas measuring 107-130 × 3.4 μm. Intermediates between the two sizes are not frequent. This character agrees with that observed by Griessinger (1971, p. 143) in specimens from the Casablanca Canyon. The present specimen, preserved in alcohol, still give off much mucus.

Reniura sarai Pulitzer-Finali

Reniura sarai Pulitzer-Finali, 1969, p. 97

Occurrence
Stn. 1, 10 m, 27 Jan. 1967: PNA.14
Stn. 1, 20 m, 27 June 1972: PNA.381
Stn. 5, 30 m, 1 Feb. 1967: PNA.83
Stn. 5, 20 m, 26 July 1967: PNA.276; PNA.279
Stn. 10, 20 m, 3 Feb. 1967: PNA.143

Reniura vallculata Griessinger

Reniura vallculata Griessinger, 1971, p. 134

Occurrence
Stn. 21, 3-5 m, 10 Aug. 1968: IS.E.3; IS.E.4

Reniura cratera Schmidt
(Fig. 26, 27)

Reniura cratera Schmidt, 1862, p. 73

Occurrence
Stn. 26, 15-20 m, 21 Aug. 1959: Z.16.3
Stn. 34, 70 m, 27 Aug. 1959: Z.75/59.3
Stn. 39, 10-30 m, 11 Aug. 1959: Z.84/59.5
Stn. 18, 2-3 m, 6 Aug. 1968: IS.A.1; IS.B.1
Stn. 17, 10 m, 27 July 1967: PNA.283
Stn. 13, 40 m, 11 Apr. 1972: PNA.385; PNA.397; PNA.398

Fig. 26 - Reniura cratera. Skeleton of spec. IS.B.1.
Remarks

Specimen IS.A.1 had a color unusual for the species: a dull orange-brown (C.C.192).

Specimen IS.B.1 is very remarkable. Collected on a scarcely illuminated wall of the cave, it consisted (very bleche, it is present in fragments) of two digitations irregularly cylindrical, 30 and 45 mm high, about 14 mm in diameter, arising from a common base, 22 x 13 mm wide, bearing short conical processes at their tips. Three oscules, not apical, 5, 4 and 2.5 mm in diameter, lead to oscular canals. A third digitation, shorter, with an irregularly enlarged top, open apically in a 3 mm wide oscule, started from the same base together with two short lobes bearing an apical oscule each. The color was a very pale orange (C.C.250), the consistency firm, not compressible, but fragile. The specimen, not alpy but rather rough to the touch, has given off, however, much mucus in the preserving formalin.

The skeleton is a uniporic entrailation of strongyles slightly curved, isometric, measuring 340-440 x 15-27 μm; sponge is very scarce. There is no apparent difference in the skeletal frame and in the shape of the strongyles between this specimen and other ones of this species that have been examined. However, the size of these spicules is markedly larger, as shown by the table below which includes also specimens from other localities. The figures in brackets are the mean of 40 spicules.

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<thead>
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<th>Specimen</th>
<th>Strongyles [μm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toppent, 1925 (Naples)</td>
<td>270-315 x 11-16</td>
</tr>
<tr>
<td>PNA.283 (Naples)</td>
<td>230 (281) 310 x 7.2 (9.1) 10.8</td>
</tr>
<tr>
<td>IS.A.1 (Lichia)</td>
<td>265 (299) 330 x 7.2 (12.2) 13.6</td>
</tr>
<tr>
<td>PE.79a (Portofino)</td>
<td>201 (239) 288 x 7.5 (7.7) 9.0</td>
</tr>
<tr>
<td>612 (Argentario)</td>
<td>228 (209) 306 x 7.5 (10.7) 15.0</td>
</tr>
<tr>
<td>TRL.41 (Levra)</td>
<td>246 (268) 300 x 12.0 (13.3) 15.0</td>
</tr>
<tr>
<td>PTR.D.6 (Trenti Islands)</td>
<td>238 (293) 330 x 13.0 (17.1) 19.5</td>
</tr>
<tr>
<td>IS.B.1 (Lichia)</td>
<td>340 (380) 440 x 15.2 (22.0) 27.4</td>
</tr>
</tbody>
</table>

Specimen IS.B.1 appears therefore characterized by the large size of its spicules and by its habitat and consistency. It is unfortunately unique, as an accurate search for further samples was not successful. *R. cratera* is a very common species and often recorded, but its range of variability has received scarce attention. I feel, therefore, that to propose for this specimen a taxonomic distinction would not be sufficiently justified.

This specimen may be compared with the sponge from Zanzibar recorded by Burton (1959, p. 220) as *Haliclona cerbera*, with which it agrees in the size of the strongyles, but not quite in consistency, which Burton describes as hard, almost dry.

*Pellina semitubulosa* (Lieberkühn)

*Halichondria semitubulosa* Lieberkühn, 1859, p. 363

Occurrence

Str. 30, 40 m, 25 Aug, 1959: Z.65/59.1
Str. 48, 45 m, 27 Aug, 1960: Z.47/60.2

Remarks

Only fragments are available, identified on the basis of their skeletal structure and of the size range of their osculae. These appear separable in two groups, measuring respectively about 54-85 x 2 μm and 175-214 x 5-7 μm, with some intermediates.
Pachychalina rustica Schmidt
(Fig. 28)

Pachychalina rustica Schmidt, 1868, p. 8

Occurrence
Str. 41, 60 m; 20 July 1960: Z.8/60.1a

Remarks
The specimen is irregularly digitate, devoid of base of attachment, apparently cut by the dredge. It measures 42 by 10.13 mm and is compressible, elastic. It agrees in every detail with the description of Schmidt's type material given by Topsent (1938, p. 6); it may be added that the fibers tend to form much closer meshes and to assume a tangential orientation at the surface. This superficial reticulation does not appear continuous, particularly in correspondence with the pronounced crevices, but I cannot say whether this is due to damage occurred to the specimen or not.

The oxeas, described as measuring 160-175 μm by Schmidt, were found to be actually 190-240 x 4-7 μm by Topsent. In the present specimen they measure 192-246 x 4-7.5 μm, thus agreeing almost exactly with Topsent's observations.

This is the second rescinding for the species.

Dendroxea lenis (Topsent)

Renzia lenis Topsent, 1892a, p. XIX

Occurrence
Str. 10, 20 m, 3 Feb. 1967: PNL.138
Str. 18, 3.5 m, 7 Aug. 1968: IS.A.16

Remarks
PNL.138: Inoculating on a stone, about 15 mm wide and 2 mm thick, grayish and viscid in life; oxeas uniform in shape, 70-125 x 2.5-4 μm. IS.A.16: Inoculating on vertical wall (only a minute fragment available), gray and soft in life; oxeas 90-148 x 2.5 μm.

The skeletal frame consists of ascending, branching, plurispicular fibers that start from a common, basal, dense plurisicular mat. The fibers at the base are about 100-150 μm thick, as much apart, and taper toward the surface. The spongion is clear, abundant; it may overlap the fiber but irregularly, never forming a continuous sheath. It may form here and there between the fibers bridges containing few spicules or none at all; it may also bind groups of scattered spicules.

Petrosia danae (Nardo)

Renonnia danae Nardo, 1833, Col. 519

Occurrence
Str. 20, 12 m, 21 Aug. 1959: Z.19
Str. 42, 40 m, 21 July 1960: Z.18/60.2
Str. 23, 0.5-3 m, 18 Aug. 1959: Z.34/59.6; Z.34/59.14
Str. 38, 40 m, 28 Aug. 1959: Z.80/59.2
Str. 39, 10-30 m, 31 Aug. 1959: Z.84/59.2a
Str. 21, 2-3 m, 10 Aug. 1968: IS.E.25
Str. 56, 40 m, 29 July 1960: Z.70/60.2

Scattered, no further data available: Z.261.
Remarks
Z.70/60.2 and Z.26.1, while not distinguishable from other specimens of *P. dura* either for aspect or for skeletal structure, represent rather extreme cases of divergence from the "norm" in regard to spiculation. Their oxeas measure from 230 µm down to 45 µm, never exceeding a thickness of only 6.7 µm, there are no thick small oxeas nor strongolate modifications. This spiculation is so different from what is expected in a *P. dura*, that it would indicate a specific separation if it were not for the presence of intermediate forms of spiculation in many specimens I have available from other Mediterranean collections.

*Calyptra nicarenzis* (Risso)
*Spongia nicarenzis* Risso, 1826, p. 372

Occurrence
Str. 39, 25-30 m, 31 Aug. 1959; Z.84/59.7

*Gellius flagellifer* Ridley & Dendy

*Gellius flagellifer* Ridley & Dendy, 1886, p. 333

Occurrence
Str. 23, 120 m, 4 Sept. 1960; PNA.304; PNA.308
Str. 23, 135 m, 4 Sept. 1969; PNA.346
Str. 31, 20 m, 23 Aug. 1959; Z.66/59.2a

Remarks
PNA.304: globular, about 10 mm in diameter, with a short process probably bearing an oscule now closed, color drab. Oxeas 240-330 x 5-8.5 µm, sigmas 22-94 µm.
PNA.308: massive, measuring about 15 mm, with root-like processes, light brown. Oxeas 240-285 x 6.9-9.4 µm, sigmas 24-113 µm.
PNA.346: a small incrustation on *Hoplohyridia*. Oxeas 260-349 x 6.7-9.4 µm, sigmas 21-134 µm.
Z.66/55.2a: incrusting, associated with *Plakorhis simplex*. Oxeas 210-284 x 5.4-8.1 µm, sigmas 27-113 µm.

*Gellius angulatus* (Bowerbank)

*Halichondria angulata* Bowerbank, 1886, p. 233

Occurrence
Str. 12, 20 m, 3 Febr. 1967; PNA.163

*Remarks*

The specimen is a small incrustation on *Inoecia foetida*, light greenish in color. Oxeas 270-327 x 5.4-9.4 µm; toxas angulated, 40-62 µm; sigmas 12-15 µm.

It would appear that this species receives in synonymy *Gellius dubius* Babic (1922, p. 230), while this author's *G. angulatus* reported in the same paper, corresponding to the *G. angulatus* of Lundbeck (1902, p. 61), belongs to *G. arensea Arndt* (1927, p. 151).

*Gellius marismedi* sp. n.

(Fig. 29)

*Gellius larisios* Bousy-Bazault, 1971, p. 332 (non *G. larisios* Lundbeck)

Occurrence
Str. 64, 50 m, 5 Aug. 1966; Z.98/60.2

Description

The specimen is a very small incrustation on *Oligoceras collectrix*, fragile, whitish. It was entirely used for a spicule preparation.

Fig. 29 - Spicules of *Gellius marismedi* sp. n.

Spicules

1. Oxeas gently curved, rarely straight, measuring 134 to 348 µm by 1.5 to 11.4 µm.
2. Taxas of two categories, measuring 40.7-3 μm and 10.13.4 μm. The larger ones are more or less strongly angled, the smaller ones are in the form of a circular arc. Both are abundant.

3. Siganus of two categories; the larger ones measure 20.27 μm and are very thin, scarcely conspicuous, the smaller ones, a little thicker, have a chord of 12-13.5 μm. Both are very abundant.

In details of speciulation there is such a perfect agreement with the sponge from Banyuls identified by Bours-Esmail as *Gellius larideus*, that there is little doubt that the two specimens belong to a well characterized species, distinct from *G. larideus* and from any other described species of *Gellius*. The presence of *G. larideus* in the Mediterranean, recorded by Toppent & Olivier (1943, p. 2), without comment, still requires confirmation.

The single spicle preparation has been deposited as the holotype in the British Museum (Nat. Hist.) with the number 1977:7.6.3b.

*Rhiphisia lana* Topsent
(Fig. 30)

*Rhiphisia lana* Topsent, 1892a, p. XX

**Occurrence**

Stn. 41, 60 m, 20 July 1960: 7.8/610.13

**Remarks**

The specimen is about 1 cm wide and 4 mm thick, irregular, very fragile in the dried state. The speciulation is dense, confused, with ill-defined spicular tracts. The oxeas are characteristic, curved and almost always with the extremities tending to bend in opposite directions, the points short and not sharp. Their size is rather constant, 270-320 x 6-9 μm. The oxeas are extremely thin, gently curved, rarely straight, 30-70 μm long. This appears to be the second record for the species.

The validity and position of the genus *Rhiphisia* are debatable. Recognized by Vacelet (1969, p. 209), who even transfers to it *Gellius larideus* Topsent. *Rhiphisia* is placed by Lévi (1973, p. 614) in the Halichondridae, apparently because of its confused skeleton. Whether the lack of sigmas justifies a separation from *Gellius* is dubious, considering that the original diagnosis (*oxeas and oxeas*) was widened by its author (1898, p. 253) to receive *Rhiphisia spissa* (*oxeas, oxeas and taxas*).

**HALICLONIDAE**

*Haliclona mediterranea* Giesingerg

*Haliclona mediterranea* Giesingerg, 1971, p. 133

**Occurrence**

Str. 13, 30-40 m, 13 Dec. 1962: PNA.395; PNA.396
Str. 37, 45 m, 27 Aug. 1959: Z.79/59.5
Str. 38, 40 m, 28 Aug. 1959: Z.80/59.5

**Remarks**

Owing to the fragility of the sponge, only fragments are available. The texture is soft, compressible, delicate. The sponge is tubular, with tubes that may be simple or branching. The skeleton is an isoclinal uniserial reticulation of oxeas bound at their ends by scarce spongin. There is no special dermal skeleton. The oxeas range, in the various specimens, from 64 to 96 μm by 1.4-3.3 μm.

*Haliclona limbata* (Montagu)

*Spongia limbata* Montagu, 1818, p. 111

**Occurrence**

Str. 20, 13 m, 25 Sept. 1975: IS.D.18s
Str. 38, 35 m, 28 Aug. 1959: Z.80/59.8

**Remarks**

The specimen, in bad conditions of preservation, are from cushion-shaped to lobose or subglobular, 10 to 15 mm high. An apical oscule 2 mm wide is recognizable. The consistency is very soft resilient.
The skeletal frame is a reticulation of oxea arranged for the most part uniserially, forming very irregular meshes. The oxea are enveloped by overlapping, pale spongin, expanding at the angles of the reticulation.

The size of the oxea is 53.85 x 0.5-2 µm in the first specimen, 56.86 x 1.2 µm in the second one.

Halichondra reniformis (Schmidt)

Chalinula reniformis Schmidt, 1868, p. 7

Occurrence
Stn. 2, 10 m, 30 Jan. 1967: PNA.30

Remarks
The available material is only a fragment, less than 10 mm wide. Light brown in life, it is colorless after preservation in alcohol. The texture is delicate, very softly resilient.

The skeletal structure is reticulated, forming irregular meshes 50 to 110 µm wide. The oxea are pachydermically arranged (mostly 1 to 3), embedded in abundant, overlapping, transparent spongia.

The oxea are oxea measuring 93.18 x 2.5-3.3 µm.

Chalinula fertilis Keller is almost certainly a synonym of this species. It may be observed that the present specimen, with its fibers containing only 1 to 3 oxea across, is near to Schmidt's type from Algeria as redescribed by Topsent (1938, p. 11) than to the specimens from Naples and from Taut attributed to C. fertilis.

Adelisia simulans (Johnston)

Halichondria simulans Johnston, 1842, p. 109

Occurrence
Stn. 14, 75 m, 13 Apr. 1967: PNA.211
Stn. 30, 70 m, 27 Aug. 1959: Z.75/59.2; Z.75/59.8
Stn. 30, 40-70 m, 25 Aug. 1959: Z.65/59
Stn. 57, 100 m; 1 Aug. 1960: Z.74/60.2
Stn. 60, 50 m, 4 Aug. 1960: Z.60/60.3

Remarks
The specimens are irregularly branching, with branches having a diameter, not uniform, of 10-15 mm, rather contorted and occasionally anastomosing, up to 6 cm long, partially hollow, generally solid toward the tip which is irregularly tapering. The oscules, circular, 5-6 mm wide,

are placed on the side of the branches or on processes (secondary branches) 1-2 cm high, having the same diameter as the main branches. There is an indication of very restricted points of attachment to the substrate. The surface is smooth, harsh to the touch. The sponge is tough, moderately compressible and elastic, but it breaks easily. The color in life of specimen PNA.211 was recorded as light brown, that of specimen Z.74/60.2 as yellowish white.

The dermal skeleton is a tangential, unspecialized reticulation forming mostly triangular meshes. The main skeleton is formed by ascending pleurospirical tracts bound by spongia, curving toward the surface, connected by transverse single spicules perpendicularly or irregularly.

The oxea are uniform in shape, but not in size; they range, in the various specimens, from 110 to 180 µm by 1.5 to 9.4 µm.

It is certain this species that, as already suggested by Topsent (1936, p. 70), was figured from Naples by Vaasnar (1953-1959, Pl. 58, Fig. 16) as Stichocladina creta. The reasons offered by de Laubenfels (1936, p. 66) for creating a new species delbrue for the Neapolitan specimens of A. simulans are inadequate.

Acknowledgement

The assistance received from Dr. Alessandro Pellizari of the University of Genoa in preparing the illustrations of this paper is gratefully acknowledged.

Summary

Third part of the systematic study of a collection of sponges from the Bay of Naples, this paper records 107 species, of which one is new for the Mediterranean, for the Bay of Naples.

Riassunto

Terza parte dello studio sistematico di una collezione di spugne del Golfo di Napoli. Questo lavoro rileva 107 specie, di cui una è nuova per il Mediterraneo, 13 per le coste italiane e 12 per la rete. Complessivamente, 34 specie sono nuove per il Golfo di Napoli.