

**Program of the Tenth Symposium of Polar Biology
held at the National Institute of Polar Research, Tokyo,
November 24-26, 1987**

—Contributed Papers—

A. Terrestrial and Freshwater Biology

I. Algae and Paleoecology

1. Floristic study of algae of inland waters near Syowa Station, Antarctica. II. Lake Ô-ike, West Ongul Island. Akinobu OGUNI and Eiji TAKAHASHI.
2. Ecological significance of structure of cyanobacterial mat in Antarctica. Akira SHIMIZU, Kenji KIMURA, Shuji OHTANI and Hiroshi KANDA.
3. Allelopathic effects of Antarctic mosses and lichens on the growth of algae. Masaru AKIYAMA, Hiroshi KANDA and Shuji OHTANI.
4. Vertical distribution of organic constituents in Lake Fryxell of the Dry Valleys, Antarctica. Genki I. MATSUMOTO, Kunihiko WATANUKI and Tetsuya TORII.
5. Comparative studies on petrified plants between Antarctica and Patagonia. Makoto NISHIDA and Harufumi NISHIDA.

II. Microbiology and Lichens

6. Microbiological investigation of the human pollution at Syowa Station in Antarctica. Akihiro MATSUMAE and Sayoko TOYODA.
7. Microbial activity in soils from Antarctica (Casey Station, Budd Coast). M. BÖLTER.
8. Recent studies on the endolithic microorganisms of the Ross Desert. E. I. FRIEDMANN.
9. On distributional trends of lichens in ice-free areas of Sôya Coast and Prince Olav Coast. Masakane INOUE.
10. Distribution and speciation of genera *Pannoparmelia* and *Anzia*. Isao YOSHIMURA.

III. Microfauna

11. Some soil nematodes from Anvers Islands, Antarctica. Yukio SHISHIDA and Yoshikuni OHYAMA.
12. Ecological distribution of terrestrial tardigrades of forest upper limits on Mt. Fuji. Masamichi ITO.
13. On Antarctic tardigrades. Kazuo UTSUGI and Yoshikuni OHYAMA.
14. Microfauna of freshwater habitat in Schirmacher Oasis, Antarctica. B. S. INGOLE and A. H. PARULEKAR.

B. Marine Biology

I. Marine Environments

15. Characteristics of oceanic structures along 37°E in the Southern Ocean. Mikio NAGANOBU and Shouhei SATAKE.
16. On the characteristics of distribution of krill and its marine environment mean the Antarctic Divergence. Noboru MATSUURA.
17. A preliminary analysis on physical and chemical feature of the Southern Ocean in 1986-1987 (JARE 28). Yutaka MICHIDA and Shinobu INAZUMI.
18. Nutrients distributions in the Eastern Drake Passage. Fukashi FUKUI, Nobuyuki KADOYA, Shiro OKABE and Yuzo KOMAKI.
19. A research plan of physical and biological oceanographic studies with a marine tower in an Okhotsk sea ice zone. Masaaki AOTA, Kunio SHIRASAWA and Masao ISHIKAWA.

II. Primary Production (I)

20. Continuous measurement of chlorophyll *a* under the sea ice of Lake Saroma, Hokkaido. Mitsuo FUKUCHI, Hiroshi SASAKI, Kentaro WATANABE, Atsushi TANIMURA, Hiroo SATOH and Yukuya YAMAGUCHI.
21. Primary productivity under sea ice in Lake Saroma, in March 1987. Hiroo SATOH, Yukuya YAMAGUCHI and Kentaro WATANABE.
22. Ice algae and phytoplankton in Lake Saroma (a sea lake in northern part of Japan) during freezing period in 1986/87. Kentaro WATANABE, Hiroo SATOH, Atsushi TANIMURA, Mitsuo FUKUCHI, Yukuya YAMAGUCHI and Hiroshi SASAKI.

II. Primary Production (II)

23. Continuous measurement of chlorophyll *a* on board SHIRASE in summer of 1986/87. Mitsuo FUKUCHI and Tsunemi KUBODERA.
24. Vertical flux and chemical composition of organic materials in the coastal water of the Antarctica. Nobuhiko HANDA, Mitsuo FUKUCHI, Takao HOSHIAI and Hiroshi HATTORI.
25. Temporal changes of sinking matter during phytoplankton bloom in Breid Bay, Antarctica. Hiroshi HATTORI, Mitsuo FUKUCHI, Hiroshi SASAKI and Takao HOSHIAI.
26. Biological productivity in the marginal ice zone and the oceanic region in Antarctica, 1983–1987. X. N. VERLENCAR, J. I. GOES and A. H. PARULEKAR.
27. Ecological studies on marine algal flora of Ellis fjord, Vestfold Hills, Antarctica. V. K. DHARGALKAR.

III. Zooplankton

28. Planktonic copepods from Patagonian fjord waters, southern Chile, with special reference to discoveries of the North Pacific species. Kazumasa HIRAKAWA.
29. Distribution of chaetognaths in the Pacific sector of the Southern Ocean. Makoto TERAZAKI.
30. Summer distribution of the four copepods in the water off Lützow-Holm Bay, Antarctica. Satoshi YAMADA and Takashi MINODA.
31. Ice-associated food chain in Antarctic coastal water in relation to a copepod, *Paralabidocera antarctica*. Atsushi TANIMURA, Takao HOSHIAI, Kentaro WATANABE and Mitsuo FUKUCHI.

Special Lecture

Review of Japanese BIOMASS programme, 1977–1986. Takahisa NEMOTO and Takao HOSHIAI.

IV. Micronekton

32. RNA content in the Antarctic krill (*Euphausia superba*). Tsutomu IKEDA.
33. Pelagic young squids collected by 10-foot IKPT in the JARE-28 cruise. Tsunemi KUBODERA.
34. Vertical distribution and diet of *Stenobrachius nannochir* (Myctophidae) in the southern Bering Sea. Masahiro FURUHASHI and Kenji SHIMAZAKI.

V. Fish (I)

35. Comparative studies on the kidneys and urinary bladders of Antarctic teleosts and their adaptation for the frozen sea. Mizuho OGAWA and Mitsuo FUKUCHI.
36. Characterization of glycoprotein in the skin mucus of the Antarctic fish, *Trematomus bernacchii*. Makio ASAKAWA, Yasushi FUKUDA and Mitsuo FUKUCHI.

V. Fish (II)

37. Tagging experiment of nototheniid fish, *Trematomus bernacchii* BOULENGER, under the coastal fast ice in Lützow-Holm Bay, Antarctica. Kouichi KAWAGUCHI, Osamu MATSUDA and Shingo ISHIKAWA.

38. The growth of Antarctic fishes in Japan. Shigeru SAKAKIBARA, Yoshitaka KONDO, Teruo TOBAYAMA and Takao HOSHIAI.
- V. Fish (III)
39. The food of the Antarctic fish in the waters around the South Shetland Islands in summer. Masanori TAKAHASHI.
40. Notes on fishes from the stomach of whales taken in the Antarctic. II. Tokiharu ABE and Tetsuo IWAMI.
41. Relationships between stomach contents and jaw structures in notothenioid fishes. Tetsuo IWAMI and Masanori TAKAHASHI.
42. Summer distribution of some pelagic fish in the northern Bering Sea. Tsuneo NISHIYAMA, M. WILLETTE and Kiyoshi MASUDA.
- VI. Benthos
43. Isopod crustaceans obtained by the 26th Japanese Antarctic Research Expedition. Shigeo GAMO.
44. Benthic gastropods collected with a beam-trawl by JARE-26 (1984-85). Hideki NUMANAMI and Takashi OKUTANI.
45. Distribution of circumpolar palinurid *Jasus* and complete larval development. Jiro KITTAKA.
- VII. Sea Bird and Marine Mammal (I)
46. The segregation of the southern minke whale. Hidehiro KATO.
47. The occurrence of ribbon seal pups in large numbers along the northeastern coast of Japan during the spring of 1984. Yasunori SAKURAI, Keiichi ABE and Yasuhiko NAITO.
48. Distribution of steller sea lion and other pinnipeds along the coast of Shiretoko Peninsula, Hokkaido. Masami YAMANAKA, Hiroyuki UNO, Yutaka WATANABE and Kenji SHIMAZAKI.
- VII. Sea Bird and Marine Mammal (II)
49. Long term continuous deep diving of northern elephant seal. Yasuhiko NAITO and B. LEBOEUF.
50. Diving behaviour of Adélie penguins observed by the time depth recorder during their nesting season. Yasuhiko NAITO, Tomohiro ASAGA and Masaaki MURANO.
- VIII. Bioaccumulation of Heavy Metals (I)
51. Mercury contents of copepods (Crustacea) collected in the Antarctic Sea region. Reiichiro HIROTA, Yasushi FUKUDA, Junko CHIBA, Shizuko TAJIMA and Motoo FUJIKI.
52. Heavy metal accumulations in pelagic seabirds, and their variations with the species and habitats. Katsuhisa HONDA, Shinya KAN, Ryo TATSUKAWA and Haruo OGI.
- VIII. Bioaccumulation of Heavy Metals (II)
53. Tissue distribution of cadmium, and their variations with age and sex in the southern minke whale, *B. acutorostrata*. Yoshiji YAMAMOTO, Katsuhisa HONDA, Isao MATSUMOTO, Yuka MATSUMOTO, Ryo TATSUKAWA and Noriaki HAMADA.
54. Chemical forms of renal cadmium in southern minke whale, *B. acutorostrata*. Noriaki HAMADA, Sunao YAMAZAKI, Syozo TODA, Yoshiji YAMAMOTO, Katsuhisa HONDA and Ryo TATSUKAWA.
55. Variations in concentration of persistent organochlorines with reproductive processes in minke whale from Antarctic Ocean. An. SUBRAMANIAN, Shinsuke TANABE and Ryo TATSUKAWA.

—Poster Papers—

A. Terrestrial Biology

1. Growth responses of *Ceratodon purpureus* in culture. R. J. HANCOCK and R. D. SEPPELT.
2. Soils and vegetation in deserted penguin rookeries (King George Island, West Antarctica). A. TATUR and A. MYRCHA.
3. On the polyploidy of Antarctic moss *Bryum*. Hiroshi OKADA and Hiroshi KANDA.
4. Coexistence between mosses and algae in the sub-antarctic regions. Tarow SEKI, Taketo NAKANO, Shuji OHTANI and Hiroshi KANDA.

B. Marine Biology

5. Swim angle of *Euphausia pacifica*. Yoshinari ENDO.
6. Thymic development in an Antarctic (*Pleuragramma antarcticum* BOULENGER 1902) and a warmer water (*Dicentrarchus labrax* L.) marine teleost. J. G. O'NEILL.
7. The inflammatory response of the Antarctic silverfish, *Pleuragramma antarcticum* BOULENGER 1902 (Teleostei: Nototheniiformes) to an infestation by the plerocercoid of a pseudophyllidean cestode (*Diphyllobothrium* sp.). J. G. O'NEILL, M. G. WHITE, T. A. SIMS and D. L. BARBER.
8. Reversible cardiac arrest in the Antarctic fish *Notothenia neglecta*. K. HOSHINO, P. H. LUCCHIARI and M. BACILA.
9. Oxygen levels in Antarctic fishes muscle with increasing temperature. P. H. LUCCHIARI, E. FANTA and M. BACILA.
10. Krill population structure and zooplankton community structure in the western Prydz Bay region, October 1985. G. W. HOSIE and M. STOLP.
11. The interaction of physical oceanographic processes with the ice edge phytoplankton bloom in the Bering Sea in spring 1987. H. J. NIEBAUER, V. ALEXANDER and S. OKKONEN.
12. Comparison of feeding parts of *Euphausia superba* and *Euphausia crystallorophias*. M. STOLP, S. NICOL and G. NASH.
13. Effect of environmental impact on the behavior of some Antarctic fish. E. FANTA, P. H. LUCCHIARI, M. J. CAVALCANTI and M. BACILA.