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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-Finali, 1972 and Pulitzer-Finali & Pronzato, 1977) the present contribution completes the treatment of the Demospongiae. 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 Demospongiae, 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.

1. Nisida, SW, depth 10-20 m. Cliff, boulders. Diver.
   Tetractinellida: *Geodia cydonium, Sidonops geodina, Dercitus plicatus.*
   Hadromerida: *Aaptos aaptos, Tethya citrina, Cliona viridis.*
   Poecilosclerida: *Crambe crambe, Crella mollior, Pytheas rosea, Stylopus dujardini, Anchinoe fictitius, Anchinoe tenacior, Clathria toxivaria.*

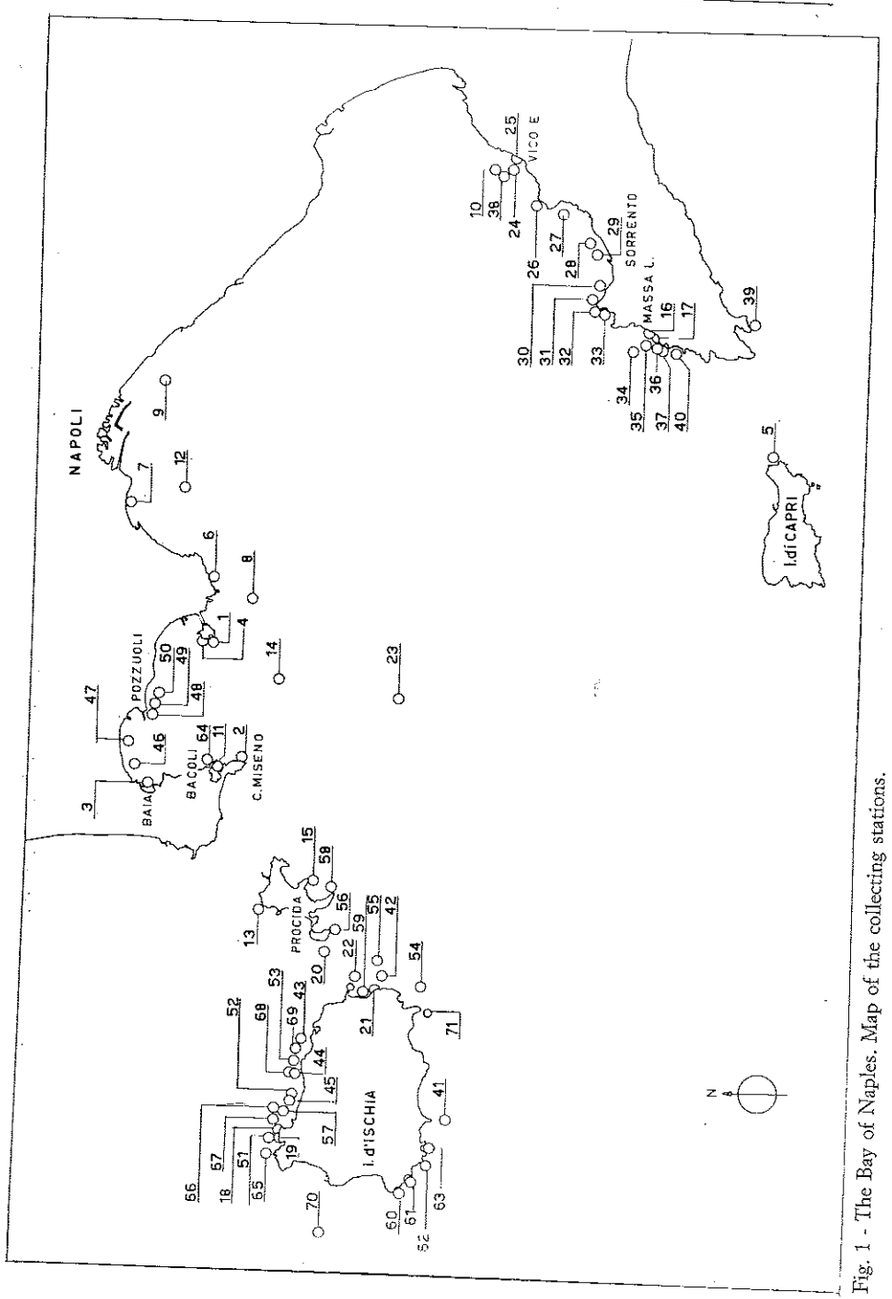

Fig. 1 - The Bay of Naples. Map of the collecting stations.

Halichondrida: *Spongosorites intricatus, Ulosa digitata.*
Haplosclerida: *Reniera plana, Reniera sarai.*
Dictyoceratida: *Hippospongia communis.*

2. Capo Miseno, depth 6-20 m. Cliff, boulders. Diver.
Tetractinellida: *Geodia cydonium, Oscarella lobularis.*
Epipolasida: *Holoxea furtiva.*
Hadromerida: *Aaptos aaptos, Spirastrella cunctatrix, Spirastrella minax, Cliona viridis.*
Axinellida: *Raspaciona aculeata, Agelas oroides.*
Poecilosclerida: *Mycale massa, Mycale rotalis, Crambe crambe, Anchinoe tenacior, Clathria toxivaria.*
Haplosclerida: *Haliclona renieroides.*
Dictyoceratida: *Dysidea fragilis.*
Dendroceratida: *Pleraplysilla minchini.*

3. Baia, depth 10-20 m. Sediment, pebbles, rocks. Dredge.
Tetractinellida: *Dercitus plicatus.*
Hadromerida: *Chondrosia reniformis, Prosuberites longispina, Spirastrella cunctatrix, Timea unistellata.*
Axinellida: *Axinella damicornis.*
Poecilosclerida: *Crambe crambe, Antho involvens.*
Halichondrida: *Ulosa digitata.*
Dictyoceratida: *Dysidea incrustans, Hippospongia communis.*
Dendroceratida: *Pleraplysilla spinifera, Pleraplysilla minchini.*

4. Nisida, SW, depth 1 m. Cliff. Scraping.
Tetractinellida: *Geodia cydonium, Penares helleri.*
Epipolasida: *Jaspis johnstonii.*
Hadromerida: *Cliona viridis.*
Poecilosclerida: *Microciona strepsitoxa.*
Halichondrida: *Halichondria panicea.*

5. Punta Tiberio (Capri), depth 20-30 m. Cliff. Diver.
Tetractinellida: *Erylus euastrum.*
Hadromerida: *Aaptos aaptos, Prosuberites longispina.*
Axinellida: *Agelas oroides.*
Poecilosclerida: *Grayella pulvinar.*
Haplosclerida: *Reniera fulva, Reniera sarai.*

6. Marechiaro (Naples), depth 15 m. Conglomerates. Dredge.
Tetractinellida: *Geodia cydonium.*
Poecilosclerida: *Mycale massa.*

7. Grand Hotel (Naples), depth 1 m. Breakwater. Scraping.
Tetractinellida: *Stelletta pumex.*
Hadromerida: *Terpios fugax, Cliona vastifica.*
Poecilosclerida: *Myxilla iotrochotina, Tedania anhelans, Microciona strepsitoxa.*
Halichondrida: *Halichondria panicea, Hymeniacidon sanguinea.*

8. Secca della Gaiola, depth 60 m. Pebbles, conglomerates, rocks. Dredge.
Tetractinellida: *Plakortis simplex.*
Hadromerida: *Timea irregularis, Timea stellifasciata,*
Axinellida: *Raspaciona aculeata, Eurypon major.*
Poecilosclerida: *Mycale massa, Sigmatoxella annexa, Stylopus dujardini, Microciona toxitenuis.*
Halichondrida: *Dictyonella incisa.*

9. Banco S. Giovanni, depth 18 m. Conglomerates. Dredge.
Tetractinellida: *Geodia cydonium.*
Hadromerida: *Aaptos aaptos.*
Axinellida: *Axinella verrucosa.*

10. Banco S. Croce (Vico Equense), depth 20 m. Rock, boulders. Diver.
Tetractinellida: *Geodia conchilega, Stryphnus mucronatus.*
Hadromerida: *Diplastrella bistellata, Timea unistellata.*
Axinellida: *Axinella damicornis.*
Poecilosclerida: *Anchinoe tenacior, Microciona gradalis.*
Haplosclerida: *Reniera sarai, Dendroxea lenis.*

11. Mare Morto (Bacoli), depth 20 m. Sand, mud, Zostera. Dredge.
Tetractinellida: *Geodia cydonium.*
Hadromerida: *Tethya citrina.*
Poecilosclerida: *Mycale contarenii, Mycale massa, Crambe crambe.*

12. Secca di Chiaia, depth 50 m. Conglomerates. Dredge and diver.
Hadromerida: *Suberites syringella, Terpios fugax.*
Poecilosclerida: *Hymedesmia baculifera, Anchinoe fictitius.*
Haplosclerida: *Gellius angulatus.*
Dictyoceratida: *Ircinia* sp.

13. Capo Bove (Procida), depth 20 m. Cliff, boulders. Diver.
Hadromerida: *Aaptos aaptos, Prosuberites epiphytum.*
Axinellida: *Acanthella acuta.*
Poecilosclerida: *Crambe crambe.*
Halichondrida: *Ciocalypta penicillus.*
Haplosclerida: *Haliclona mediterranea.*

14. Secca di Benda Palummo, depth 60-75 m. Conglomerates, rocks, sand. Dredge.
Tetractinellida: *Erylus euastrum.*
Hadromerida: *Prosuberites modestus* sp. n.
Poecilosclerida: *Microciona gradalis.*
Halichondrida: *Dictyonella incisa.*
Haplosclerida: *Adocia simulans.*

15. Punta Pizzago (Procida), depth 20-40 m. Cliff, boulders. Diver.
Hadromerida: *Tethya aurantium, Prosuberites modestus* sp. n., *Spirastrella cunctatrix.*
Axinellida: *Endectyon delaubenfelsi.*
Poecilosclerida: *Anchinoe fictitius.*
Haplosclerida: *Reniera cratera.*

16. Massa Lubrense, depth 3-10 m. Superficial cave. Diver.
Tetractinellida: *Penares helleri, Corticium candelabrum.*
Hadromerida: *Prosuberites longispina, Spirastrella cunctatrix.*
Haplosclerida: *Reniera fulva.*

17. Massa Lubrense, depth 10 m. Cliff, under overhang. Diver.
Hadromerida: *Prosuberites longispina.*
Haplosclerida: *Reniera fulva, Reniera cratera.*
Dictyoceratida: *Spongia virgultosa.*

18. Monte Vico (Ischia), depth 1-10 m. Superficial cave. Diver.
Sclerospongiae: *Merlia normani.*
Lithistida: *Desmanthus incrustans.*
Tetractinellida: *Erylus discophorus, Erylus mamillaris, Erylus euastrum, Plakina trilopha.*
Epipolasida: *Jaspis johnstonii.*
Hadromerida: *Spirastrella cunctatrix, Diplastrella ornata, Timea unistellata.*
Axinellida: *Axinella damicornis, Agelas oroides.*
Poecilosclerida: *Anchinoe tenacior, Stylostichon fibulatum.*
Halichondrida: *Dictyonella incisa.*
Haplosclerida: *Reniera mucosa, Reniera cratera, Dendroxea lenis.*
Dictyoceratida: *Cacospongia mollior, Ircinia variabilis.*
Dendroceratida: *Pleraplysilla minchini.*

19. Monte Vico (Ischia), depth 12 m. Rocks. Diver.
Tetractinellida: *Geodia cydonium, Calthropella recondita.*
Hadromerida: *Spirastrella cunctatrix.*
Poecilosclerida: *Mycale massa.*
Halichondrida: *Spongosorites intricatus.*

20. Secca delle Formiche di Vivara, depth 9-15 m. Underwater cave. Diver.
Tetractinellida: *Corticium candelabrum.*
Hadromerida: *Prosuberites longispina, Spirastrella cunctatrix.*
Axinellida: *Halicnemia patera, Raspaciona aculeata.*
Poecilosclerida: *Anchinoe tenacior.*
Haplosclerida: *Reniera sarai, Haliclona limbata.*
Dictyoceratida: *Spongionella gracilis, Cacospongia scalaris, Ircinia variabilis.*
Dendroceratida: *Aplysilla rosea, Darwinella australiensis, Pleraplysilla spinifera, Pleraplysilla minchini, Halisarca dujardinii.*

21. Grotta del Mago (Ischia), depth 1-5 m. Superficial cave. Diver.
Tetractinellida: *Corticium candelabrum.*
Hadromerida: *Aaptos aaptos, Tethya aurantium, Prosuberites longispina, Spirastrella cunctatrix, Timea unistellata.*
Axinellida: *Axinella damicornis, Agelas oroides.*
Poecilosclerida: *Hymedesmia peachii, Anchinoe tenacior.*
Halichondrida: *Batzella inops, Dictyonella incisa.*
Haplosclerida: *Reniera valliculata, Petrosia dura.*
Dictyoceratida: *Dysidea incrustans, Dysidea fragilis, Spongia officinalis, Hippospongia communis, Ircinia variabilis, Ircinia spinosula.*
Dendroceratida: *Aplysilla rosea, Pleraplysilla minchini.*

22. Castello (Ischia), depth 6 m. Cliff. Diver.
Haplosclerida: *Reniera fulva.*
Dictyoceratida: *Ircinia variabilis.*
Dendroceratida: *Aplysilla rosea.*

23. Shoal south of Pozzuoli, east of Ischia, depth 120-135 m. Mud, stones. Dredge.
Lithistida: *Petromica grimaldii.*
Tetractinellida: *Isops anceps, Pachastrella monilifera, Pachastrella echinorhabda, Thenea muricata.*
Hadromerida: *Aaptos aaptos, Tethya citrina, Rhizaxinella pyrifera, Rhizaxinella elongata, Rhizaxinella gracilis, Timea cumana* sp. n.

Axinellida: *Bubaris carcisis, Monocrepidium vermiculatum, Hymerhabdia typica.*
Poecilosclerida: *Mycale massa, Hamacantha falcula, Hamacantha megancistra* sp. n., *Biemna tenuisigma* sp. n., *Biemna partenopea* sp. n., *Sigmatoxella annexa, Plocamilla coriacea.*
Halichondrida: *Coelocalypta hyalina* sp. n.
Haplosclerida: *Reniera omissa, Reniera sarai, Gellius flagellifer.*

24. From Scraio to Tre Fratelli (Vico Equense), 250 m from shore, depth 30 m. Sand, Posidonia. Dredge.
Halichondrida: *Batzella inops, Batzella friabilis* sp. n.

25. Scraio (Vico Equense), depth 0-6 m. Superficial cave. Diver.
Hadromerida: *Chondrosia reniformis, Aaptos aaptos, Spirastrella cunctatrix, Diplastrella ornata.*
Poecilosclerida: *Didiscus* sp.
Haplosclerida: *Petrosia dura.*
Dictyoceratida: *Ircinia variabilis.*

26. From Punta Gradelle to Punta Scutolo (Vico Equense), 50-200 m from shore, depth 30-50 m. Rocks, stones, boulders. Dredge.
Hadromerida: *Chondrosia reniformis, Polymastia mamillaris, Suberites domuncula.*
Axinellida: *Axinella damicornis, Raspailia viminalis, Agelas oroides.*
Poecilosclerida: *Anchinoe fictitius, Microciona gradalis.*
Haplosclerida: *Reniera cratera, Petrosia dura.*
Dictyoceratida: *Dysidea fragilis, Fasciospongia cavernosa.*
Dendroceratida: *Aplysilla rosea.*

27. Alinuri (Sorrento), 500 m from shore, depth 15 m. Posidonia. Dredge.
Poecilosclerida: *Anchinoe tenacior, Clathria toxivaria.*
Dictyoceratida: *Fasciospongia cavernosa.*

28. From Cappuccini to Sorrento, 250 m from shore, depth 50 m. Mud, dead Posidonia. Dredge.
Poecilosclerida: *Mycale massa, Sigmatoxella annexa.*
Dictyoceratida: *Fasciospongia cavernosa, Ircinia variabilis.*

29. Sorrento, 500 m from shore, depth 70 m. Mud and pebbles. Dredge.
Hadromerida: *Tethya citrina.*
Poecilosclerida: *Mycale massa, Anchinoe fictitius.*

30. From Sorrento to Capo di Sorrento, 100-200 m from shore, depth 40-70 m. Mud, shingle. Dredge.
Axinellida: *Raspailia viminalis.*
Poecilosclerida: *Hymedesmia versicolor.*
Haplosclerida: *Pellina semitubulosa, Adocia simulans.*
Dictyoceratida: *Dysidea avara.*

31. East of Capo di Sorrento, depth 20-30 m. Detrital, boulders. Diver.
Tetractinellida: *Plakortis simplex.*
Epipolasida: *Jaspis johnstonii.*
Hadromerida: *Chondrosia reniformis, Spirastrella cunctatrix.*
Axinellida: *Raspailia viminalis.*
Poecilosclerida: *Myxilla rosacea.*
Halichondrida: *Halichondria aurantiaca, Hemimycale columella.*
Haplosclerida: *Gellius flagellifer.*
Dictyoceratida: *Cacospongia scalaris.*

32. West of Capo di Sorrento, depth 10-25 m. Rock, detrital. Diver.
Tetractinellida: *Geodia cydonium, Oscarella lobularis.*
Axinellida: *Axinella damicornis, Agelas oroides.*
Poecilosclerida: *Crambe crambe.*
Halichondrida: *Batzella inops.*
Dictyoceratida: *Spongionella gracilis, Fasciospongia cavernosa.*

33. West of Capo di Sorrento, depth 40 m. Pebbles and boulders. Dredge.
Hadromerida: *Cliona viridis.*
Dictyoceratida: *Ircinia variabilis.*

34. Vervece (Massa Lubrense), NE, depth 70 m. Conglomerates. Dredge.
Hadromerida: *Suberites domuncula.*
Axinellida: *Axinella damicornis.*
Haplosclerida: *Reniera fulva, Reniera cratera, Adocia simulans.*

36. From Capo Corbo (Massa Lubrense) to Punta Lagno, 200 m from shore, depth 40 m. Corallines, Posidonia. Dredge.
Hadromerida: *Suberites domuncula.*
Poecilosclerida: *Ophlitaspongia translata* sp. n.

37. From Punta Lagno towards Punta di Cala Baccoli (Massa Lubrense), 200 m from shore, depth 45 m. Shingle. Dredge.
Tetractinellida: *Erylus euastrum.*
Axinellida: *Axinella damicornis.*

Halichondrida: *Batzella inops.*
Haplosclerida: *Haliclona mediterranea.*
Dictyoceratida: *Cacospongia scalaris, Verongia cavernicola.*
Dendroceratida: *Pleraplysilla spinifera.*

38. Banco di S. Croce (Vico Equense), depth 40-45 m. Rock. Diver.
Hadromerida: *Aaptos aaptos, Cliona viridis.*
Haplosclerida: *Petrosia dura, Haliclona mediterranea, Haliclona limbata.*
Dictyoceratida: *Ircinia spinosula, Verongia cavernicola.*

39. A Penna (Punta Campanella), depth 10-30 m. Rock. Diver.
Hadromerida: *Chondrilla nucula, Aaptos aaptos.*
Poecilosclerida: *Crambe crambe.*
Halichondrida: *Batzella inops.*
Haplosclerida: *Reniera fulva, Reniera cratera, Petrosia dura, Calyx nicaeensis.*
Dictyoceratida: *Spongionella gracilis, Spongia virgultosa, Fasciospongia cavernosa.*

40. From Punta S. Lorenzo towards Punta Lagno (Massa Lubrense), 100 m from shore, depth 30 m. Posidonia. Dredge.
Hadromerida: *Timea geministellata* sp. n.

41. Punta S. Angelo (Ischia), depth 40-60 m. Rock. Dredge.
Tetractinellida: *Erylus euastrum.*
Hadromerida: *Cliona viridis.*
Axinellida: *Axinella damicornis, Axinella verrucosa, Halicnemia patera, Paratimea oxeata* sp. n., *Raspaciona aculeata.*
Poecilosclerida: *Crambe crambe.*
Halichondrida: *Halichondria aurantiaca.*
Haplosclerida: *Reniera fulva, Pachychalina rustica, Rhaphisia laxa.*
Dictyoceratida: *Dysidea avara, Ircinia spinosula, Verongia cavernicola.*

42. Punta del Lume (Ischia), 1000 m from shore, depth 40 m. Posidonia. Dredge.
Hadromerida: *Tethya citrina.*
Poecilosclerida: *Crambe crambe, Anchinoe tenacior.*
Haplosclerida: *Petrosia dura.*
Dictyoceratida: *Spongia officinalis.*
Dendroceratida: *Pleraplysilla minchini.*

43. Spiaggia degli Inglesi (Ischia), 700 m from shore, depth 35 m. Posidonia and boulders. Dredge.
Poecilosclerida: *Crambe crambe, Stylopus nigrescens.*

44. From Punta La Scrofa to Casamicciola (Ischia), 600 m from shore, depth 20 m. Detrital. Dredge.
Dictyoceratida: *Ircinia variabilis.*

45. From Casamicciola towards Punta di Monte Vico (Ischia), 750 m from shore, depth 30 m. Posidonia. Dredge.
Poecilosclerida: *Damiriella cavernosa.*
Dictyoceratida: *Cacospongia scalaris.*

46. Opposite Lago Lucrino (Baia), 750 m from shore, depth 15 m. Pebbles. Dredge.
Tetractinellida: *Geodia cydonium.*
Hadromerida: *Tethya citrina.*

47. Opposite Arco Felice (Pozzuoli), 700 m from shore, depth 25 m. Detrital, stones. Dredge.
Tetractinellida: *Geodia cydonium.*
Hadromerida: *Tethya citrina.*
Axinellida: *Raspaciona aculeata.*
Poecilosclerida: *Mycale massa.*

48. Pozzuoli, 600-850 m from shore, depth 45 m. Mud, stones. Dredge.
Tetractinellida: *Geodia cydonium.*
Poecilosclerida: *Mycale massa.*
Haplosclerida: *Pellina semitubulosa.*

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

50. Quarries of Monte Olibano (Pozzuoli), 800 m from shore, depth 40 m. Detrital, sand. Dredge.
Axinellida: *Bubaris vermiculata, Raspaciona aculeata.*
Halichondrida: *Batzella inops.*

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

Lithistida: *Petromica grimaldii.*
Halichondrida: *Halichondria aurantiaca, Batzella inops, Spongosorites intricatus.*

53. Punta La Scrofa (Ischia), 770 m from shore, depth 35 m. Pebbles. Dredge.
Poecilosclerida: *Mycale contarenii.*
Dictyoceratida: *Ircinia variabilis.*

54. Secca d'Ischia, depth 30 m. Posidonia, corallines. Dredge.
Hadromerida: *Tethya citrina.*
Poecilosclerida: *Mycale massa.*
Dictyoceratida: *Ircinia variabilis.*

55. Ischia Channel, depth 40 m. Corallines. Dredge.
Tetractinellida: *Geodia conchilega, Erylus euastrum, Pachastrella monilifera.*
Axinellida: *Raspaciona aculeata, Agelas oroides.*

56. Punta di Mezzogiorno di Vivara, depth 40 m. Stones. Dredge.
Epipolasida: *Holoxea furtiva.*
Hadromerida: *Chondrilla nucula, Cliona viridis.*
Halichondrida: *Spongosorites intricatus.*
Haplosclerida: *Petrosia dura.*

57. Lacco Ameno (Ischia), depth 110 m. Mud, boulders. Dredge.
Axinellida: *Paratimea oxeata* sp. n.
Haplosclerida: *Adocia simulans.*
Dictyoceratida: *Dysidea fragilis.*

58. Punta Solchiaro (Procida), depth 70 m. Mud, pebbles. Dredge.
Tetractinellida: *Erylus euastrum.*
Hadromerida: *Cliona viridis.*
Haplosclerida: *Reniera implexa.*
Dictyoceratida: *Ircinia foetida.*

59. Carta Romana (Ischia), depth 45 m, Posidonia. Dredge.
Dictyoceratida: *Ircinia variabilis.*

60. Punta Imperatore (Ischia), 550 m from shore, depth 50 m. Pebbles. Dredge.
Hadromerida: *Cliona viridis.*

Poecilosclerida: *Microciona toxitenuis.*
Haplosclerida: *Reniera sarai, Adocia simulans.*

63. From Capo Negro to Punta del Chiarito (Ischia), 100 m from shore, depth 40 m. Posidonia. Dredge.
Poecilosclerida: *Anchinoe tenacior.*
Halichondrida: *Batzella inops.*

64. From Punta di Pennata to Punta del Poggio (Bacoli), depth 50 m. Sand, dead Posidonia. Dredge.
Poecilosclerida: *Coelectys insinuans.*
Haplosclerida: *Gellius marismedi* sp. n.
Dictyoceratida: *Oligoceras collectrix.*

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

66. Lacco Ameno (Ischia), 1600 m from shore, depth 70 m. Mud, dead Posidonia. Dredge.
Axinellida: *Higginsia mediterranea* sp. n.
Poecilosclerida: *Tedania anhelans.*
Haplosclerida: *Reniera implexa.*
Dictyoceratida: *Dysidea avara.*

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

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.*
Poecilosclerida: *Crambe crambe.*

70. Secca di Forio (Ischia), depth 40-70 m. Rock, corallines. Dredge.
Axinellida: *Bubaris vermiculata.*
Poecilosclerida: *Mycale massa.*

Haplosclerida: *Reniera sarai.*
Dictyoceratida: *Verongia cavernicola.*

71. Punta S. Pancrazio (Ischia), depth 10-30 m. Rock. Diver.
Dictyoceratida: *Spongionella gracilis, Ircinia variabilis, Ircinia spinosula.*
Dendroceratida: *Aplysilla rosea, Darwinella australiensis, Pleraplysilla spinifera, Pleraplysilla minchini.*

HADROMERIDA

CHONDROSIIDAE[1]

Chondrosia reniformis Nardo

Chondrosia reniformis Nardo, 1847, p. 267

OCCURRENCE

Stn. 3, 10-20 m, 31 Jan. 1967: PNA.018; PNA.81
Stn. 25, 0-6 m, 18 Aug. 1959: Z.34/59.1; Z.34/59.11
Stn. 26, 40 m, 20 Aug. 1959: Z.45/59.4
Stn. 31, 25-30 m, 25 Aug. 1959: Z.66/59.7
Stn. 68, 50 m, 6 Aug. 1960: Z.107/60.1

REMARKS

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

Chondrilla nucula Schmidt

Chondrilla nucula Schmidt, 1862, p. 39

OCCURRENCE

Stn. 39, 25-30 m, 31 Aug. 1959: Z.84/59.13
Stn. 56, 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

Aaptos aaptos (Schmidt)

Ancorina aaptos Schmidt, 1864, p. 33

OCCURRENCE

Stn. 1, 10 m, 27 Jan. 1967: PNA.11a
Stn. 5, 30 m, 1 Febr. 1967: PNA.89; PNA.91; PNA.93
Stn. 9, 18 m, 1 Febr. 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.335
Stn. 21, 2 m, 10 Aug. 1968: IS.E.23; IS.E.24
Stn. 25, 5-6 m, 18 Aug. 1959: Z.34/59.3
Stn. 25, 0.5-3 m, 18 Aug. 1959: Z.34/59.5
Stn. 39, 25-30 m, 31 Aug. 1959: Z.84/59.12
Stn. 38, 45 m, 24 Aug. 1959: Z.54/59.1

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.335: 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.34/59.3: roundish, diameter 12 mm
Z.34/59.5: a fragment, diameter about 20 mm
Z.84/59.12: amorphous, growing underneath a *Spondylus gaederopus*
Z.54/59.1: globose, diameter 50 mm.

Tethya aurantium (Pallas)

Alcyonium aurantium Pallas, 1766, p. 357
Tethya aurantium: Auct. (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.386

REMARKS

See Table 1 and under *Tethya citrina.*

	Specimen	Size mm	Color in life	Depth m	Spherasters		
					Ray, mean length µm	Center, mean diam. µm	Ray/center
T. aurantium	IS.E.2	35	Orange	3	22	34	0.6
	PNA.386	45	Orange	40	21	41	0.5
T. citrina	PNA.149	10	Pale yellow	20	33	24	1.4
	PNA.262	26	Yellow	10	48	34	1.4
	Z.61/59	4		70	37	19	1.9
	Z.61/59.5	4		70	36	24	1.5
	Z.61/59.6	4		70	27	22	1.2
	Z.42/60.2	50		15	46	24	1.9
	Z.44/60.1	4		25	24	19	1.3
	Z.67/60.1	19		30	37	24	1.5
	Z.14.1	45		40	36	17	2.1
	Z.14.4	30		40	40	19	2.1
	PNA.303a	5	Drab yellow	120	20	21	1.0
	PNA.303b	9	Drab yellow	120	22	22	1.0

Table 1 - Specimens of *Tethya aurantium* and *Tethya citrina.*

Tethya citrina Sarà & Melone

Tethya citrina Sarà & Melone, 1965, p. 123

OCCURRENCE

Stn. 11, 20 m, 3 Febr. 1967: PNA.149
Stn. 1, 10 m, 25 July 1967: PNA.262
Stn. 29, 70 m, 25 Aug. 1959: Z.61/59; Z.61/59.5; Z.61/59.6
Stn. 46, 15 m, 27 July 1960: Z.42/60.2
Stn. 47, 25 m, 27 July 1960: Z.44/60.1
Stn. 54, 30 m, 29 July 1960: Z.67/60.1
Stn. 42, 40 m, 10 Febr. 1960: Z.14.1; Z.14.4
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 spherasters (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 Limski 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 limski* Müller & Zahn, 1968, p. 469 is a synonym of *T. aurantium*, while the sponge attributed by these authors to *T. lyncurium* is referable to *T. citrina*.

POLYMASTIIDAE

Polymastia mamillaris (Müller)

Spongia 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 incrusting on a valve of *Pecten*, bears numerous papillae up to 12 mm long. The second one is a small incrustation, 4 x 5 mm, on rock; it has a single papilla 15 mm long.

SUBERITIDAE

Suberites domuncula (Olivi)

Alcyonium 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.52/59.1a; Z.52/59.1b
Stn. 34, 70 m, 27 Aug. 1959: Z.75/59.1a to 1e
Stn. 36, 40 m, 27 Aug. 1959: Z.78/59.1
Stn. 65, 50 m, 6 Aug. 1960: Z.103/60.1
off the coast of Ischia, 17 Febr. 1960: Z.27

REMARKS

1. (Z.45/59.2). Approximately globular, diameter 20 mm, lodging an *Eupagurus cuanensis* without shell. Also the amphipod *Leucothoe spinicarpa* was found in the interior of the sponge. The megascleres are tylostyles 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 subtylostyles, rarely into thinner styles, strongyles or oxeas. Microstrongyles are abundant.

2. (Z.52/59.1a). About the same shape and size of the preceeding specimen, with the same species of hermit crab. There is also a shell of *Nassa reticulata* in perfect conditions, about ten times smaller than the crab. The tylostyles are a little stronger, up to 5.6 µm thick; they represent about half of the megascleres, the rest being composed of styles, strongyloxeas and oxeas. Microstrongyles are abundant.

3. (Z.52/59.1b). Does not differ in size and shape from the specimens above. It contains a shell of *Turritella communis* broken at both ends, in which a hermit crab is lodged. There are very few tylostyles with a well-formed head; they generally appear as styles with just a trace of a subterminal swelling, measuring 250-300 x 3.5 µm; styles and oxeas, a little longer and thinner, predominate. Exceedingly rare microstrongyles 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 a *Cerithium vulgatum* lodging a hermit crab. Tylostyles 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 thickened and shortened styles and strongyles, as figured by Hartman (1958, Fig. 3) from a specimen from Banyuls. Here this peculiarity is even more marked, as some strongyles, less than 80 µm long, are 7 µm thick. Microscleres have not been observed.

5. (Z.75/59.1b). Partially enveloping the shell of an *Aporrhais pespelicani* 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 strongyles about 300 x 4.5 µm, the latter strongly curved or even flexuous. In this part of the sponge microstrongyles are moderately frequent; they have not been found in other parts.

6. (Z.75/59.1c). Partially enveloping the shell of a *Cerithium vulgatum* lodging a hermit crab. As above, the megascleres consist of styles to oxeas with very rare tylostyles. In the part of the sponge limiting the crab's burrow transformations of the megascleres are rare. In this part a few microscleres have been found, none in the other parts.

7. (Z.75/59.1d). Partially enveloping the shell of a *Murex brandaris* lodging a hermit crab. Spiculation as above.

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

9. (Z.27). Massive and lobose, measuring 90 x 45 x 35 mm, this specimen is not associated with a hermit crab and appears broken from some support. The tylostyles 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. Microstrongyles are abundant.

10. (Z.78/59.1). Thin, partially incrusting a shell of the genus *Natica* with a hermit crab. The spicules are oxeas only, measuring 190-290 x 2-4 µm. Microscleres 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 ficus* 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 Vosmaer (1933) and by Burton (1953), had to be adopted.

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

Raspailia syringella Schmidt, 1868, p. 10

OCCURRENCE
Stn. 12, 50 m, 3 Febr. 1967: PNA.155

Fig. 2 - *Suberites syringella.* Spec. PNA.155 (preserved).

REMARKS
The specimen is elongated, irregularly twisted, 80 mm long. For the most part of its length it is more or less cylindrical, about 4 mm in diameter, but at one end it becomes thicker, more contorted and with anastomosing lobes. Its cylindrical part bears two short branches having the same diameter, about 10 mm long. The sponge was probably growing repent, with a small point of attachement at its side. The color in life was dull yellow.

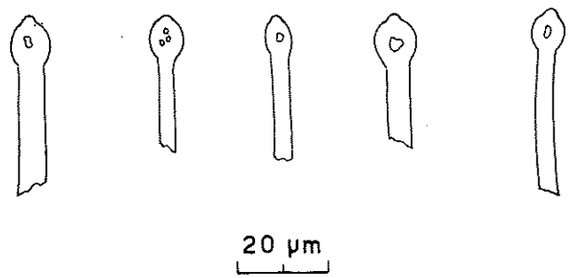

Fig. 3 - *Suberites syringella.* Heads of tylostyles of spec. PNA.155.

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, 10-20 m, 31 Jan. 1967: PNA.54
Stn. 5, 20-30 m, 1 Febr. 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), incrusting on rocks, on *Spongia virgultosa,* on *Cacospongia scalaris.* Generally present in very small patches, this species covers extensive areas on the walls of the underwater cave of Stn. 20.

Prosuberites epiphytum (Lamarck)

Alcyonium epiphytum Lamarck, 1815, p. 163

OCCURRENCE

Stn. 13, 20 m, 12 Apr. 1967: PNA.205

REMARKS

Incrusting on the back of an oxyrhynch crab, brown-yellow with an orange tint. The tylostyles, with the characteristic "door-handle" head, very variable in size, measure from 130 to 360 µm by 2.5-6.7 µm.

Prosuberites modestus sp. n.

(Fig. 4)

OCCURRENCE

Stn. 14, 60 m, 27 Apr. 1967: PNA.245; PNA.248
Stn. 15, 20 m, 26 Apr. 1967: PNA.235

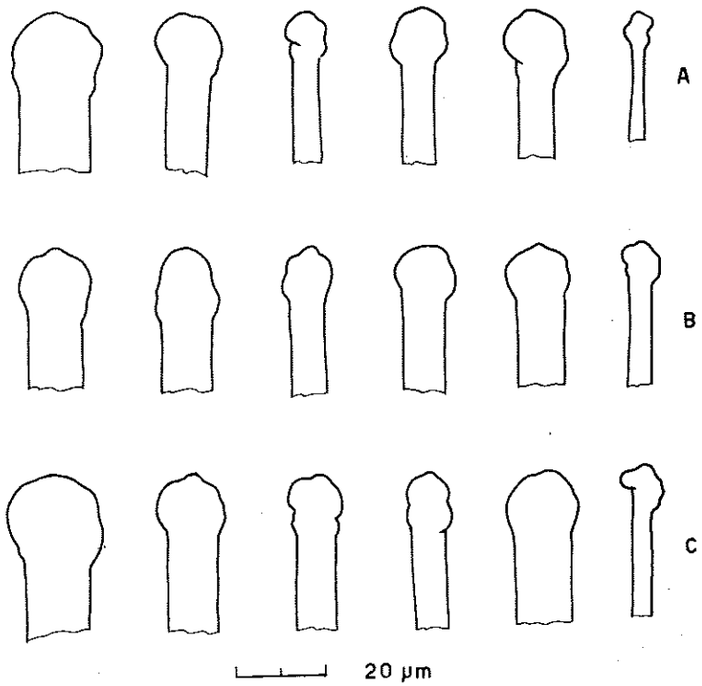

Fig. 4 - Heads of tylostyles of *Prosuberites modestus* sp. n. A: spec. PNA.245; B: spec. PNA.248; C: spec. PNA.235.

DESCRIPTION

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

The spiculation consists of tylostyles perpendicular to the surface which they surpass by most of their length, forming a conspicuous hispidation. When the thin sponge is removed from its support, it often leaves on it many naked tylostyles erect on their head. The tylostyles 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 *Prosuberites* sp. of Vacelet (1969, p. 174), *P. modestus* is distinguished by the size and shape of its tylostyles. 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

Stn. 7, 1 m, 2 Febr. 1967: PNA.100
Stn. 12, 50 m, 3 Febr. 1967: PNA.160

REMARKS

Specimen PNA.100 was found incrusting on barnacles, PNA.160 on *Ircinia foetida;* both had a deep blue color. The tylostyles measure 160-430 x 2.7-5.4 µm.

Rhizaxinella pyrifera (Delle Chiaje)

Tethya pyrifera Delle Chiaje, 1829, p. 151

OCCURRENCE

Stn. 23, 120 m, 4 Sept. 1969: PNA.310
Stn. 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 drab (about C.C.339).

Spicules

1. Tylostyles 250-1200 x 4.5-29 μm.
2. Tylostyles flexuous, up to 2000 x 10 μm, infrequent.
3. Raphides about 100 μm long, very abundant.

Rhizaxinella elongata (Ridley & Dendy)

Suberites elongata Ridley & Dendy, 1886, p. 486

OCCURRENCE

Stn. 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.

Spicules

1. Styles 180-2100 x 4.5-17 μm.
2. Tylostyles 180-550 x 3.5-10 μm.

Rhizaxinella gracilis (Lendenfeld)

Suberites gracilis Lendenfeld, 1896, p. 130

OCCURRENCE

Stn. 23, 135 m, 4 Sept. 1969: PNA.330

REMARKS

The only specimen in the collection consists of a thin elongated stalk, minutely hispid, 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 tylostyles are fusiform, with a well-formed head containing a vesicle; they measure from 160 by 4 to 550 by 11.5 μm. Tylostyles up to 900 or 1000 μm, as previously recorded, have not been observed.

SPIRASTRELLIDAE

Spirastrella cunctatrix Schmidt

Spirastrella cunctatrix Schmidt, 1868, p. 17

OCCURRENCE

Stn. 2, 10 m, 30 Jan. 1967: PNA.21; PNA.33; PNA.37
Stn. 2, 20 m, 13 Apr. 1967: PNA.216

Stn. 3, 10-20 m, 31 Jan. 1967: PNA.53; PNA.55
Stn. 15, 20 m, 26 Apr. 1967: PNA.236
Stn. 16, 5 m, 26 July 1967: PNA.269
Stn. 18, 3 m, 6 Aug. 1968: IS.A.7
Stn. 19, 12 m, 6 Aug. 1968: IS.C.4
Stn. 20, 12 m, 8 Aug. 1968: IS.D.2
Stn. 21, 3 m, 10 Aug. 1968: IS.E.12; IS.E.15
Stn. 31, 25-30 m, 25 Aug. 1959: Z.66/59.8
Stn. 25, 0.5-3 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.37, 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)

Hymeraphia minax Topsent, 1888, p. 141

OCCURRENCE

Stn. 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

Stn. 7, 1 m, 2 Febr. 1967: PNA.106

REMARKS

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

Spicules

1. Tylostyles straight, 230-295 μm long, with a maximum diameter of 3.3-4.7 μm.

2. Oxeas microspined, curved or sometimes straight, 62-118 x 2.6-4 μm. Some of them are very faintly centrotylote.
3. Spirasters 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. 56, 35 m, 29 July 1960: Z.70/60.5
Stn. 58, 70 m, 2 Aug. 1960: Z.80/60.2
Stn. 60, 50 m, 4 Aug. 1960: Z.90/60.1
Stn. 69, 50 m, 6 Aug. 1960: Z.108/60.1

TIMEIDAE

Timea unistellata (Topsent)

Hymedesmia unistellata Topsent, 1892a, p. XXVII

OCCURRENCE

Stn. 3, 10-20 m, 31 Jan. 1967: PNA.50; PNA.51
Stn. 10, 20 m, 3 Febr. 1967: PNA.137
Stn. 18, 7 m, 7 Aug. 1968: IS.A.14; 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 conical rays. Spherasters with truncated rays, as figured by Topsent (1925, Fig. 3) 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 Febr. 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 Febr. 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.

Timea cumana sp. n.
(Fig. 5)

OCCURRENCE

Stn. 23, 120 m, 4 Sept. 1969: PNA.323

DESCRIPTION

The single specimen in the collection is a thin incrustation on a stone, measuring only a few millimeters, soft, hispid, sedimented by fine mud, dull yellow. It has been entirely used for a spicule preparation.

Spicules

1. Tylostyles straight or gently curved, very variable in size, measuring from 210 to 1600 µm by 4 to 20 µm.
2. Strongylasters. The smallest ones, measuring about 6 µm, are rather regular, without centrum, with about 8 rays. The larger ones, up to 15 µm in diameter, acquire a marked centrum and show many irregularities in their rays (from 8 to 13 in number) which may be twisted, tuberculated, and bear some branch or spine. These asters may assume the form of an irregular spheroxyaster.
3. Calthrop-like asters. The larger ones, about 27 µm in diameter, have three or four equiangular rays, conical, with sparse, more or less marked spines or tubercles. The smaller ones, down to about 16 µm in diameter, have 4 to 6 rays, rather irregular. There are also numerous asters that appear as intermediate between the calthrop-like form and the spheroxyaster-like one.

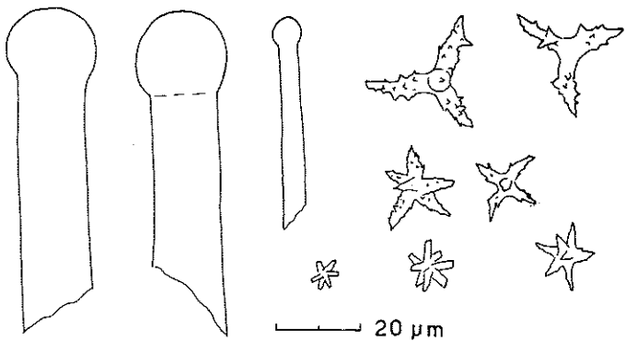

Fig. 5 - Spicules of *Timea cumana* sp. n.

The nearest relative of this sponge appears to be *Timea tetractis* Hentschel (1912, p. 322) known from a single specimen from the Arafura Sea. From the latter, *T. cumana* mainly differs in the ornamentation of the calthrop-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

Stn. 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.

Spicules

1. Tylostyles measuring 400-650 µm by 5-7 µm. They are straight or very slightly curved; their head is 6-8 µm in diameter, generally elongated, often trilobate and sometimes subterminal.
2. Chiasters with an ill-defined centrum. Verging from strongylasters to oxyasters, they have mostly from 7 to 10 rays which are rather irregular

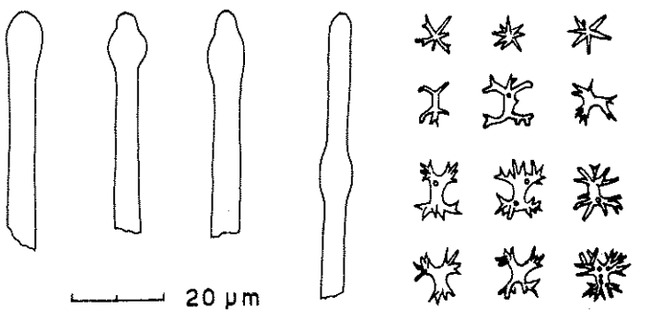

Fig. 6 - Spicules of *Timea geministellata* sp. n.

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. Asters consisting 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 15 μm. These spicules are here interpreted as modified euasters, comparable with the young stages of the diplasters of *Diplastrella bistellata.*

The peculiar form of the asters of this sponge sets it apart from all known species of *Timea.* 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 1977:7:6:4b.

Diplastrella bistellata (Schmidt)

Tethya bistellata Schmidt, 1862, p. 45

OCCURRENCE

Stn. 10, 20 m, 3 Febr. 1967: PNA.136
Stn. 2, 20 m, 13 Apr. 1967: PNA.209
Stn. 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
Stn. 54, 30 m, 29 July 1960: Z.67/60.2

REMARKS

The specimens PNA.136 and PNA.209, both incrusting on stones, were respectively light dull red and brick-red. The color of specimen Z.67/60.2 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 (Stn. 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

Stn. 18, 2 m, 6 Aug. 1968: IS.B.15
Stn. 25, 0.5-3 m, 18 Aug. 1959: Z.34/59.7

REMARKS

Both specimens were thin, inconspicuous incrustations. IS.B.15 has been scraped from a dimly-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, strongylate ones; the characteristic diplasters measure 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 oxeas: no such spicules have been observed in the samples in hand.

AXINELLIDA

AXINELLIDAE

Axinella damicornis (Esper)

Spongia damicornis Esper, 1794, p. 249

OCCURRENCE

Stn. 3, 10-20 m, 31 Jan. 1967: PNA.49
Stn. 10, 20 m, 3 Febr. 1967: PNA.139
Stn. 18, 3 m, 7 Aug. 1968: IS.A.45
Stn. 21, 4 m, 10 Aug. 1968: IS.E.5
Stn. 32, 10-25 m, 26 Aug. 1959: Z.70/59.12
Stn. 34, 70 m, 27 Aug. 1959: Z.75/59.7
Stn. 37, 40-45 m, 27 Aug. 1959: Z.79/59.1
Stn. 41, 60 m, 20 July 1960: Z.8/60.3
Stn. 41, 40 m, 11 Febr. 1960: Z.15.5; Z.15.6
Stn. 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 oxeas of this species to centrotylotysm is exceptionally pronounced in specimen Z.79/59.1, also a large one. The central swelling is present in a large part of the oxeas and may reach 26 μm in diameter on a spicule 10 μm thick, with an irregular, teratological aspect.

Axinella verrucosa (Esper)

Spongia verrucosa Esper, 1794, p. 275

OCCURRENCE

Stn. 9, 18 m, 2 Febr. 1967: PNA.130
Stn. 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

BUBARIDAE

Bubaris vermiculata (Bowerbank)

Hymeraphia vermiculata Bowerbank, 1866, p. 141

OCCURRENCE

Stn. 50, 40 m, 27 July 1960: Z.49/60.2
Stn. 70, 70 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 carcisis Vacelet

Bubaris carcisis Vacelet, 1969, p. 180

OCCURRENCE

Stn. 23, 135 m, 4 Sept. 1969: PNA.351

REMARKS

A minute incrustation, soft, hispid, on a specimen of *Isops anceps*. The styles measure for the most part 1050-2150 x 13-19 µm; a few shorter ones, about 500-700 x 15 µm, bear a slight annular swelling above the base. The vermiculated, contorted 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 carcisis*, 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

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 1500 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 strongylate, in younger stages oxeate.

Hymerhabdia typica Topsent
(Fig. 7)

Hymerhabdia typica Topsent, 1892a, p. XXVI

OCCURRENCE

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

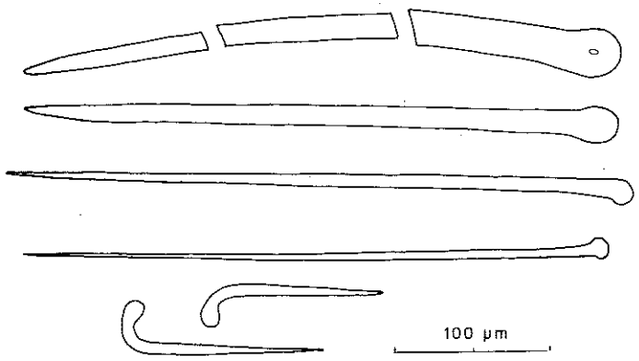

Fig. 7 - *Hymerhabdia typica*. Spicules of spec. PNA.297.

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. Rhabdotylostyles 100-135 µm long, head about 12 µm thick.

U-shaped centrotylote oxeas as mentioned by Topsent (1904, p. 160 and 1934, p. 39) have not been observed.

DESMOXYIDAE

Halicnemia patera Bowerbank

Halicnemia 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 oxeas are markedly weaker than in the Atlantic specimens (Topsent, 1897, p. 235 and Descatoire, 1966, p. 239), rarely reaching 900 x 8 µm. Constantly and conspicuously centrotylote or polytylote in specimen IS.D.4, they are often even in specimen Z.15.2. The spiny microxeas 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, centrotylote or not.

Higginsia mediterranea sp. n.
(Fig. 8)

OCCURRENCE

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

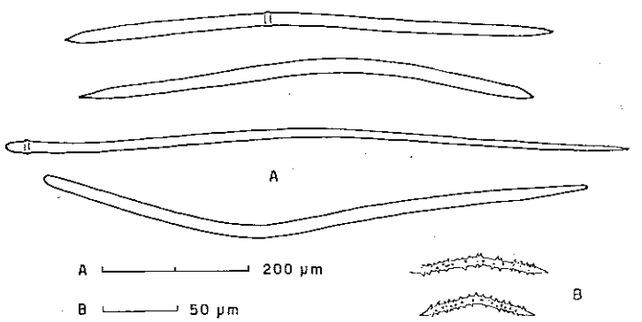

Fig. 8 - Spicules of *Higginsia mediterranea* sp. n.

DESCRIPTION

The specimen was more 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 strongyles may be observed.
2. Oxeas curved or slightly flexuous; many show a faint annular swelling, asymmetrically placed. They measure 560-700 by about 14 µm.
3. Acanthoxeas measuring 90-130 x 5.3-6.7 µm without the spines, centrangulated.

Belonging to a genus not hitherto recorded in the Mediterranean, this species agrees better in spiculation with *Higginsia natalensis* (Carter) from S. Africa than with species recorded from areas zoogeographically nearer, as *H. tethyoides* Lévi and *H. strigilata liberiensis* (Higgin) from W. Africa, *H. thielei* Topsent and *H. strigilata arcuata* (Higgin) 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.

HEMIASTERELLIDAE

Paratimea oxeata 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 5 x 0.4 cm. Field notes indicate that specimen Z.74/60.4 had a drab 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 oxeas are generally asymmetrically curved, sometimes double-bent, often flexuous, particularly in specimen Z.8/60.12. They measure 1000-1450 x 14-24 µm.
2. The accessory oxeas measure 250-650 x 3-7 µm; they are curved or abruptly bent, sometimes flexuous, often centrotylote.

3. The oxyasters, without centrum, have normally 10-12 rays and a diameter of 40-60 μm. The number of rays may be reduced to three or even two, in which case they may acquire a length of 50 μm.

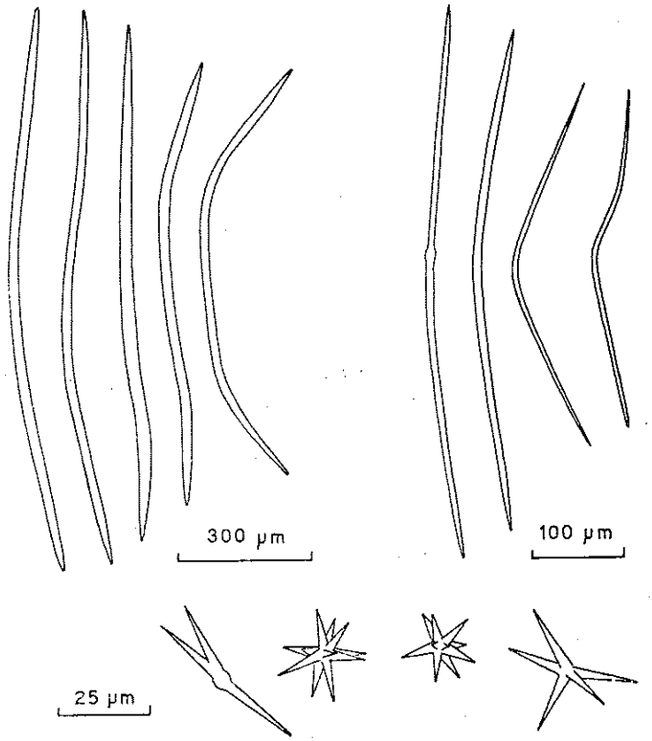

Fig. 9 - Spicules of *Paratimea oxeata* sp. n.

This new species is near to *Paratimea duplex* (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 megascleres of the present specimens: they are always oxeas, mostly flexuous, never symmetrically bent, never centrotylote, without modifications to styles or tylostyles. As to the ectosomal oxeas and the microscleres, 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 1977:7:6:7. Z.74/60.1 and Z.8/60.12, the paratypes, are in the writer's collection.

RASPAILIIDAE

Raspailia viminalis Schmidt

Raspailia viminalis Schmidt, 1862, p. 59

OCCURRENCE

Stn. 26, 30 m, 21 Aug. 1959: Z.52/59.2
Stn. 30, 70 m, 25 Aug. 1959: Z.64/59.1
Stn. 31, 20 m, 25 Aug. 1959: Z.66/59.3

REMARKS

Z.52/59.2 consists of two separate stems rising from a common incrusting base, uniting in a single stem and giving off two short branches; total height 4 cm, diameter of stem and branches 3-4 mm. Z.64/59.1 has a total height of 19 cm and is branching, stem and branches having a diameter of about 3 mm. Z.66/59.3 is a little stalk 2 cm high and 2 mm thick.

The spicules are styles to subtylostyles about 1100 to 2000 μm by 16 to 27 μm, acanthostyles 85-110 x 5-6 μm, anisoxeas to strongyloxeas 400-600 x 3 μm.

Raspaciona aculeata (Johnston)
(Fig. 10, 11)

Halichondria aculeata Johnston, 1842, p. 131

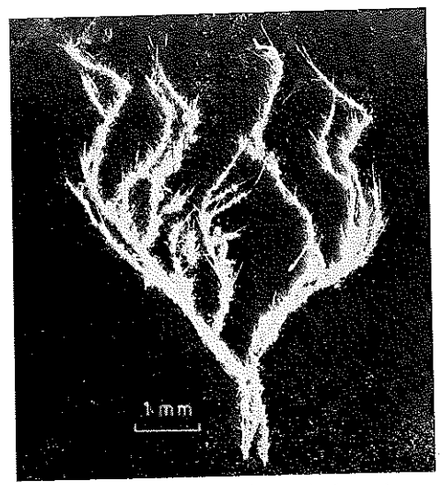

Fig. 10 - *Raspaciona aculeata*. Branching ascending spicular columns of spec. Z.11/60.1.

OCCURRENCE

Stn. 8, 60 m, 2 Febr. 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.G.1
Stn. 47, 25 m, 27 July 1960: Z.44/60.3
Stn. 50, 40 m, 27 July 1960: Z.49/60
Stn. 41, 40 m, 20 July 1960: Z.11/60.1
Stn. 55, 40 m, 29 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 incrusting to bushy, 2 to 9 square cm wide, up to 15 mm thick. The typical erect spicular columns may be sparse and rudimental 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 larger ones currently reach a length

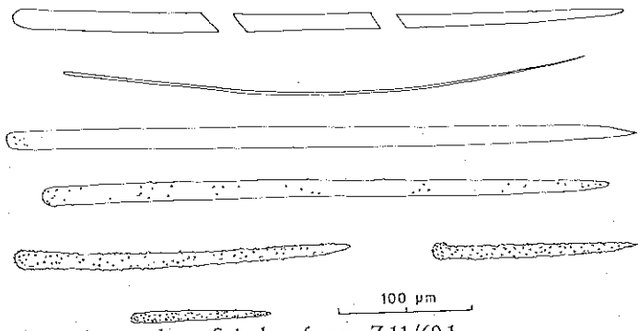

Fig. 11 - *Raspaciona aculeata.* Spicules of spec. Z.11/60.1.

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 tylote.

In three of the specimens in hand I have observed a few acanthoxeas certainly proper, apparently derived from the acanthostyles. These spicules have the identical sparse spination of the larger acanthostyles, which they surpass in length, and are bent in the middle, sometimes centrotylote.

Endectyon delaubenfelsi Burton
(Fig. 12, 13)

Endectyon delaubenfelsi 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 not 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 proliferous, with frequent anastomoses. The stem is smooth, the branches minutely conulose and hispid.

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 oxeas 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 hispidating, larger styles measure 550-1200 x 9-12 µm at the base; they are gently curved, very regular.

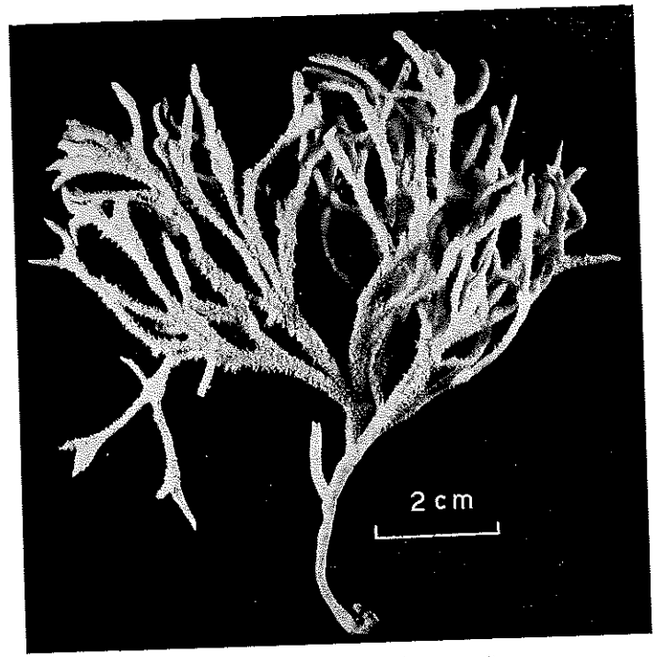

Fig. 12 - *Endectyon delaubenfelsi.* Spec. PNA.382 (preserved).

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 spicule; three to five are normally seen just below the pointed apex, but they may be lacking; the body of the spicule generally bears three to five sparse, smaller spines, being otherwise smooth. These spicules are exceedingly rare in the branches; they are present, but not abundant, at the base of the sponge.

At the very base of attachement of specimen PNA.382 practically the entire spiculation 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 faintly 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 Portofino (PF.363, unpublished). Cabioch (1968, p. 223), who redescribed this species, observed at the base of his specimens from Roscoff comparable subtylostyles, but apparently they were not so strikingly different also in size from the normal styles. It may be here reminded that in *Endectyon 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.

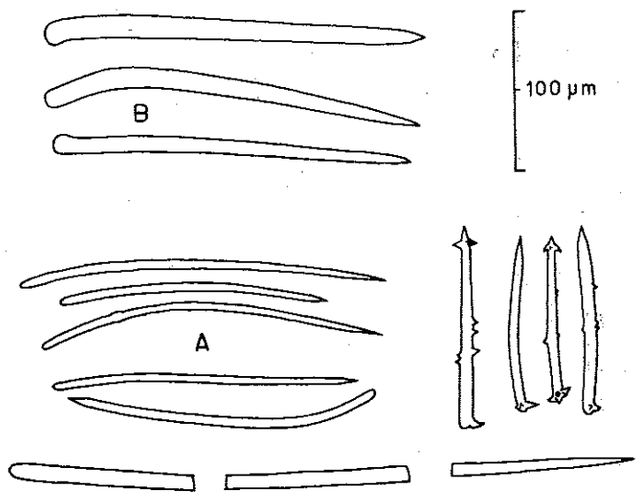

Fig. 13 - *Endectyon delaubenfelsi.* Spicules of spec. PNA.382. A: styles of branches; B: styles of base of attachment.

E. delaubenfelsi appears to be rather variable in its spiculation. As to the skeletal structure, a comparison between Burton's description and Cabioch'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 Cabioch's description. It is possible that the Mediterranean *Basiectyon pilosus* Vacelet (1961, p. 37) may prove to be a synonym of this species.

EURYPONIDAE

Eurypon major Sarà & Siribelli
(Fig. 14)

Eurypon major Sarà & Siribelli, 1960, p. 60

OCCURRENCE

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

REMARKS

Small, thin incrustation, hispid, drab in life. The ectosomal spicules are oxeas, often anisoactinal, with remarkably long-drawn points, measuring 350-440 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.

Slender oxeas 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 oxeas of this specimen appear on the whole definitely different from the anisotornotes or pseudoxeas figured for *E. lacazei,* some of them, although rare, correspond exactly to spicules

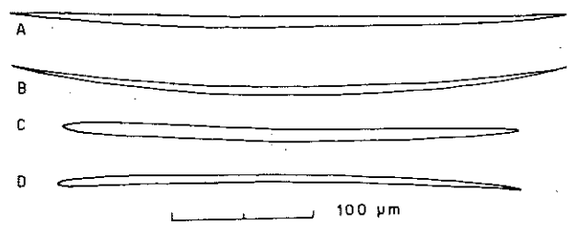

Fig. 14 - *Eurypon major.* Ectosomal oxeas of spec. PNA.121a.

figured by Topsent (1891, Pl. 22, Fig. 5 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 oxeas, as figured by Sarà & Siribelli for *E. major,* has not been observed in this specimen.

AGELASIDAE[1]

Agelas oroides (Schmidt)
(Fig. 15)

Clathria oroides Schmidt, 1864, p. 35

OCCURRENCE

Stn. 26, 15-20 m, 21 Aug. 1959: Z.16.1
Stn. 32, 10-25 m, 26 Aug. 1959: Z.70/59.3; Z.70/59.9; Z.70/59.10
Sth. 55, 40 m, 29 July 1960: Z.69/60.6
Stn. 2, 10 m, 30 Jan. 1967: PNA.18
Stn. 5, 30 m, 1 Febr. 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

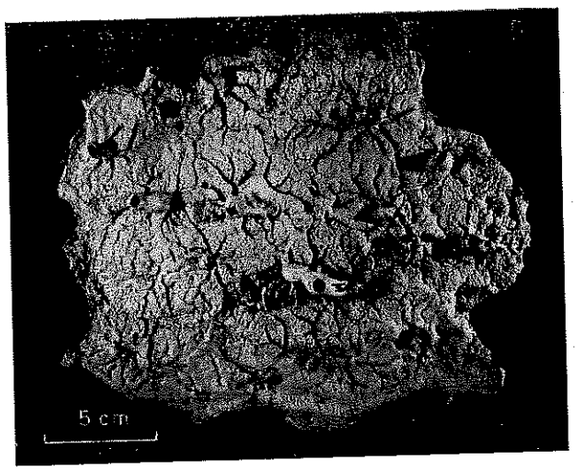

Fig. 15 - *Agelas oroides.* Spec. IS.E.1 (preserved).

[1]) Systematic position uncertain.

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 whorls is between 11 and 15. Modifications of the acanthostyles to acanthoxeas and centrotylotysm 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 the 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 Febr. 1967: PNA.151
Stn. 53, 35 m, 28 July 1960: Z.60/60

REMARKS

PNA.151: thick incrustation on rhizome of *Posidonia,* light brown. The tylostyles are 275-350 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 anisochelas have been found, measuring 38.5-48 μm. The small anisochelas, very abundant, measure 12-14.5 μm. No middle-sized anisochelas have been observed. The larger sigmas are abundant, they have a chord of 50 to 70 μm and are about 4.5 μm thick. No sigmas 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 specimen, about 330-370 x 7.2 μm. The larger anisochelas are not so rare and measure 31.2 to 36 μm. The smaller anisochelas, abundant, are 11-12 μm long. The larger sigmas are abundant and measure 45-60 μm; no smaller sigmas are present. Toxas are rare; they measure about 30 to 50 μm.

Mycale massa (Schmidt)

Esperia massa Schmidt 1862, p. 56

OCCURRENCE

Stn. 6, 15 m, 30 Jan. 1967: PNA.16
Stn. 2, 10 m, 30 Jan. 1967: PNA.26; PNA.42; PNA.43
Stn. 8, 60 m, 2 Febr. 1967: PNA.114; PNA.125
Stn. 11, 20 m, 3 Febr. 1967: PNA.152
Stn. 19, 12 m, 6 Aug. 1968: IS.C.6
Stn. 29, 70 m, 25 Aug. 1959: Z.61/59.1
Stn. 47, 25 m, 27 July 1960: Z.44/60
Stn. 48, 45 m, 27 July 1960: Z.46/60.1
Stn. 49, 30 m, 27 July 1960: Z.48/60.2
Stn. 54, 30 m, 29 July 1960: Z.67/60
Stn. 70, 70 m, 8 Aug. 1960: Z.110/60
Stn. 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 insinuating. Its supports included rhizomes of *Posidonia* and *Microcosmus sulcatus*. IS.C.6 (white in color) was found underneath a colony of *Cladocora cespitosa*. The largest specimen, Z. 110/60, measures 70 x 35 x 8 mm, but the size, generally, is much smaller.

Mycale syrinx (Schmidt)

Esperia syrinx Schmidt, 1862, p. 56

OCCURRENCE

Stn. 28, 50 m, 25 Aug. 1959: 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 polyspicular 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 spiculo-fibers reaching 200 μm in diameter, with meshes measuring 500-750 μm. No spongin seems to be present: the skeleton in the dry state is extremely brittle.

The subtylostyles are rather uniform in size, about 290-320 x 7 μm. The anisochelas 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 14.5-15.5 μm. Sigmas of two sizes were observed, having a chord respectively of 90 and 17-24 μm. Toxas are as figured by Topsent (1924, p. 95) and are 36 to 48 μm long, rarely up to 60 μm.

Mycale rotalis (Bowerbank)

Desmacidon rotalis Bowerbank, 1874, p. 327

OCCURRENCE

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

REMARKS

Incrusting on *Cystoseira,* orange in life. The subtylostyles measure 250-300 x 4-5 μm. The anisochelas are rare, 30 to 34 and 17 to 24 μm long; no smaller ones were observed. Large sigmas, 60 to 70 by 3 to 5 μm, are frequent, but a smaller eategory was not found.

HAMACANTHIDAE

Hamacantha falcula (Bowerbank)

Halichondria falcula Bowerbank, 1874, p. 208

OCCURRENCE

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

REMARKS

The specimen is an irregular mass about 10 mm in diameter, fixed on agglomerated shells. The color in life was dirty white.

The megascleres are fusiform styles measuring 320-380 x 7-12 μm. The diancisters, 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 megancistra sp. n.

(Fig. 16)

OCCURRENCE

Stn. 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.

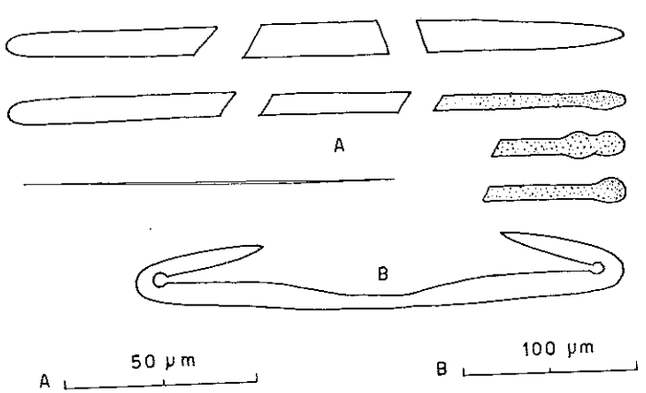

Fig. 16 - Spicules of *Hamacantha megancistra* sp. n.

The ectosome is not separable. The main spicules are styles lying parallel to the surface, irregularly intercrossing, rarely forming some ill-defined polyspicular tracts; they may take, however, a longitudinal thickly-set course towards the top of the papillae. Hispidating exotyles are implanted, singly or in tufts, perpendicularly to the surface. The microscleres are diancisters, 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 point, 370 to 650 µm long, with a maximum diameter of 7 to 12 µm. The exotyles 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 diancisters, of one kind only, 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 implicans* Lundbeck (1902, p. 104), from which it differs for possessing exotyles and for the larger size of its diancisters. *H. implicans* var. *azorica* Topsent (1904, p. 221), wich has exotyles, has also microxeas among its microscleres; its diancisters are smaller.

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

LATRUNCULIIDAE

Didiscus sp.

OCCURRENCE

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

REMARKS

A few characteristic discorhabds in a preparation of *Diplastrella ornata* 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

Biemna tenuisigma sp. n.
(Fig. 17)

OCCURRENCE

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

DESCRIPTION

PNA.349 was a very small, soft and hispid incrustation on a specimen of *Isops anceps*. PNA. 352, also very small, firm, was incrusting on another specimen of the same species. Both samples have been entirely used for spicule preparations.

Spicules

1. Styles to subtylostyles, 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 oxeas, measuring 100-210 x 4-9 µm.
3. Raphides (microxeas) straight, with long and sharp points, 83-89 µm by about 1.2 µm.
4. Raphides (microxeas) straight, with long and sharp points, 27-37 µm by about 0.5 µm.
5. Sigmas C-shaped, exceedingly thin, measuring 9.5-13.5 µm.

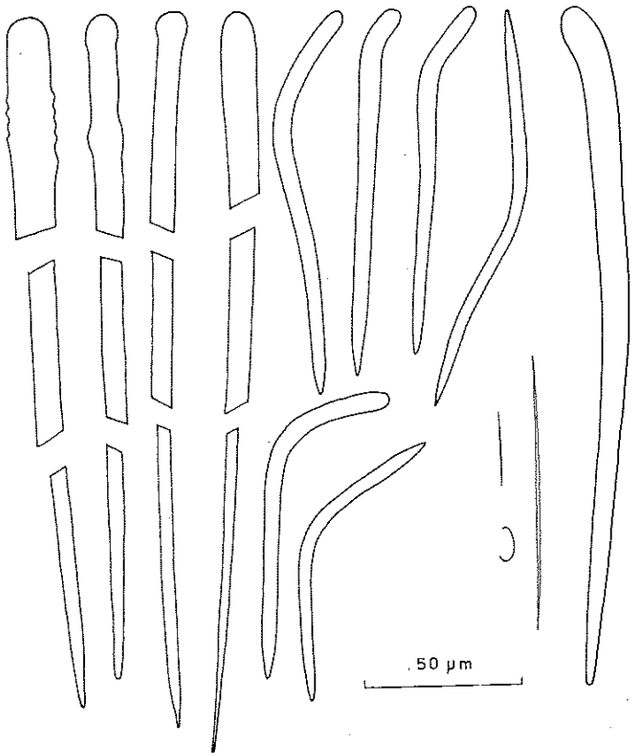

Fig. 17 - Spicules of *Biemna tenuisigma* sp. n.

Near to *Biemna variantia,* 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 1977:7:6:1b. A further preparation from this sample and two from PNA. 352 are in the writer's collection.

Biemna partenopea sp. n.

(Fig. 18)

OCCURRENCE

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

DESCRIPTION

A small incrustation on a specimen of *Isops anceps,* entirely used for a spicule preparation.

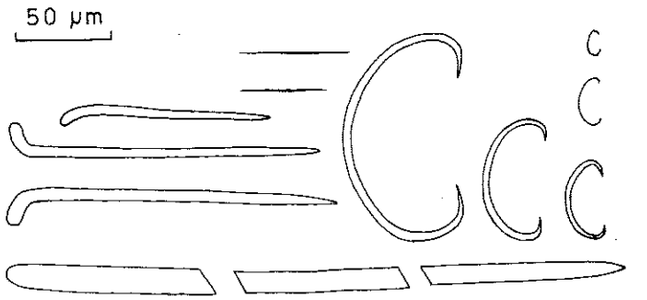

Fig. 18 - Spicules of *Biemna partenopea* sp. n.

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 1977:7:6:2b.

Sigmatoxella annexa (Schmidt)

Desmacella annexa Schmidt, 1870, p. 53

OCCURRENCE

Stn. 8, 60 m, 2 Febr. 1967: PNA.122
Stn. 28, 50 m, 25 Aug. 1959: Z.60/59.2
Stn. 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.345 is incrusting on *Isops anceps*. PNA.347 is a small, very soft, irregular mass agglomerating various fragments.

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

ESPERIOPSIDAE

Crambe crambe (Schmidt)

Suberites crambe 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. 41, 40 m, 4 Aug. 1960: Z.94/60
Stn. 69, 50 m, 6 Aug. 1960: Z.108/60.2
Stn. 1, 10 m, 27 Jan. 1967: PNA.5; PNA.15
Stn. 2, 10 m, 30 Jan. 1967: PNA.25; PNA.32bis; PNA.44
Stn. 3, 10-20 m, 31 Jan. 1967: PNA.47; PNA.48
Stn. 11, 20 m, 3 Febr. 1967: PNA.150
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 *Eunicella cavolinii,* contains abundant desmoids and isanchoras; in PNA.48, also incrusting on *Eunicella cavolinii,* isanchoras are present, but very rare; PNA.15, incrusting on *Microcosmus sulcatus,* contains abundant isanchoras. 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

Coelectys insinuans Topsent

Coelectys insinuans Topsent, 1936, p. 12

OCCURRENCE

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

REMARKS

The specimen was found on *Oligoceras collectrix* Schulze. So far (Topsent, 1936; Sarà & Siribelli, 1960) this association appears to be constant.

Spicules: tylotes 260-310 x 4-5 μm; acanthostyles 120-150 x 5-6 μm; isochelas 38-45 μm; microacanthoxeas 100-110 μm.

CRELLIDAE

Crella mollior Topsent

Crella mollior 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 *Balanus* and on *Fasciospongia cavernosa.*

Spicules: basal acanthostyles 240-290 x 3.5-4 μm at the base; pseudostrongyles 290-380 x 2.5-4 μm; acanthoxeas 90-100 x 1.5-2 μm. The pseudostrongyles generally have a faint subterminal swelling at one extremity.

Grayella pulvinar (Schmidt)

Myxilla pulvinar Schmidt, 1868, p. 14

OCCURRENCE

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

REMARKS

PNA.85: incrusting on *Fasciospongia cavernosa,* fleshy, bright yellow.
PNA.92: incrusting on *Aaptos aaptos,* bright yellow.
PNA.278: incrusting, yellow.
Spicules: pseudostrongyles 290-410 x 2.5-4 μm; acanthoxeas 50-80 x 1.5 μm.

Pytheas rosea (Topsent)

Yvesia rosea Topsent, 1892a, p. XXIII

OCCURRENCE

Stn. 1, 10 m, 27 Jan. 1967: PNA.8

REMARKS

Small incrustation on *Hippospongia communis,* red.

Spicules: basal acanthostyles 100-135 x 6 μm; tornotes 230-265 x 4.5 μm; dermal acanthostyles 90-105 x 3-4 μm; isochelas 18-19.5 μm. Basal acanthostyles and chelas are rare.

MYXILLIDAE

Myxilla rosacea (Lieberkühn)

Halichondria rosacea Lieberkühn, 1859, p. 521

OCCURRENCE

Stn. 31, 20 m, 25 Aug. 1959: Z.66/59.5
Stn. 65, 50 m, 6 Aug. 1960: Z.103/60.5

REMARKS

Z.66/59.5 was incrusting on *Arca barbata,* the other specimen on the shell of a *Cerithium vulgatum* with a hermit crab.

Spicules: acanthostyles 140-170 x 5-5.5 μm; tornotes 155-175 x 3.5-4.5 μm; isanchoras 12-31 μm; sigmas 15.5-36 μm. The microscleres are abundant in both specimens.

Myxilla iotrochotina (Topsent)

Dendoryx iotrochotina Topsent, 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 6-7.2 μm in the middle; isanchoras 12-15 μm (mostly 15 μm); sigmas 13-31 μm.

Damiriella cavernosa (Topsent)
(Fig. 19)

Damiria cavernosa Topsent, 1892a, p. XXII

OCCURRENCE

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

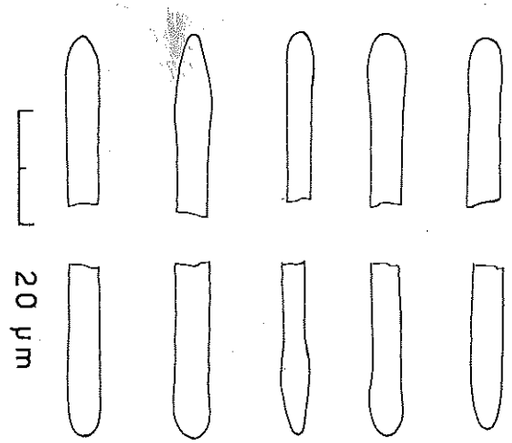

Fig. 19 - *Damiriella cavernosa.* Choanosomal megascleres of spec. Z.36/60.1.

REMARKS

The specimen is only a fragment, fleshy but fragile. The tylotes measure 340-370 x 3.5-5 μm. The choanosomal strongyles are curved or slightly sinuous and measure 250-310 x 6-7 μm. Unlike those described and figured by Topsent (1936, p. 20) for a specimen from Monaco, they do not suggest a monactinal derivation: very often both ends are slightly swollen. The arcuate isochelas measure 28-33 μm and 9.5-13.5 μm.

The diactinal character of the choanosomal megascleres seems to justify Burton's action of establishing for this species a genus *Damiriella* distinct from *Lissodendoryx.*

Tedania anhelans (Lieberkühn)

Halichondria anhelans 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 205-250 x 5-10 μm; tylotes 190-220 x 3 μm; onychaetes 60-190 by about 1 μm.

Z.104/60.4 is small, cushion shaped. Spicules: styles 210-280 x 5.5-8 μm; tylotes 240-270 by about 2.7 μm; onychaetes 72-190 by about 1 μm.

HYMEDESMIIDAE

Hymedesmia versicolor (Topsent)

Myxilla versicolor Topsent, 1893, p. XLI

OCCURRENCE

Stn. 30, 70 m, 25 Aug. 1959: Z.64/59.4

REMARKS

The specimen is a very thin incrustation on the tube of a polychaete. The ectosomal megascleres vary from tylotes to subtylostrongyles to strongyles and are rather variable in size, measuring from 220 to 300 μm by 2.5-4.5 μm. The large acanthostyles are straight or more or less curved, moderately spined only on their proximal portion, measuring 240 to 400 μm by 5-6 μm. The smaller acanthostyles, entirely spined, measure 110-135 μm by about 3 μm. The abundant isochelas are 24 to 29 μm long.

Hymedesmia peachii Bowerbank

Hymedesmia peachii Bowerbank, 1882, p. 64

OCCURRENCE

Stn. 21, 2-3 m, 10 Aug. 1968: IS.E.22

REMARKS

Incrusting, orange (C.C.246).

Spicules: anisotornotes 180-220 x 2 μm; acanthostyles 67-290 x 3.5-6.7 μm; isochelas arcuate 21-31 μm and 14.5-17.5 μm.

Hymedesmia baculifera (Topsent)

Leptosia baculifera Topsent, 1901, p. 354

OCCURRENCE

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

REMARKS

Thinly incrusting on *Ircinia* sp., the specimens are yellow, of rather tenacious texture. The ectosomal megascleres measure 220-260 x 2.5 μm and are best defined as anisostrongyles. 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 size being about 90 μm. The spines are sparse, thicker at the base. The arcuate isochelas are thin, with a uniform length of 19-21 μm.

Stylopus dujardini (Bowerbank)

Hymeniacidon dujardini Bowerbank, 1866, p. 224

OCCURRENCE

Stn. 1, 10-20 m, 27 Apr. 1967: PNA.238

Stn. 8, 60 m, 2 Febr. 1967: PNA.129

REMARKS

PNA.238: thin, soft, incrusting on *Balanus,* light brown. The size of the ectosomal megasclere (a subtylostrongyle often becoming a subtylote 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 *Hymedesmia broendstedi* Burton, but it seems reasonable to agree with Topsent (1936) in regarding the new name *broendstedi* as superfluous. It also seems to me at least practical to maintain it in the genus *Stylopus.*

Stylopus nigrescens Topsent

Stylopus nigrescens Topsent, 1925, p. 679

OCCURRENCE

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

REMARKS

A thin incrustation, soft, viscous, blackish-brown (preserved). The subtylostrongyles have a remarkably regular and constant shape and are sometimes faintly polytylote. They measure 160-200 by 1.5-2.5 μm. The acanthostyles are straight, with scarce and short spines often reduced to ondulations of the surface. They measure 80-120 x 2.7-5.4 μm and 150-190 x 4.6-6.7 μm.

ANCHINOIDAE

Anchinoe fictitius (Bowerbank)

Microciona fictitia Bowerbank, 1866, p. 124

OCCURRENCE

Stn. 1, 10 m, 24 July 1967: PNA.257

Stn. 12, 50 m, 3 Febr. 1967: PNA.161

Stn. 15, 20 m, 26 Apr. 1967: PNA.234
Stn. 26, 30 m, 21 Aug. 1959: Z.52/59.6
Stn. 29, 70 m, 25 Aug. 1959: Z.61/59.4

REMARKS

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

Anchinoe tenacior Topsent

Anchinoe tenacior Topsent, 1925, p. 666

OCCURRENCE

Stn. 1, 10 m, 27 Jan. 1967: PNA.12
Stn. 10, 20 m, 3 Febr. 1967: PNA.145
Stn. 1, 20 m, 14 Apr. 1967: PNA.222
Stn. 1, 10-20 m, 27 Apr. 1967: PNA.240
Stn. 1, 10 m, 24 July 1967: PNA.261; PNA.259
Stn. 2, 10-16 m, 28 July 1967: PNA.291
Stn. 18, 2 m, 6 Aug. 1968: IS.A.9
Stn. 20, 10 m, 8 Aug. 1968: IS.D.1
Stn. 21, 2 m, 10 Aug. 1968: IS.E.16
Stn. 27, 15 m, 24 Aug. 1959: Z.55/59
Stn. 42, 40 m, 21 July 1960: Z.18/60
Stn. 63, 40 m, 4 Aug. 1960: Z.97/60.1

REMARKS

All the specimens were incrusting. The color was generally grayish-blue to dull blue, but a few specimens were light dull yellow. Specimen IS.D.1 was remarkable for incrusting continuously a 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 strongyles, markedly constant in shape, measure 200-240 by 2.5-3 μm, the acanthostyles respectively 170-220 by 6-7 μm and 85-100 by 4-6 μm, the isochelas 16-19 μm.

Stylostichon fibulatum Topsent

Stylostichon fibulatum Topsent, 1893, p. XLII

OCCURRENCE

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

REMARKS

Incrusting extensively on rock, very thin, subdermal canals apparent in life, color pale yellow (C.C.257).

Spicules: acanthostyles not divisible in categories, 70-250 x 5-10 μm (without the spines); tornotes 145-180 μm long, about 1 μm thick, some showing a slight subterminal swelling at one extremity; sigmas abundant, very thin, chord 15-19 μm. Some rare arcuate isochelas, measuring 30-34 μm, not certainly proper, have been observed only in a preparation of IS.A.21.

CLATHRIIDAE

Clathria toxivaria (Sarà)

Microciona toxivaria Sarà, 1959, p. 14

OCCURRENCE

Stn. 2, 10 m, 30 Jan. 1967: PNA.23
Stn. 1, 10 m, 24 July 1967: PNA.260
Stn. 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 (Topsent)

Clathria assimilis Topsent, 1925, p. 649

OCCURRENCE

Stn. 65, 50 m, 6 Aug. 1960: Z.103/60.4

REMARKS

Incrusting.

Spicules: principal acanthostyles, spined only at the base, 200-370 x 6-10 μm; accessory acanthostyles, entirely spined, 70-170 x 3-7 μm; auxiliary subtylostyles 180-270 x 2-3 μm; toxas with spined ends, 80-380 μm; palmate isochelas, not abundant, separable in two categories, 5-6 and 8-10 μm.

Microciona strepsitoxa Hope

Microciona strepsitoxa Hope, 1889, p. 334

OCCURRENCE

Stn. 4, 1 m, 31 Jan. 1967: PNA.64; PNA.71; PNA.61
Stn. 7, 1 m, 2 Febr. 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 subtylostyles with a scarcely-marked head bearing short spines or tubercles that may extend, becoming shorter and sparser, along 10 or 20 μm of the shaft. The base may be, occasionally, stylote 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 Arzew (1960, p. 67). Their diameter does not exceed 9.5 μm and reaches only 7 μm in specimen PNA.64.

The echinating acanthostyles (acanthosubtylostyles) have a size range of 60 to 170 μm, reaching 205 μm in specimen PNA.71. Their spination 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 subtylostyles are mostly between 200 and 350 μm by less than 3 μm.

The chelas, 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 Sarà & Siribelli (1960, p. 68), measure from 140 to 390 μm, but do not appear separable in two categories.

Microciona toxitenuis (Topsent)

Clathria toxitenuis Topsent, 1925, p. 655

OCCURRENCE

Stn. 8, 60 m, 2 Febr. 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 specimens PNA.228 and PNA.229, as 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)

Clathria gradalis Topsent, 1925, p. 651

OCCURRENCE

Stn. 10, 20 m, 3 Febr. 1967: PNA.147
Stn. 14, 60 m, 27 Apr. 1967: PNA.247; PNA.249
Stn. 26, 30 m, 21 Aug. 1959: Z.52/59.8

REMARKS

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

Antho involvens (Schmidt)

Myxilla involvens Schmidt, 1864, p. 37

OCCURRENCE

Stn. 3, 10-20 m, 31 Jan. 1967: PNA.45

REMARKS

The specimen is a small, red incrustation on *Geodia cydonium*.

Plocamilla coriacea (Bowerbank)

Isodictya coriacea Bowerbank, 1874, p. 223

OCCURRENCE

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

REMARKS

The specimen is a small, hard crust on *Isops anceps*, covering about 10 mm^2.

Spicules: styles to subtylostyles, base often irregular and with rudimental spines, 290-690 x 7.5-12 μm; acanthostyles 140-250 x 5-8 μm; acanthostrongyles 90-110 x 6-7.5 μm; styles to subtylostyles 330-480 x 2.5-4 μm; palmate isochelas 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).

Ophlitaspongia translata sp. n.

(Fig. 20-22)

OCCURRENCE

Stn. 36, 40 m, 27 Aug. 1959: Z.78/59

DESCRIPTION

The specimen envelops most part of a *Murex* 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.

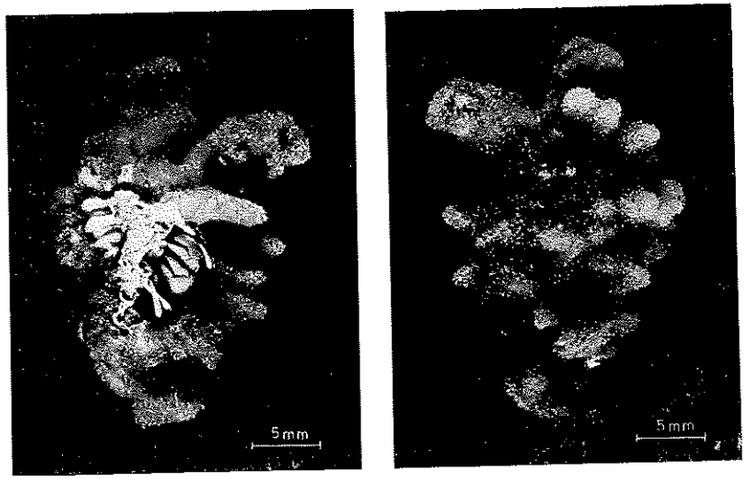

Fig. 20 and 21 - *Ophlitaspongia translata* sp. n. Two views of spec. Z.78/59 (preserved)

The skeleton is a close, irregular reticulation of strongly developed horny fibers either free of spicules or moderately cored (not echinated) 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 spination, 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 subtylostyles that may reach 320-430 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 *Ophlitaspongia,* but its spicules show a considerable similarity to the megascleres of the sponge recorded as *Clathria seriata* by Babic (1922, p. 244).

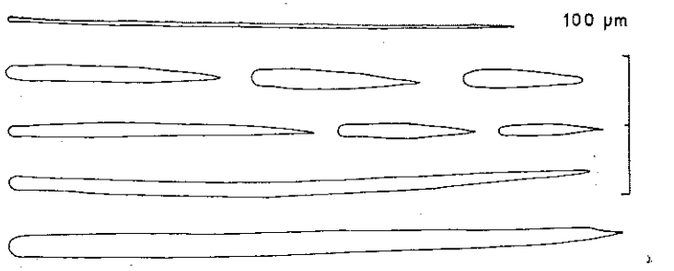

Fig. 22 - Spicules of *Ophlitaspongia translata* sp. n.

However, the presence in the latter of abundant chelas 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.

HALICHONDRIDA

HALICHONDRIIDAE

Halichondria panicea (Pallas)

Spongia panicea Pallas, 1766, p. 388

OCCURRENCE

Stn. 4, 1 m, 31 Jan. 1967: PNA.58; PNA.59; PNA.62; PNA.72
Stn. 7, 1 m, 2 Febr. 1967: 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 Stn. 4 the oxeas have a size of about 220-330 µm which may reach 370 µm, without exceeding a thickness of 7.5 µm. In those from Stn. 7 the oxeas 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 1960: Z.57/60
Stn. 31, 25-30 m, 25 Aug. 1959: Z.66/59.6
Stn. 41, 60 m, 20 July 1960: Z.8/60.6

REMARKS

Specimen Z.57/60 is massive, about 100 x 50 x 25 mm. Field notes indicate its color as dark yellow. The oxeas measure from 650 to 800 µm by about 15 µm for the most part, but they 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 oxeas 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.8/60.6, a smaller fragment, of which the color in life was not recorded.

Ciocalypta penicillus Bowerbank

Ciocalypta penicillus Bowerbank, 1864, p. 180

OCCURRENCE

Stn. 13, 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 oxeas in the spiculation. The present specimen has exclusively oxeas, measuring 320-780 x 5.4-16 µm.

Coelocalypta 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

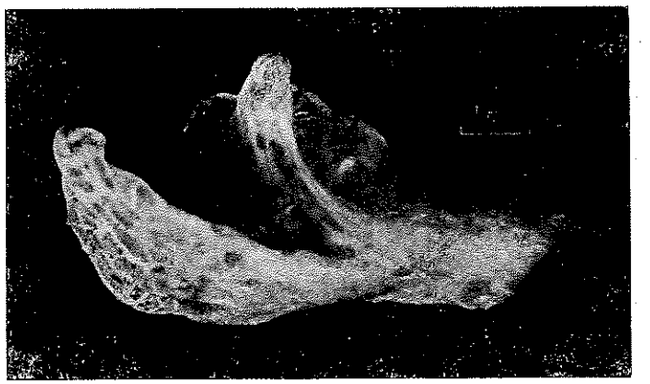

Fig. 23 - *Coelocalypta hyalina* sp. n. Spec. PNA.338 (preserved).

consists of ascending tracts and free spicules closely set; in the lobes the tracts are sinuous, spaced, irregularly connected by secondary, thinner spicular tracts. Oscules have not been observed; pores are visible only on the lobes, measuring about 55 µm in diameter and 50-70 µm apart. The

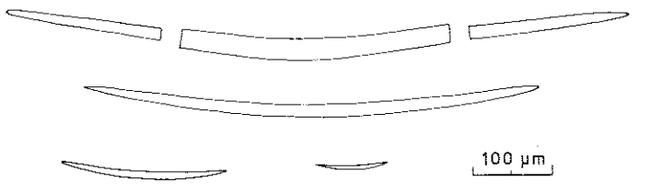

Fig. 24 - Spicules of *Coelocalypta hyalina* sp. n.

spicules are oxeas 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 *Coelocalypta 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.

Batzella inops (Topsent)

Halichondria inops Topsent, 1891, p. 533

OCCURRENCE

Stn. 63, 40 m, 4 Aug. 1960: Z.97/60
Stn. 32, 10-25 m, 26 Aug. 1959: Z.70/59.8; Z.70/59.11
Stn. 24, 30 m, 18 Aug. 1959: Z.32/59
Stn. 50, 40 m, 27 July 1960: Z.49/60.3
Stn. 52, 60 m, 28 July 1960: Z.57/60.1
Stn. 39, 10-30 m, 31 Aug. 1959: Z.84/59.3
Stn. 37, 45 m, 27 Aug. 1959: Z.79/59.2
Stn. 21, 2 m, 10 Aug. 1968: IS.E.10; IS.E.11

REMARKS

Z.97/60: On rhizome 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 tylote, 200-290 x 2.5-4.5 μm.

Z.84/59.3: Incrusting on calcareous alga, soft. Color in alcohol light yellow-brown (C.C.193). Strongyles regular, 240-290 x 2-3.4 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.

IS.E.10: Incrusting on *Spongia virgultosa*. Dull orange (C.C.182) in life. Strongyles regular, 250-340 x 2-4 μm.

IS.E.11: Extensively incrusting on rock, mucous, slippery, orange (C.C. 196) in life, cream 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 whisp-like tracts.

Batzella friabilis sp. n.

(Fig. 25)

OCCURRENCE

Stn. 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 spongin, organized in a close-set irregular reticulation.

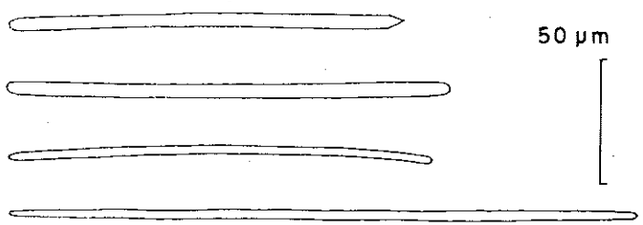

Fig. 25 - Spicules of *Batzella friabilis* sp. n.

Spicules

1. Strongyles straight or very slightly curved, measuring 180-200 by 2-3 μm, regularly isodiametric and with well-formed ends.
2. Strongyles as above, but measuring 135-170 by 4-7 μm, with some intermediate forms.
3. Strongylotornotes 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.

Spongosorites intricatus (Topsent)

Halichondria intricata Topsent, 1892a, p. XIX

OCCURRENCE

Stn. 1, 10 m, 24 July 1967: PNA.255
Stn. 19, 12 m, 6 Aug. 1968: IS.C.2
Stn. 52, 60 m, 28 July 1960: Z.57/60.2a
Stn. 56, 40 m, 29 July 1960: Z.70/60.6

REMARKS

PNA.255: Insinuating, white. Oxeas from 65 x 2 μm to 430 x 7.5 μm.

IS.C.2: Found underneath a colony of *Cladocora cespitosa*. 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.57/60.2a: 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 *Topsentia genitrix* (Schmidt).

HYMENIACIDONIDAE

Hymeniacidon sanguinea (Grant)

Spongia sanguinea Grant, 1826, p. 135

OCCURRENCE

Stn. 7, 1 m, 2 Febr. 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 tylote modifications have been observed.

Hemimycale columella (Bowerbank)

Desmacidon columella 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 anisostrongyles, styles or strongyles, size 259-375 x 2.7-4 μm. It is difficult to decide whether these modifications derive from a fundamentally monactinal or from a diactinal spicule, and therefore whether this species is correctly attributed to the new genus proposed by Burton, 1934, p. 556 (his figure showing subtylostyles is misleading). Topsent (1934, p. 32) regarded *columella* as belonging to *Batzella* (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, 31 Jan. 1967: PNA.80

REMARKS

Specimen PNA.80 was light brown in life, incrusting on a stone, covering 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 spongin 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 longitudinally. 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 cc, soft, conulose, resembling 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; oxeas 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 2-3.5 μm; oxeas 110-140 x 2.5-4 μm, not abundant.

The stout, almost aspiculous 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, Topsent (1899, p. 107), describing some specimens of *Stylotella inornata* (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.

Dictyonella incisa (Schmidt)

Phakellia incisa Schmidt, 1880, p. 282

OCCURRENCE

Stn. 8, 60 m, 2 Febr. 1967: PNA.121
Stn. 14, 60 m, 27 Apr. 1967: PNA.246
Stn. 18, 3-5 m, 7 Aug. 1968: IS.A.41; IS.A.43; IS.A.44; IS.A.3; IS.A.5
Stn. 21, 3-5 m, 10 Aug. 1968: IS.E.19

The group including *Stylotella* Lendelfeld, *Stylinos* Topsent, *Dictyonella* Schmidt, *Ulosa* Laubenfels, *Stylaxinella* Vacelet and *Rhaphidostyla* Burton certainly needs a revision, as there is no agreement among recent writers about the scope of most of these genera. The study of the Hymeniacidonidae in the present collection has led me to some conclusions which, however, being based on literature data only, are advanced tentatively:

Stylotella is to be understood as redescribed by Hallmann (1914, p. 348): it has no known Mediterranean representatives.

Dictyonella, redescribed by Topsent (1938, p. 10), receives the species *obtusa, incisa, marsillii* and *pelligera.*

The comparatively recent genus *Ulosa,* currently accepted for *Chalina digitata* Schmidt, receives also *Spongia stuposa* Esper.

Stylaxinella is a synonym of *Ulosa.*

The validity of *Stylinos,* which Topsent abandoned (1928, p. 14) and then resumed (1931, p. 95) for *Spongia scariola* Lamarck, can be decided only upon examination of type material of *S. jullieni.* Should it be recognized as valid, then the position of *Ulosa* would have to be reconsidered.

Rhaphidostyla, if valid, and not a synonym of either *Hymeniacidon* or *Stylotella,* is not proper for receiving the species above mentioned as belonging to *Dictyonella.*

HAPLOSCLERIDA

RENIERIDAE

Reniera implexa Schmidt

Reniera 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

Z.104/60.1: numerous fragments, possibly belonging to more than one individual, of tubular branches having a diameter of 4-7 mm, bearing 2-3.5 mm-wide oscules laterally or terminally. The color in life was recorded as ochraceous pink. The oxeas measure 123-148 x 2.7-4 μm.

Z.80/60.4: a few small fragments. The oxeas measure 112-166 x 2.6-4 μm.

The sponge is extremely soft and delicate, without resiliency: it does not support its own weight when wet.

Reniera fulva Topsent

Reniera fulva Topsent, 1893, p. XXXIX

OCCURRENCE

Stn. 17, 10 m, 27 July 1967: PNA.285
Stn. 5, 30 m, 1 Febr. 1967: PNA.82
Stn. 16, 3-10 m, 26 July 1967: PNA.265
Stn. 22, 6 m, 12 Aug. 1968: IS.F.1
Stn. 34, 70 m, 27 Aug. 1959: Z.75/59.4
Stn. 41, 60 m, 20 July 1960: Z.8/60.5
Stn. 39, 10-30 m, 31 Aug. 1959: Z.84/59.2

REMARKS

PNA.285: orange; oxeas 140-260 x 4-7 μm
PNA.82: orange; oxeas 210-295 x 4-7 μm
PNA.265: orange-brown; oxeas 130-300 x 4-8 μm
IS.F.1: orange (C.C.181); oxeas 140-305 x 3-9.4 μm
Z.75/59.4: oxeas 147-282 x 3.5-8 μm
Z.8/60.5: oxeas 134-295 x 3-9 μm
Z.84/59.2b: oxeas 180-270 x 2-8 μm

Reniera mucosa Griessinger

Reniera mucosa Griessinger, 1971, p. 140

OCCURRENCE

Stn. 18, 3-5 m, 6 Aug. 1968: IS.A.2a; IS.A.32

REMARKS

Both specimens are small, cushion-shaped, fragile, very mucous in life and after preservation in formalin and alcohol. Color in life cream (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.

Reniera omissa Griessinger

Reniera omissa Griessinger, 1971, p. 144

OCCURRENCE

Stn. 23, 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 unispicular reticulation of oxeas forming irregular meshes, always smaller than the length of a spicule. A small amount of spongin is present at the nodes of the reticulation. The oxeas, measuring 250-350 x 4-12 µm (the size of the more common spicule is about 320 x 10 µm), have, for a large part, mucronated extremities. These characters agree with the description of *R. omissa*.

Reniera plana Topsent

Reniera 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 x 6.7-9.4 µm, rarely reaching 300 µm. Much less abundant are oxeas measuring 107-130 x 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 Cassidaigne Canyon. The present specimens, preserved in alcohol, still give off much mucus.

Reniera sarai Pulitzer-Finali

Reniera 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 Febr. 1967: PNA.83
Stn. 5, 20 m, 26 July 1967: PNA.276; PNA.279
Stn. 10, 20 m, 3 Febr. 1967: PNA.143

Stn. 20, 13 m, 25 Sept. 1975: IS.D.18a
Stn. 60, 50 m, 4 Aug. 1960: Z.90/60.2
Stn. 23, 135 m, 4 Sept. 1969: PNA.327
Stn. 70, 50 m, 8 Aug. 1960: Z.111/60.1

Reniera valliculata Griessinger

Reniera valliculata Griessinger, 1971, p. 134

OCCURRENCE

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

Reniera cratera Schmidt

(Fig. 26, 27)

Reniera 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, 31 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. 15, 40 m, 11 Apr. 1972: PNA.385; PNA.397; PNA.398

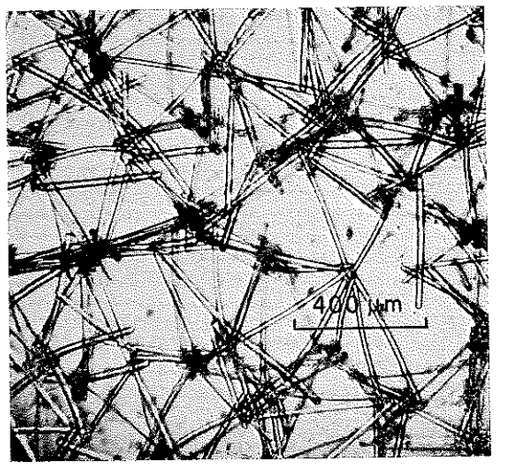

Fig. 26 - *Reniera cratera*. Skeleton of spec. IS.B.1.

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 brittle, it is presently 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 slimy but rather rough to the touch, has given off, however, much mucus in the preserving formalin.

The skeleton is a unispicular reticulation of strongyles slightly curved, isodiametric, measuring 340-440 x 15-27 μm; spongin 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.

Specimen	*Strongyles* (μm)		
Topsent, 1925 (Naples)	270-315	x	11-16
PNA.283 (Naples)	250 (281) 310	x	7.2 (9.1) 10.8
IS.A.1 (Ischia)	265 (299) 330	x	7.2 (12.2) 15.6
PF.79a (Portofino)	201 (239) 288	x	7.5 (7.7) 9.0
612 (Argentario)	228 (269) 306	x	7.5 (10.7) 15.0
TRI.41 (Leuca)	246 (268) 300	x	12.0 (13.3) 15.0
PTR.D.6 (Tremiti Islands)	258 (293) 330	x	15.0 (17.1) 19.5
IS.B.1 (Ischia)	340 (380) 440	x	15.2 (22.0) 27.4

Specimen IS.B.1 appears therefore characterized by the large size of its spicules and by its habit 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.

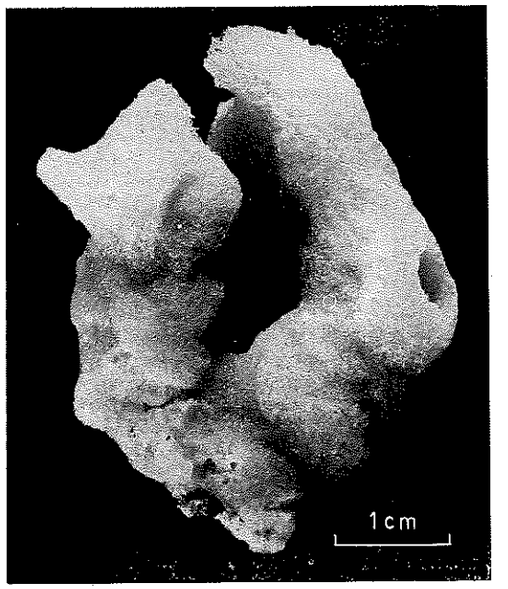

Fig. 27 - *Reniera cratera.* Spec. IS.B.1 (preserved).

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

Pellina semitubulosa (Lieberkühn)

Halichondria semitubulosa Lieberkühn, 1859, p. 363

OCCURRENCE

Stn. 30, 40 m, 25 Aug. 1959: Z.65/59.1
Stn. 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 oxeas. These appear separable in two groups, measuring respectively about 54-83 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

Stn. 41, 60 m, 20 July 1960: Z.8/60.1a

REMARKS

The specimen is irregularly digitate, devoid of base of attachement, 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

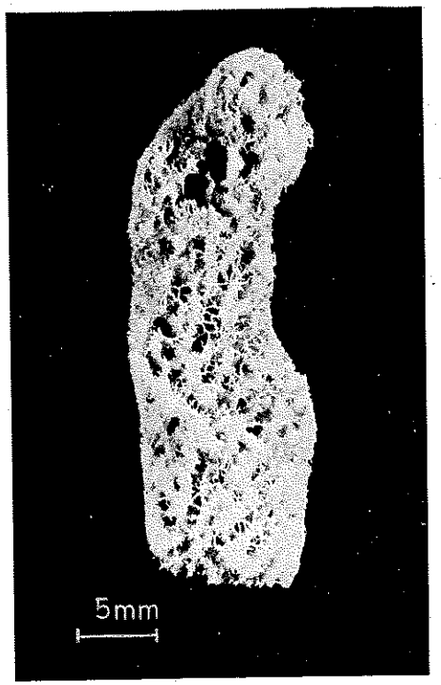

Fig. 28 - *Pachychalina rustica*. Spec. Z.8/60.1a (preserved).

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 recording for the species.

Dendroxea lenis (Topsent)

Reniera lenis Topsent, 1892a, p. XIX

OCCURRENCE

Stn. 10, 20 m, 3 Febr. 1967: PNA.138
Stn. 18, 3-5 m, 7 Aug. 1968: IS.A.16

REMARKS

PNA.138: incrusting on a stone, about 15 mm wide and 2 mm thick, grayish and viscous in life; oxeas uniform in shape, 70-125 x 2.5-4 μm.

IS.A.16: incrusting 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 spicular mat. The fibers at the base are about 100-150 μm thick, as much apart, and taper toward the surface. The spongin 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 dura (Nardo)

Rayneria dura Nardo, 1833, Col. 519

OCCURRENCE

Stn. 26, 12 m, 21 Aug. 1959: Z.19
Stn. 42, 40 m, 21 July 1960: Z.18/60.2
Stn. 25, 0.5-3 m, 18 Aug. 1959: Z.34/59.6; Z.34/59/14
Stn. 38, 40 m, 28 Aug. 1959: Z.80/59.2
Stn. 39, 10-30 m, 31 Aug. 1959: Z.84/59.2a
Stn. 21, 2-3 m, 10 Aug. 1968: IS.E.25
Stn. 56, 40 m, 29 July 1960: Z.70/60.2
Sorrento, no further data available: Z.26.1

REMARKS

Z.70/60.2 and Z.26.1, while not distinguishable from other specimens of *P. dura* either for aspect of 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 strongylate 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.

Calyx nicaeensis (Risso)

Spongia nicaeensis Risso, 1826, p. 372

OCCURRENCE

Stn. 39, 25-30 m, 31 Aug. 1959: Z.84/59.7

Gellius flagellifer Ridley & Dendy

Gellius flagellifer Ridley & Dendy, 1886, p. 333

OCCURRENCE

Stn. 23, 120 m, 4 Sept. 1969: PNA.304; PNA.308
Stn. 23, 135 m, 4 Sept. 1969: PNA.346
Stn. 31, 20 m, 25 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 6-9.4 μm, sigmas 24-115 μm.

PNA.346: a small incrustation on *Isops anceps.* Oxeas 260-349 x 6.7-9.4 μm, sigmas 21-134 μm.

Z.66/59.2a: incrusting, associated with *Plakortis simplex.* Oxeas 210-284 x 5.4-8.1 μm, sigmas 27-115 μm.

Gellius angulatus (Bowerbank)

Halichondria angulata Bowerbank, 1866, p. 233

OCCURRENCE

Stn. 12, 50 m, 3 Febr. 1967: PNA.163

REMARKS

The specimen is a small incrustation on *Ircinia 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. arnesenae* Arndt (1927, p. 151).

Gellius marismedi sp. n.
(Fig. 29)

Gellius luridus: Boury-Esnault, 1971, p. 332 (*non G. luridus* Lundbeck)

OCCURRENCE

Stn. 64, 50 m, 5 Aug. 1960: 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.

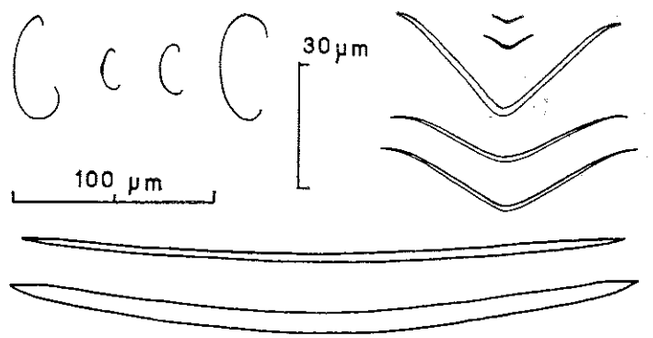

Fig. 29 - Spicules of *Gellius marismedi* sp. n.

Spicules

1. Oxeas gently curved, rarely straight, measuring 134 to 348 μm by 1.5 to 11.4 μm.

2. Toxas of two categories, measuring 40-73 µm and 10-13.4 µm. The larger ones are more or less strongly angulated; the smaller ones are in the form of a circumflex accent. Both are abundant.
3. Sigmas 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 spiculation there is such a perfect agreement with the sponge from Banyuls identified by Boury-Esnault as *Gellius luridus*, that there is little doubt that the two specimens belong to a well characterized species, distinct from *G. luridus* and from any other described species of *Gellius*. The presence of *G. luridus* in the Mediterranean, recorded by Topsent & Olivier (1943, p. 2), without comment, still requires confirmation.

The single spicule preparation has been deposited as the holotype in the British Museum (Nat. Hist.) with the number 1977:7:6:3b.

Rhaphisia laxa Topsent
(Fig. 30)

Rhaphisia laxa Topsent, 1892a, p. XX

OCCURRENCE

Stn. 41, 60 m, 20 July 1960: Z.8/60.13

REMARKS

The specimen is about 1 cm² wide and 4 mm thick, irregular, very fragile in the dried state. The spiculation 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

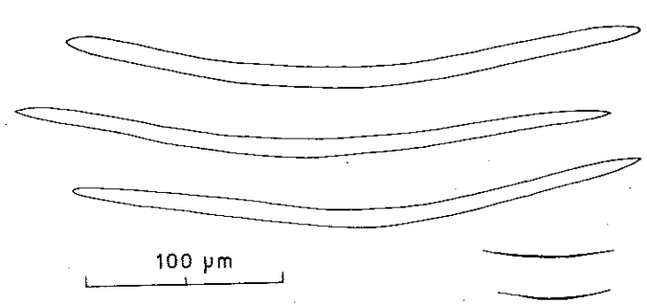

Fig. 30 - *Rhaphisia laxa*. Spicules of spec. Z.8/60.13.

not sharp. Their size is rather constant, 270-320 x 6-9 µm. The raphides are extremely thin, gently curved, rarely straight, 50-70 µm long.

This appears to be the second record for the species.

The validity and position of the genus *Rhaphisia* are debatable. Recognized by Vacelet (1969, p. 209), who even transfers to it *Gellius lacazei* Topsent, *Rhaphisia* is placed by Lévi (1973, p. 614) in the Halichondriidae, 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 raphides) was widened by its author (1898, p. 255) to receive *Rhaphisia spissa* (oxeas, raphides and toxas).

HALICLONIDAE

Haliclona mediterranea Griessinger

Haliclona mediterranea Griessinger, 1971, p. 153

OCCURRENCE

Stn. 13, 30-40 m, 13 Dec. 1962: PNA.395; PNA.396
Stn. 37, 45 m, 27 Aug. 1959: Z.79/59.5
Stn. 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 isodictyal unispicular 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

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

REMARKS

The specimens, in bad conditions of preservation, are from cushion-shaped to lobate or subglobular, 10 to 15 mm high. An apical oscule 2 mm wide is recognizable. The consistency is very softly resilient.

The skeletal frame is a reticulation of oxeas arranged for the most part uniserially, forming very irregular meshes. The spicules are enveloped by overlapping, pale spongin, expanding at the angles of the reticulation.

The size of the oxeas is 53-85 x 0.5-2 μm in the first specimen, 56-86 x 1-2 μm in the second one.

Haliclona renieroides (Schmidt)

Chalinula renieroides 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 spicules are pauciserially arranged (mostly 1 to 3), embedded in abundant, overlapping, transparent spongin.

The spicules are oxeas measuring 93-118 x 2.5-5.3 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 spicules across, is nearer to Schmidt's type from Algeria as redescribed by Topsent (1938, p. 1) than to the specimens from Naples and from Thau attributed to *C. fertilis*.

Adocia simulans (Johnston)

Halichondria simulans Johnston, 1842, p. 109

OCCURRENCE

Stn. 14, 75 m, 13 Apr. 1967: PNA.211
Stn. 34, 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.90/60.3

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, unispicular reticulation forming mostly triangular meshes. The main skeleton is formed by ascending plurispicular tracts bound by spongin, curving toward the surface, connected by transverse single spicules perpendicularly or irregularly.

The oxeas 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 certainly this species that, as already suggested by Topsent (1936, p. 70), was figured from Naples by Vosmaer (1933-1935, Pl. 58, Fig. 16) as *Siphonochalina crassa*. The reasons offered by de Laubenfels (1936, p. 66) for creating a new species *dohrni* for the Neapolitan specimens of *A. simulans* are inadequate.

ACKNOWLEDGEMENT

The assistance received from Mr. Alessandro Pellerano 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, 13 for the Italian coasts and 12 for science. Altogether, 34 of these species are new for the Bay of Naples.

RIASSUNTO

Terza parte dello studio sistematico di una collezione di spugne del Golfo di Napoli, questo lavoro registra 107 specie, delle quali una è nuova per il Mediterraneo, 13 per le coste italiane e 12 per la scienza. Complessivamente, 34 specie sono nuove per il Golfo di Napoli.

LITERATURE CITED

ARNDT, W., 1927: Kalk- und Kieselschwämme von Curaçao. *Bijdr. Dierk. Amsterdam 25,* 133-158.

BABIC, K., 1922: Monactinellida und Tetractinellida des adriatischen Meeres. *Zool. Jahrb., Abt. System. 46,* 217-302.

BOURY-ESNAULT, NICOLE, 1971: Spongiaires de la zone rocheuse de Banyuls-sur-mer. II.Systématique. *Vie Milieu 22,* 2, B, 287-350.

BOWERBANK, J. S., 1864: A Monograph of the British Spongiadae. I., 1-290.

——, 1866: A Monograph of the British Spongiadae. II., 1-388.

——, 1874: A Monograph of the British Spongiadae. III., 1-367.

——, 1882: A Monograph of the British Spongiadae. IV., 1-250.

BURTON, M., 1930: Additions to the sponge fauna of Plymouth. *J. Mar. Biol. Ass. 16* (2), 489-507.

——, 1934: Sponges. In: *Br. Mus. Great Barrier Reef Exp. 1928-29. Sci. Repts. 14,* 513-614.

——, 1953: *Suberites domuncula* (Olivi): its synonymy, distribution and ecology. *Bull. Brit. Mus. (nat. Hist.). Zool. 1,* 12, 353-378.

——, 1959: Sponges. *In: The John Murray Exp.* X, *5,* 151-281.

CABIOCH, L., 1968: Contribution à la connaissance de la faune des spongiaires de la Manche occidentale. Démosponges de la région de Roscoff. *Cahiers Biol. Mar. IX,* 2, 211-246.

DELLE CHIAJE, S., 1829: Memorie sulla storia e notomia degli animali senza vertebre del Regno di Napoli, 4.

DENDY, A.., 1921: Report on the Sigmatotetraxonida collected by H. M. S. Sealark in the Indian Ocean. *Trans. Linn. Soc. London, 18,* 1-164.

DESCATOIRE, ANNIE, 1966: Sur quelques Démosponges de l'Archipel de Glénan. *Cahiers Biol. Mar. VII,* 231-246.

DUCHASSAING, P. & G. MICHELOTTI, 1864: Spongiaires de la mer Caraïbe. Naturk. Verhand. Weten. XXI, 2, 1-124.

ESPER, E. J. C., 1794: Die Pflanzenthiere, in Abbildungen nach der Natur mit Farben erleuchtet nebst Beschreibungen. *2,* 1-303.

GRANT, R. E., 1826: Observations on the structure and functions of the sponge. *Edinb. New Phil. J. 2,* 121-141.

GRIESSINGER, J. M., 1971: Etude des Reniérides de Méditerranée (Demosponges Haplosclérides). *Bull. Mus. Nat. Hist. Nat.* (3) *3,* 97-176.

HALLMANN, E.F., 1914: A revision of the Monaxonid species described as new in Lendenfeld's Catalogue of the Sponges in the Australian Museum. *Proc. Linn. Soc. N. S. Wales 39,* 263-315, 327-376, 398-443.

HANCOCK, A., 1849: On the excavating powers of certain sponges belonging to the genus *Cliona. Ann. Mag. N. H.* (2) *3,* 321-348.

HANSEN, A. G., 1885: Spongiadae. *In: The Norwegian North-Atlantic Exp. 1876-1878. Zoology. Norske Nordhavs-Exped. 13,* 1-25.

HARTMAN, W. D., 1958: Natural History of the marine Sponges of Southern New England. *Peabody Mus. Nat. Hist. Yale Univ. Bull. 12,* 1-155.

HENTSCHEL, E., 1912: Kiesel und Hornschwämme der Aru- und Kei-Inseln. *Abhandl. Senckenb. Naturf. Ges. 34,* 296-448.

HOPE, R., 1889: On two new species of Sponges. *Ann. Mag. N. H.* (6) *IV,* 333-342.

JOHNSTON, G., 1842: A history of the British Sponges and Lithophytes. Edinburgh, 1-264.

KELLER, C., 1880: Neue Coelenteraten aus dem Golf von Neapel. *Arch. mikroskop. Anat. XVIII,* 271-280.

LAMARCK, J.B.P.A. DE M. DE, 1815: Suite des Polypiers empâtés. *Mem. Mus. Hist. Nat. Paris 1,* 69-80, 162-168, 331-340

LAUBENFELS, M.W. de, 1936: A discussion of the sponge fauna of the Dry Tortugas in particular and the West Indies in general, with material for a revision of the families and orders of the Porifera. *Papers Tortugas Lab. 30. Carnegie Inst. Washington 467,* 1-225.

LENDENFELD, R. von, 1896: Die Clavulina der Adria. *Nova Acta Acad. German. Leopold. 69,* 1-251.

LÉVI, C., 1960: Les Démosponges des côtes de France. I. Les Clathriidae. *Cahiers Biol. Mar. 1,* 11, 47-87.

——, 1973: Systématique de la classe des Demospongiaria (Démosponges). *In:* P. Grassé ed. Traité de Zoologie *3* (1), 577-631.

LIEBERKÜHN, N., 1859: Neue Beiträge zur Anatomie der Spongien. *Arch. Anat. Physiol.,* 353-382, 515-530.

LUNDBECK, W., 1902: Porifera (Pars 1). Homorrhaphidae og Heterorrhaphidae. *Den Danske Ingolf-Expedition,* 1-104.

MARTENS, G.M. VON, 1824: Reise nach Venedig, Theil 2, Ulm, 1-664.

MONTAGU, G., 1818: An essay on sponges, with descriptions of all the species that have been discovered on the coast of Great Britain. *Mem. Werner Soc. 2,* 67-122.

MÜLLER, Ó.F., 1806: Zoologia Danica IV, Havniae, 1-46.

MÜLLER, W. & R.K. ZAHN, 1968: *Tethya limski* n. sp., eine Tethyide aus der Adria. *Senkenbergiana Biol. 49* (6), 469-478.

NARDO, G.D., 1833: Auszug aus einem neuen System der Spongiarien, wornach bereits die Aufstellung in der Universitäts-Sammlung zu Padua gemacht ist. *Isis (Oken),* 519-523.

——, 1847: Osservazioni anatomiche sopra l'animale marino detto rognone di mare. *Atti Ist. ven. VI,* 267-268.

OLIVI, G., 1792: Zoologia Adriatica, ossia Catalogo ragionato degli Animali del Golfo e delle Lagune di Venezia, 1-334.

PALLAS, P.S., 1766: Elenchus Zoophytorum. Hagae-comitum apud Petrum van Cleef.

PULITZER-FINALI, G., 1969: *Reniera sarai,* new name for *Haliclona viscosa* Sarà (Porifera, Demospongiae, Haplosclerida). *Boll. Mus. Ist. biol. Univ. Genova XXXVI,* 256, 97-101.

——, 1972: Report on a collection of sponges from the Bay of Naples. I. Sclerospongiae, Lithistida, Tetractinellida, Epipolasida. *Pubbl. Staz. Zool. Napoli 38* (1970), 328-354.

—— & R. PRONZATO, 1977: Report on a collection of sponges from the Bay of Naples. II. Keratosa. *Pubbl. Staz. Zool. Napoli 40* (1976), 83-104.

RIDLEY, S.O. & A. DENDY, 1886: Preliminary report on the Monaxonida collected by H.M.S. Challenger. I-II.*Ann. Mag. N. H. (5) 18,* 325-351, 470-493.

RISSO A., 1826: Histoire naturelle des principales productions de l'Europe méridionale et particulièrement de celles des environs de Nice et des Alpes maritimes, V, 1-403.

RÜTZLER, K. & M. SARÀ, 1962: *Diplastrella ornata,* eine neue mediterrane Art der Familie Spirastrellidae (Demospongiae). *Zool. Anz. 169,* 5/6, 231-236.

SARÀ, M., 1959: Specie nuove di Demospongie provenienti da acque superficiali del Golfo di Napoli. *Ann. Ist. Mus. Zool. Univ. Napoli 11,* 7, 1-22.

—— & N. MELONE, 1965: Una nuova specie del genere *Tethya, T. citrina* sp. n. del Mediterraneo (Porifera Demospongiae). *Atti Soc. Peloritana Sci. Fisiche Mat. Nat. XI* suppl., 123-138.

—— & LYCIA SIRIBELLI, 1960: La fauna di poriferi delle "secche" del Golfo di Napoli. I. La "secca" della Gaiola. *Annuario Ist. Mus. Zool. Univ. Napoli XII,* 3, 1-93.

SCHMIDT, O., 1862: Die Spongien des adriatischen Meeres. Leipzig, 1-88.

——, 1864: Supplement der Spongien des adriatischen Meeres. Leipzig, 1-48.

——, 1868: Die Spongien der Küste von Algier. Mit Nachtragen zu den Spongien des adriatischen Meeres. (III Suppl.). Leipzig, 1-44.

——, 1870: Grundzüge einer Spongien-Fauna des atlantischen Gebietes. Leipzig, 1-88.

——, 1880: Zusatz zu Keller's Abhandlung über "Neue Coelenteraten aus dem Golf von Neapel". *Archiv Mikrosk. Anat. XVIII,* 280-282.

SÉGUY, E., 1936: Code universel des couleurs. Lechevalier. Paris.

SIRIBELLI, LYCIA, 1960: Le *Microciona* (Demospongiae) del Golfo di Napoli. *Annuario Ist. Mus. Zool. Univ. Napoli XII,* 6, 1-23.

TOPSENT, E., 1888: Contribution à l'étude des Clionides. *Arch. Zool. Exp. Gén.* (2) *5* bis, 1-166.

——, 1891: Essai sur la faune des Spongiaires de Roscoff. *Arch. Zool. Exp. Gén.* (2) *9,* 523-554.

——, 1892 a: Diagnoses d'Eponges nouvelles de la Méditerranée et plus particulièrement de Banyuls. *Arch. Zool. Exp. Gén.* (2) *X, Notes et Revue,* XVII-XXVII.

——, 1892 b: Contribution à l'étude des Spongiaires de l'Atlantique Nord. *Rés. Camp. Sci. Albert de Monaco 2,* 1-165.

——, 1893: Nouvelle série de diagnoses d'éponges de Roscoff et de Banyuls. *Arch. Zool. Exp. Gén.* (3) *1,* Notes et Revue, XXXIII-XLIII.

——, 1897: Sur le genre *Halicnemia. Mém. Soc. Zool. France X,* 235-251.

——, 1898: Eponges nouvelles des Açores (Ière Série). *Mém. Soc. Zool. France 11,* 225-255.

——, 1899: Documents sur la faune des Spongiaires des côtes de Belgique. *Arch. Biol. Liège XVI,* 105-115.

——, 1900: Etude monographique des Spongiaires de France. III. Monaxonida (Hadromerina). *Arch. Zool. Exp. Gén.* (3) *8,* 1-331.

——, 1901: Considérations sur la faune de Spongiaires des côtes d'Algérie. Eponges de la Calle. *Arch. Zool. Exp. Gén.* (3) *IX,* 327-370.

——, 1904: Spongiaires des Açores. *Rés. Camp. Sci. Monaco 25,* 1-280.

——, 1920: Spongiaires du Musée Zoologique de Strasbourg. Monaxonides. *Bull. Inst. océanogr. Monaco 381,* 1-36.

——, 1924: Révision des *Mycale* de l'Europe occidentale. *Ann. Inst. océanogr. Monaco (N.S.) 1,* 77-118.

——, 1925: Etude des Spongiaires du Golfe de Naples. *Arch. Zool. Exp. Gén. 63,* V, 623-725.

——, 1927: Diagnoses d'Eponges nouvelles recueillies par le Prince Albert I. *Bull. Inst. océanogr. Monaco 502,* 1-19.

——, 1928: Spongiaires de l'Atlantique et de la Méditerranée provenant des croisières du Prince Albert de Monaco. *Rés. Camp. Sci. Monaco 74,* 1-376.

——, 1931: Eponges de Lamarck conservées au Muséum de Paris. II. *Arch. Mus. Paris 8* (6), 61-124.

——, 1934: Eponges observées dans les parages de Monaco. I. *Bull. Inst. océanogr. Monaco 650,* 1-42.

——, 1936: Eponges observées dans les parages de Monaco. II. *Bull. Inst. océanogr. Monaco 686,* 1-70.

——, 1938: Commentaires sur quelques genres d'Eponges marines. *Bull. Inst. océanogr. Monaco 744,* 1-23.

—— & L. OLIVIER, 1943: Eponges observées dans les parages de Monaco (fin). *Bull. Inst. océanogr. Monaco 854,* 1-12.

VACELET, J., 1961: Spongiaires (Demosponges) de la région de Bonifacio (Corse). *Rec. Trav. St. Mar. Endoume 22,* 36, 21-45.

——, 1969: Eponges de la roche du large et de l'étage bathyal de Méditerranée. *Mém. Mus. Nat. Hist. Nat. A, 59,* 2, 145-219.

VOSMAER, G.C.J., 1933-35: The Sponges of the Bay of Naples (Porifera Incalcaria). La Haye, 1-875.

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ERRATA CORRIGE

Page 33. The first line of the second paragraph should read:

The new species here proposed is represented only by a spicule slide, . . .