

*Mediterranean demersal resources and ecosystems:
25 years of MEDITS trawl surveys*
M.T. Spedicato, G. Tserpes, B. Mériçot and
E. Massutí (eds)

SCIENTIA MARINA 83S1
December 2019, S1-S3, Barcelona (Spain)
ISSN-L: 0214-8358

Large-scale distribution of a deep-sea megafauna community along Mediterranean trawlable grounds

Ulla Fernandez-Arcaya, Isabella Bitetto, Antonio Esteban, M. Teresa Farriols,
Cristina García-Ruiz, Luis Gil de Sola, Beatriz Guijarro, Angélique Jadaud, Stefanos Kavadas,
Giuseppe Lembo, Giacomo Milisenda, Irida Maina, Slavica Petovic , Letizia Sion,
Sandrine Vaz, Enric Massutí

Supplementary material

Table S1. – Results of similarity percentage analysis (SIMPER) of the overall community on each GSA. Av.Abund (average abundance), AvSim (average similarity), Sim/SD (ratio of the average similarity and the standard deviation), Contrib% (percentage contribution), Cum% (cumulative percentages).

Cluster ALBO

Average similarity: 55.65

| Species | Av.Abund | Av.Sim | Sim/SD | Contrib% | Cum.% |
|-----------------------------------|----------|--------|--------|----------|-------|
| <i>Galeus melastomus</i> | 924.6 | 17.71 | 3.09 | 31.82 | 31.82 |
| <i>Nezumia aequalis</i> | 332.57 | 6.73 | 5.81 | 12.09 | 43.91 |
| <i>Trachyrincus scabrus</i> | 434.23 | 4.72 | 1.04 | 8.48 | 52.39 |
| <i>Phycis blennoides</i> | 200.33 | 4.14 | 4.61 | 7.43 | 59.82 |
| <i>Chimaera monstrosa</i> | 202.13 | 2.75 | 1.23 | 4.95 | 64.77 |
| <i>Etmopterus spinax</i> | 161.12 | 2.54 | 1.72 | 4.56 | 69.33 |
| <i>Todarodes sagittatus</i> | 109.2 | 1.7 | 1.17 | 3.05 | 72.39 |
| <i>Helicolenus dactylopterus</i> | 131.92 | 1.56 | 0.99 | 2.8 | 75.19 |
| <i>Hoplostethus mediterraneus</i> | 104.06 | 1.55 | 1.96 | 2.78 | 77.97 |
| <i>Lampanyctus crocodilus</i> | 80.52 | 1.24 | 1.8 | 2.22 | 80.19 |
| <i>Galeus atlanticus</i> | 130.38 | 1.02 | 0.53 | 1.83 | 82.02 |
| <i>Plesionika martia</i> | 59.24 | 1 | 1.81 | 1.8 | 83.83 |
| <i>Coelorinchus caelorhincus</i> | 108.42 | 0.91 | 0.51 | 1.64 | 85.47 |
| <i>Conger conger</i> | 81.52 | 0.9 | 1.03 | 1.62 | 87.09 |
| <i>Galeodea rugosa</i> | 48.67 | 0.74 | 1.26 | 1.33 | 88.42 |
| <i>Alepocephalus rostratus</i> | 119.15 | 0.72 | 0.36 | 1.3 | 89.72 |
| <i>Lophius budegassa</i> | 81.09 | 0.61 | 0.45 | 1.09 | 90.81 |

Cluster BAL-GR

Average similarity: 39.92

| Species | Av.Abund | Av.Sim | Sim/SD | Contrib% | Cum.% |
|---------------------------------|----------|--------|--------|----------|-------|
| <i>Galeus melastomus</i> | 207.01 | 7.66 | 1.84 | 19.2 | 19.2 |
| <i>Phycis blennoides</i> | 110.59 | 5.03 | 1.69 | 12.6 | 31.79 |
| <i>Aristeus antennatus</i> | 90.87 | 4.47 | 1.47 | 11.2 | 42.99 |
| <i>Lampanyctus crocodilus</i> | 79.93 | 3.32 | 1.48 | 8.32 | 51.31 |
| <i>Geryon longipes</i> | 63.77 | 2.01 | 0.84 | 5.03 | 56.35 |
| <i>Plesionika martia</i> | 48.02 | 1.95 | 1.65 | 4.87 | 61.22 |
| <i>Todarodes sagittatus</i> | 65.72 | 1.51 | 0.6 | 3.78 | 65 |
| <i>Etmopterus spinax</i> | 44.06 | 1.45 | 0.87 | 3.63 | 68.63 |
| <i>Nezumia aequalis</i> | 39.49 | 1.23 | 0.92 | 3.07 | 71.7 |
| <i>Pasiphaea multidentata</i> | 23.17 | 0.9 | 0.88 | 2.26 | 73.97 |
| <i>Trachyrincus scabrus</i> | 61.12 | 0.81 | 0.39 | 2.02 | 75.99 |
| <i>Conger conger</i> | 39.46 | 0.8 | 0.5 | 2 | 77.99 |
| <i>Plesionika acanthonotus</i> | 17.11 | 0.62 | 1.13 | 1.56 | 79.54 |
| <i>Polycheles typhlops</i> | 15.16 | 0.54 | 1.26 | 1.35 | 80.9 |
| <i>Histioteuthis reversa</i> | 23.39 | 0.53 | 0.52 | 1.33 | 82.23 |
| <i>Lepidion lepidion</i> | 22.19 | 0.5 | 0.54 | 1.25 | 83.47 |
| <i>Notocanthus bonaparte</i> | 16.23 | 0.45 | 0.62 | 1.13 | 84.61 |
| <i>Hymenocephalus italicus</i> | 16.9 | 0.44 | 0.71 | 1.09 | 85.7 |
| <i>Merluccius merluccius</i> | 26.12 | 0.35 | 0.26 | 0.88 | 86.58 |
| <i>Nephrops norvegicus</i> | 28.5 | 0.34 | 0.43 | 0.85 | 87.42 |
| <i>Sergia robusta</i> | 9.69 | 0.3 | 0.82 | 0.75 | 88.18 |
| <i>Stomias boa boa</i> | 11.56 | 0.29 | 0.56 | 0.72 | 88.9 |
| <i>Chauliodus sloani</i> | 11.44 | 0.27 | 0.47 | 0.68 | 89.58 |
| <i>Micromesistius poutassou</i> | 19.75 | 0.26 | 0.32 | 0.65 | 90.23 |

Cluster COR-GL

Average similarity: 44.87

| Species | Av.Abund | Av.Sim | Sim/SD | Contrib% | Cum.% |
|-----------------------------------|----------|--------|--------|----------|-------|
| <i>Galeus melastomus</i> | 300.12 | 7.82 | 3.04 | 17.43 | 17.43 |
| <i>Nephrops norvegicus</i> | 174.34 | 4.29 | 2.46 | 9.57 | 27 |
| <i>Helicolenus dactylopterus</i> | 158.7 | 3.95 | 2.65 | 8.81 | 35.81 |
| <i>Coelorinchus caelorhincus</i> | 113.65 | 3.33 | 2.22 | 7.43 | 43.24 |
| <i>Pagellus bogaraveo</i> | 186.79 | 2.61 | 0.7 | 5.81 | 49.05 |
| <i>Plesionika martia</i> | 85.17 | 2.39 | 1.94 | 5.33 | 54.39 |
| <i>Chimaera monstrosa</i> | 112.45 | 2.3 | 1.14 | 5.13 | 59.51 |
| <i>Phycis blennoides</i> | 80.49 | 2.05 | 1.95 | 4.56 | 64.07 |
| <i>Hoplostethus mediterraneus</i> | 86.16 | 1.55 | 0.97 | 3.46 | 67.53 |
| <i>Lepidorhombus boscii</i> | 57.02 | 1.32 | 1.42 | 2.95 | 70.48 |
| <i>Etmopterus spinax</i> | 52.8 | 1.26 | 1.52 | 2.8 | 73.29 |
| <i>Nezumia sclerorhynchus</i> | 58.92 | 1.26 | 0.99 | 2.8 | 76.08 |
| <i>Hymenocephalus italicus</i> | 38.18 | 1.02 | 1.71 | 2.28 | 78.37 |
| <i>Dipturus oxyrinchus</i> | 78.41 | 1.02 | 0.51 | 2.27 | 80.63 |
| <i>Chlorophthalmus agassizi</i> | 58.42 | 0.85 | 0.94 | 1.9 | 82.53 |
| <i>Parapenaeus longirostris</i> | 28.52 | 0.59 | 0.9 | 1.32 | 83.85 |
| <i>Polycheles typhlops</i> | 22.28 | 0.58 | 2.22 | 1.29 | 85.14 |
| <i>Isidella elongata</i> | 99.66 | 0.57 | 0.26 | 1.28 | 86.42 |
| <i>Lophius piscatorius</i> | 94.83 | 0.55 | 0.34 | 1.23 | 87.65 |
| <i>Micromesistius poutassou</i> | 79.65 | 0.39 | 0.41 | 0.88 | 88.53 |
| <i>Merluccius merluccius</i> | 45.86 | 0.37 | 0.39 | 0.84 | 89.36 |
| <i>Todarodes sagittatus</i> | 39.59 | 0.37 | 0.32 | 0.82 | 90.18 |

Cluster ESPN
Average similarity: 48.30

| Species | Av.Abund | Av.Sim | Sim/SD | Contrib% | Cum.% |
|---------------------------------|----------|--------|--------|----------|-------|
| <i>Galeus melastomus</i> | 89.36 | 12.56 | 2.14 | 26.01 | 26.01 |
| <i>Phycis blennoides</i> | 42.71 | 6.29 | 2.42 | 13.02 | 39.03 |
| <i>Aristeus antennatus</i> | 34.51 | 5.05 | 1.54 | 10.46 | 49.49 |
| <i>Lampanyctus crocodilus</i> | 31.37 | 3.91 | 2.06 | 8.1 | 57.59 |
| <i>Geryon longipes</i> | 33.32 | 3.07 | 0.84 | 6.36 | 63.96 |
| <i>Nephros norvegicus</i> | 15.44 | 1.62 | 1.31 | 3.35 | 67.31 |
| <i>Plesionika martia</i> | 12.76 | 1.56 | 1.41 | 3.24 | 70.54 |
| <i>Todarodes sagittatus</i> | 16.07 | 1.38 | 0.71 | 2.86 | 73.4 |
| <i>Polycheles typhlops</i> | 9.21 | 1.37 | 2.58 | 2.84 | 76.23 |
| <i>Trachyrincus scabrus</i> | 19.15 | 1.36 | 0.9 | 2.82 | 79.06 |
| <i>Nezumia aequalis</i> | 11.85 | 1.25 | 1.1 | 2.58 | 81.64 |
| <i>Merluccius merluccius</i> | 15.25 | 0.87 | 0.39 | 1.81 | 83.45 |
| <i>Pasiphaea multidentata</i> | 6.62 | 0.81 | 1.37 | 1.68 | 85.12 |
| <i>Conger conger</i> | 10.98 | 0.71 | 0.51 | 1.48 | 86.6 |
| <i>Micromesistius poutassou</i> | 9.23 | 0.66 | 0.53 | 1.37 | 87.97 |
| <i>Scyliorhinus canicula</i> | 9.38 | 0.55 | 0.43 | 1.14 | 89.11 |
| <i>Plesionika acanthonotus</i> | 3.83 | 0.4 | 1.08 | 0.82 | 89.93 |
| <i>Histioteuthis reversa</i> | 6.73 | 0.37 | 0.47 | 0.77 | 90.7 |

Cluster CENTM
Average similarity: 43.56

| Species | Av.Abund | Av.Sim | Sim/SD | Contrib% | Cum.% |
|-----------------------------------|----------|--------|--------|----------|-------|
| <i>Galeus melastomus</i> | 67.95 | 9.1 | 2.21 | 20.9 | 20.9 |
| <i>Phycis blennoides</i> | 32.36 | 4.22 | 1.98 | 9.68 | 30.59 |
| <i>Nezumia aequalis</i> | 26.11 | 3.41 | 1.97 | 7.84 | 38.42 |
| <i>Hoplostethus mediterraneus</i> | 35.73 | 3.33 | 1.18 | 7.63 | 46.06 |
| <i>Aristaeomorpha foliacea</i> | 28.1 | 3.29 | 1.29 | 7.55 | 53.61 |
| <i>Etmopterus spinax</i> | 21.09 | 2.66 | 1.47 | 6.11 | 59.72 |
| <i>Plesionika martia</i> | 16.68 | 2.03 | 1.76 | 4.66 | 64.38 |
| <i>Hymenocephalus italicus</i> | 12.43 | 1.56 | 1.58 | 3.57 | 67.95 |
| <i>Lampanyctus crocodilus</i> | 13.43 | 1.54 | 1.05 | 3.52 | 71.47 |
| <i>Aristeus antennatus</i> | 16.4 | 1.35 | 0.58 | 3.1 | 74.57 |
| <i>Polycheles typhlops</i> | 9.07 | 1.17 | 1.8 | 2.69 | 77.26 |
| <i>Todarodes sagittatus</i> | 17.35 | 1.12 | 0.52 | 2.56 | 79.83 |
| <i>Coelorinchus caelorhincus</i> | 15.55 | 0.96 | 0.6 | 2.21 | 82.04 |
| <i>Merluccius merluccius</i> | 17.3 | 0.9 | 0.44 | 2.06 | 84.1 |
| <i>Helicolenus dactylopterus</i> | 15.47 | 0.78 | 0.48 | 1.79 | 85.89 |
| <i>Nettastoma melanorum</i> | 6.56 | 0.54 | 0.68 | 1.23 | 87.12 |
| <i>Parapenaeus longirostris</i> | 8.38 | 0.51 | 0.49 | 1.16 | 88.28 |
| <i>Nephrops norvegicus</i> | 8.74 | 0.5 | 0.51 | 1.15 | 89.43 |
| <i>Chimaera monstrosa</i> | 10.02 | 0.4 | 0.33 | 0.91 | 90.34 |