

with other sphaeromatids is probably herbivorous, feeding primarily on diatoms within the sand or on plant detritus. The preference shown by *S. amathitis* for the lower part of medium to coarse sand beaches probably relates to the relatively well-oxygenated water-saturated nature of these sediments (Jansson, 1967).

Summary

A eubranchiate sphaeromatid isopod new to science has been recorded during quantitative sampling of sand beaches at Watamu Marine Park, Kenya. Although this sphaeromatid superficially resembles a number of other genera, the eubranchiate nature of the fourth and fifth pairs of pleopods in combination with the non-emarginate pleotelson, and absence of marked sexual dimorphism, clearly separates it from them.

Analysis of the habitat preferences indicate that this new sphaeromatid prefers the MLWN level of fairly exposed beaches composed of medium to coarse grained particles. No defined pattern of swimming activity was recorded and behavioural experiments indicate a fossorial existence for this isopod in contrast to the mode of life of most other isopods in the same beaches. Examination of gut morphology and contents indicate that this sphaeromatid is most probably a herbivore.

We would like to thank Dr J. G. Field and Dr J. Loyola e Silva for the provision of sphaeromatid specimens from South Africa and Brazil respectively. Part of this work was carried out during the Bangor/Watamu Expedition and we are grateful to the Royal Society, the Percy Sladen Memorial Trust, the Ministry of Overseas Development, the East African Wildlife Society, and many other organisations who provided financial support for this expedition.

REFERENCES

- Barnard, K. H. (1940). Contributions to the crustacean fauna of South Africa. 12. Further additions to the Tanaidacea, Isopoda, and Amphipoda, with keys for the identification of hitherto recorded marine and freshwater species. *Ann. S. Afr. Mus.* **32**: 381-515.
- Bocquet, C. & Lejeuz, R. (1967). Sur un nouveau Sphérome appartenant à la faune endogée des sables de la région de Roscoff, *Sphaeroma teissieri* n. sp. *C.r. hebdom. Séanc. Acad. Sci., Paris* **256**: 689-692.
- Brown, A. C. (1964). Food relationships on the intertidal sandy beach of the Cape Peninsula. *S. Afr. J. Sci.* **60**: 35-41.
- Chilton, C. (1909). The Crustacea of the subantarctic islands of New Zealand. In *The subantarctic islands of New Zealand* **2**: 601-671. C. Chilton (Ed.), Wellington.
- Day, J. H. (1969). *A guide to the marine life on South African shores*. Cape Town: A. A. Balkema.
- Enright, J. T. (1965). Entrainment of a tidal rhythm. *Science, N.Y.* **147**: 864-867.
- Hale, H. M. (1925). Review of Australian Isopods of the Cymothoid group. Pt. 1. *Trans. R. Soc. S. Aust.* **49**: 128-185.
- Hansen, H. J. (1890). Cirolanidae et Familiae nonnullae propinquaee Musei Hauniensis. *K. danske Vidensk. Selsk. Skr.* **5**: 239-426.
- Hansen, H. J. (1905). On the propagation, structure, and classification of the family Sphaeromatidae. *Q. Jl microsc. Sci.* **49**: 69-135.
- Holdich, D. M. (1971). Changes in physiology, structure and histochemistry occurring during the life-history of the sexually dimorphic isopod *Dynamene bidentata* (Crustacea: Peracarida). *Mar. Biol.* **8**: 35-47.
- Holdich, D. M. & Ratcliffe, N. A. (1970). A light and electron microscope study of the hindgut of the herbivorous isopod, *Dynamene bidentata* (Crustacea: Peracarida). *Z. Zellforsch. mikrosk. Anat.* **111**: 209-227.
- Jansson, B. O. (1967). The availability of oxygen for the interstitial fauna of sandy beaches. *J. exp. mar. Biol. Ecol.* **1**: 123-143.

- Jones, D. A. (1968). The functional morphology of the digestive system in the carnivorous intertidal isopod *Eurydice*. *J. Zool., Lond.* **156**: 363-376.
- Jones, D. A. (1971). The systematics and ecology of some sand beach isopods (Crustacea: Eurydicidae) from the coast of Kenya. *J. Zool., Lond.* **165**: 201-227.
- Jones, D. A. & Naylor, E. (1970). The swimming rhythm of the sand beach isopod *Eurydice pulchra*. *J. exp. mar. Biol. Ecol.* **4**: 188-199.
- Lejuez, R. (1966). Comparaison morphologique, biologique et génétique de quelques espèces du genre *Sphaeroma* Latreille (Isopodes flabellifères). *Archs Zool. exp. gen.* **107**: 471-667.
- Loyola e Silva, J. (1960). Sphaeromatidae do littoral Brasileiro (Isopoda-Crustacea). *Bolm Univ. Paraná* **4**: 1-182.
- Menzies, R. J. (1954). Review of the systematics and ecology of the genus '*Exosphaeroma*', with the description of a new species, and a new sub-species (Crustacea, Isopoda, Sphaeromatidae). *Am. Mus. Novit.* No. 1683: 1-24.
- Menzies, R. J. (1962). The zoogeography, ecology and systematics of the Chilean marine isopods. (*Rep. lund. Univ. Chile Exped. 1948-1949* No. 42) *Acta Univ. lund.* N.F. avd. 2. **57** (11): 1-162.
- Menzies, R. J. & Frankenberg, D. (1966). *Handbook on the common marine isopod Crustacea of Georgia*. Athens: Georgia Press.
- Menzies, R. J. & Glynn, P. W. (1968). The common marine isopod Crustacea of Puerto Rico. *Stud. Fauna Curaçao* **27** (104): 1-133.
- Monod, T. (1931). Tanaidacés et isopodes aquatiques de l'Afrique occidentale et Septentrionale. Pt. 3. Sphaeromatidae. *Mém. Soc. Sci. nat. Maroc* **29**: 1-91.
- Richardson, H. (1905). A monograph on the isopods of North America. *Bull. U.S. natn. Mus.* **54**: 1-727.
- Schultz, G. A. (1969). *The marine isopod crustaceans*. The pictured-key nature series: "How to know the ...". Iowa: Wm C. Brown Co. Publ.
- Vohra, F. C. (1971). Zonation on a tropical sandy shore. *J. anim. Ecol.* **40**: 678-708.