

As upwelling appears to be present all year round, surface occurrences of deep water species at *Terra Nova* stations 85-7, 89, 92-3, 100, 107, 118, 126-30 and 139, in August are caused by upward movement of deeper water layers over the ridge that extends northwest from the north of New Zealand.

LITERATURE CITED

- BRADY, G. S., 1883. Report on the Copepoda collected by HMS "Challenger" during the years 1873-76. *Rep. scient. Results explor. Voyage Challenger* 8: 1-142.
- 1899. On the marine Copepoda of New Zealand. *Trans. zool. Soc. Lond.* 15(2): 31-54, 5 pls.
- FARRAN, G. P., 1926. Biscayan plankton collected during a cruise of H.M.S. "Research", 1900. Part XIV. The Copepoda. *J. Linn. Soc.* 36(243): 219-310, pl. 5-10.
- 1929. Copepoda. *Br. Antarct. Terra Nova Exped. 1910* 8(3): 203-306.
- GARNER, D. M., 1959. The Sub-tropical Convergence in New Zealand surface waters. *N.Z. Jl Geol. Geophys.* 2: 315-37.
- 1961. Hydrology of New Zealand coastal waters, 1955. *N.Z. Dept. sci. industr. Res. Bull.* 138: 85pp.
- GARSTANG, W., 1933. Doliolida. *Br. Antract. Terra Nova Exped. 1910* 4(6): 195-251.
- GRICE, G. D., 1962. Calanoid copepods from equatorial waters of the Pacific Ocean. *Fishery Bull. Fish Wildl. Serv. U.S.* 186: 246pp.
- GRICE, G. D., HULSEMAN, K., 1965. Abundance, vertical distribution and taxonomy of calanoid copepods at selected stations in the northeast Atlantic. *J. Zool.* 146(2): 213-62.
- 1967. Bathypelagic calanoid copepods of the western Indian Ocean. *Proc. U.S. natn. Mus.* 122(3583): 67pp.
- HAMON, B. V., 1961. The structure of the East Australian Current. *Tech. Pap. Div. Fish. Oceanogr. C.S.I.R.O. Aust.* 11: 11pp.
- HARMER, S. F.; LILLIE, D. G., 1914. List of collecting stations. *Br. Antarct. Terra Nova Exped. 1910* 11(1): 1-12, 4 maps.
- HURLEY, D. E., 1953. Studies towards a revision of the New Zealand amphipoda fauna. *Ph.D. Thesis, Victoria Univ., Wellington, New Zealand.*
- KRAMER, A., 1895. On the most frequent pelagic copepods and cladoceres of the Hauraki Gulf. *Trans. Proc. N.Z. Inst.* 27: 214-23.
- STANTON, B. R., 1969. Hydrological observations across the tropical convergence north of New Zealand. *N.Z. Jl mar. Freshwat. Res.* 3(1): 124-46.
- THOMSON, G. M.; ANDERTON, T., 1921. History of the Portobello marine fish-hatchery and biological station. *Bull. N.Z. Bd sci. Art* 2: 131pp.
- VAN DER LINDEN, W. J. M., 1968. Three Kings Bathymetry. *N.Z. Oceanogr. Inst. Chart, Oceanic Series, 1: 1,000,000.*
- VERVOORT, W., 1957. Copepods from Antarctic and sub-antarctic plankton samples. *Rep. B.A.N.Z. antarct. Res. Exped.* 3(3): 1-160.
- 1963. Pelagic Copepoda. Part I. Copepoda Calanoida of the families Calanidae up to and including Euchaetidae. *Atlantide Rep.* 7: 75-194.
- 1965. Pelagic Copepoda. Part II. Copepoda Calanoida of the families Phaennidae up to and including Acartiidae, containing the description of a new species of Aetideidae. *Atlantide Rep.* 8: 9-216.
- WYRTKI, K., 1960. The surface circulation in the Coral and Tasman Seas. *Tech. Pap. Div. Fish. Oceanogr. C.S.I.R.O. Aust.* 8: 44pp.

JANET M. BRADFORD, PHD,
N.Z. Oceanographic Institute, D.S.I.R.,
P.O. Box 8009,
Wellington.