

Program of the 18th Symposium on Polar Biology
held at the National Institute of Polar Research, Tokyo,
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—Contributed Papers—

Arctic Terrestrial Biology

- O 1. Structure of *Dryas octopetala* community in Arctic and Japan. MASUZAWA, T., KANDA, H. and NISHITANI, S.
- O 2. Soil respiration in relation to primary succession in Spitsbergen. KOIZUMI, H., BEKKU, Y., KUME, A. and MASUZAWA, T.
- O 3. Soil microarthropods at the glacier foreland in Spitsbergen Island. YOSHIDA, K. and OHYAMA, Y.
- O 5. Soil microbiological and botanical observations at Taimyr Peninsula and Severnaya Zemlya. BÖLTER, M. and KANDA, H.
- O 6. Activity of lichens under the influence of snow and ice. KAPPEN, L.

Biological Processes in the Southern Ocean

- O 7. SIEFS related activities during 1991/92 (JARE-33)–1995/96 (JARE-37). FUKUCHI, M.
- O 8. Research activities during the R/V HAKUHO MARU cruise (KH-94-4) in the Antarctic divergence area in 1994 austral summer. KAWAGUCHI, K.
- O 9. An outline of the Antarctic research cruise by the R/V KAIYO MARU around the South Shetland Islands in 1994/95. NAGANOBU, M., ICHII, T., KAWAGUCHI, S., OGISHIMA, T. and TAKAO, Y.
- O10. A review of recent ANARE marine biological cruise. Has the new ship performed? HOSIE, G., MARCHANT, H.J., MARE, W.D.L., NICOL, S., PAULY, T. and WILLIAMS, R.
- O11. The potential role of melted “brown ice” as sources and chelators to the surface waters of the Weddell Sea, Antarctica. BRANDINI, F. and BAUMANN, M.E.M.
- O12. The zooplankton community structure of Prydz Bay, January–February 1993. Where are the krill? HOSIE, G. and COCHRAN, T.G.
- O13. Respiration and oxidative phosphorylation in isolated mitochondria from Antarctic fish tissues and organs. SUGIZAKI, M., LUCCHIARI, P.H. and BACILA, M.

Poster Session I: Terrestrial Biology

A. Terrestrial community in deglaciated area

- P 1. Microbial biomass in relation to primary succession in Spitsbergen. BEKKU, Y., KUME, A. and KOIZUMI, H.
- P 2. Geoecology of arctic vegetation of Ellesemere Island, Arctic Canada. KOIZUMI, T.
- P 3. Shoot form variation of Purple Saxifrage (*Saxifraga oppositifolia* L.). KUME, A., INO, Y. and MASUZAWA, T.
- P 4. Reproductive characteristics of *Polygonum viviparum* L. NISHITANI, S. and MASUZAWA, T.

B. Ecology of alpine zone

- P 5. Ecophysiological studies of *Saussurea triptera* Maxim. community in alpine zone on Mt. Fuji. TABUCHI, Y. and MASUZAWA, T.
- P 6. Establishment of *Carex doenitzii* on the alpine zone of Mt. Fuji. KIBE, T., MASUZAWA, T. and KANDA, H.
- P 7. Growth responses of alpine plants to an artificially manipulated environment. TSUBOTA, M., WADA, N. and KOJIMA, S.
- P 8. Green house effect on alpine plants—Phenological and climatic monitoring by experimental warming, Mt. Kisokomagatake, Central Japanese Alps—. NAKASHINDEN, I., MIZUNO, K.,

TAKAOKA, S., IJIMA, Y., MASUZAWA, T., FUKUYO, S., YAMAMOTO, S., KOBAYASHI, S., YAMAMOTO, T., KIMURA, K. and MACHIDA, H.

- P 9. Distribution and growth of *Larix gmelinii* (Rupr.) Rupr. at the forest limit of Mt. Proskaya, central Kamchatka. OKITSU, S.

C. Taxonomy of lichens and algae

- P10. Photobionts of some species of lichen collected from alpine areas in Japan. IIDA, T., NAKANO, T., KANDA, H. and DEGUCHI, H.
- P11. Photobionts of some species of lichen in Antarctica. AOKI, M., NAKANO, T., KANDA, K. and DEGUCHI, H.
- P12. Taxonomical study of soil algae in Antarctic. YAMASAKI, F., NAKANO, T., KANDA, K. and DEGUCHI, H.
- P13. Species composition of snow algae at Yala Glacier, Nepal Himalaya. OHTANI, S., YOSHIMURA, Y. and KOHSHIMA, S.

D. Others

- P14. Biogeochemical features of organic compounds in cryptoendolithic microbial communities from the McMurdo Dry Valleys, Antarctica. MATSUMOTO, G.I., FRIEDMANN, E.I., SEKIYA, E., KOSAKU, S., MOTOHASHI, T., WATANUKI, K. and OCAMPO-FRIEDMANN, R.
- P12. *Cis-trans* Isomerase of unsaturated fatty acid in psychrophilic bacteria. ENARI, D., KUSANO, T. and OKUYAMA, H.
- P16. Changes in glycerol content of Antarctic *Dunaliella* at low temperature and light-shielded conditions. WATANUKI, T., MATSUSHITA, K., NISHINA, M. and KATO, K.
- P17. Geographical variation in the *period* gene of *Chymomyza*. SHIMADA, K. and HAYAKAWA, Y.
- P18. Response of Antarctic ecosystem to climate changes. TATUR, A.
- P19. Local island populations of reindeers in the Russian Arctic: Status and protection. BELKOV, S. and BOLTUNOV, A.

Poster Session II. Marine Biology

E. Marine physical/Chemical environments

- P20. Distribution of total dissolved inorganic carbon in the upper layer of the Southern Ocean. ISHII, M., YOSHIKAWA, H. and TANOUE, E.
- P21. Temporal and spatial variations in oceanic CO₂ observed during the KH-94-4 cruise. INOUE, H.Y., ISHII, M. and MATSUEDA, H.
- P22. Growth responses of Antarctic phytoplankton to iron stress. TAKEDA, S., SAKAGUCHI, I. and WATANABE, K.
- P23. Vertical distribution and potential sources and sinks of organic ligands for copper in the Southern Ocean. MIDORIKAWA, T. and TANOUE, E.
- P24. Photosynthetic production of organic compounds in Antarctic marine phytoplankton in presence of ultraviolet radiation: Implications of the Antarctic marine food. GOES, J.I., HANDA, N., SUZUKI, K., TAGUCHI, S. and HAMA, T.

F. Flux/Ice algae

- P25. Vertical fluxes of organic materials in the Southern Ocean. HAYAKAWA, K., HANDA, N. and FUKUCHI, M.
- P26. Variability in the flux of sinking particles in austral summer in the ice-edge area of the Antarctic Ocean. SUZUKI, H., SASAKI, H., TAKAYAMA, M., INAMURA, T., SUZUKI, K., KUDOH, S. and FUKUCHI, M.
- P27. Seasonal variability of particle flux under the coastal fast ice near Syowa, Antarctica. WATANABE, K., SATO, T. and FUKUCHI, M.
- P28. Vertical flux of ice algae during a melting season of sea ice in Saroma Ko lagoon. TAGUCHI, S., SAITO, H., HATTORI, H. and SHIRASAWA, K.
- P29. Distribution of the two types of ice diatom communities in the polar seas. Precipitation determine the type? MEGURO, H., FUKUSHIMA, H. and MATSUDA, T.

G. Phytoplankton/Others

- P31. Diel changes of chlorophyll *a* in sub-surface chlorophyll *a* maximum layers (SCM layers) near sea-ice edge in Southern Ocean (64°40'S, 140°00'E). KUDOH, S., FUKUCHI, M., YASUDA, M., SUZUKI, K., SUZUKI, H. and SASAKI, H.
- P32. Vertical distribution of phytoplankton abundance on the northern Bering shelf in summer. IMAI, K., YANADA, M. and MAITA, Y.
- P33. Biological process in the lower trophic levels in the Okhotsk Sea during the feeding migration of juvenile salmon. SHIMIZU, I. and UENO, Y.
- P34. Late Pleistocene to Holocene paleoceanographic changes of the eastern part of Lützow-Holm Bay, Antarctica based on the foraminiferal assemblages in marine sediments. IGARASHI, A., NUMANAMI, H., TSUCHIYA, Y., FUKUCHI, M. and SAITO, T.
- P35. Estimation of chlorophyll concentration vertical profile around the Antarctic ocean derived from CZCS images by the statistical method. KIMURA, N. and OKADA, Y.
- P36. Interannual variation in summer phytoplankton blooms at an inshore Antarctic site. GIBSON, J.A.E., SWADLING, K.M. and BURTON, H.R.

H. Zooplankton

- P37. Vertical distribution of *Oithona similis* and *Oncaea curvata* (Cyclopoida, Copepoda) under the fast ice near Syowa Station, Antarctica during winter. TANIMURA, A., HOSHINO, K., NONAKA, T., HATTORI, H. and MIYAMOTO, Y.
- P38. Coincidence of climate fluctuations with variability in the Antarctic krill (*Euphausia superba* Dana) recruitment. NAGANOBU, M., KUTSUWADA, K. and SASAKI, Y.
- P39. Cannibalism of Antarctic krill (Focusing on salps). KAWAGUCHI, S. and TAKAHASHI, Y.
- P40. Possible top-down control of regional plankton abundance by salmonids and other fishes in the oceanic subarctic Pacific. NAGASAWA, K., SHIOMOTO, A., TADOKORO, K. and ISHIDA, Y.
- P41. Community grazing rates of coastal Antarctic zooplankton. SWADLING, K., GIBSON, J.A.E., RITZ, D.A., NICHOLS, P.D. and HUGHES, D.E.

I. Krill/Fish

- P42. Aspects of the biology of fishes caught along with the Antarctic krill in the vicinity of the South Shetland Islands. WATANABE, M., IWAMI, T. and NUMANAMI, H.
- P43. Importance of myctophid fish distributions for formation of foraging areas of chinstrap penguins and Antarctic fur seals at Seal Island. ICHII, T., TAKAO, T., BENGTSON, J.L., BOVENG, P., BABA, N., NAGANOBU, M., KAWAGUCHI, S. and OGISHIMA, T.
- P44. Distribution patterns and reproduction of fishes of the family Macrouridae in the Antarctic shelf water. IWAMI, T. and NAITO, Y.
- P45. Vertical movements of adult chum salmon as recorded by micro data logger. TANAKA, H., TAKAGI, Y., IWATA, M. and NAITO, Y.
- P46. Homing mechanisms of salmonid fishes in the northern unfreezable lake. UEDA, H., KAERIYAMA, M. and YAMAUCHI, K.
- P47. Cold adaptation in saffron cod and the effect of salmon prolactin. OGAWA, M., SUGAI, T., MURATA, J., WATANUKI, T. and FUKUCHI, M.
- P48. Intestine cells and the exocrine pancreas of the Antarctic fish *Trematomus newnesi*, *Notothenia neglecta* and *Nototheniops nudifrons* (Nototheniidae) and its relation with their feeding habits. FANTA, E. and VIANNA, A.C.
- P49. Kidney cell morphology of the Antarctic fish *Trematomus newnesi*, *Nototheniops nudifrons*, *Notothenia Neglera* N. (G.) *gibberifrons* (Nototheniidae) and *Ophthalmolycus concolor* (Zoarcidae). FANTA, E. and CRUZ, S.Z.DA

J. Benthos

- P50. Molluscs collected from abyssal depth off Antarctica. NUMANAMI, H., OKUTANI, T. and TAKEUCHI, I.
- P51. Contributions to the benthic fauna of shelf areas of Lützow-Holm Bay and Casey Bay, East Antarctica. SHIBUYA, M. and NUMANAMI, H.

K. Sea birds/Marine mammal

- P57. Body core temperature and metabolic rate of fasting Leach's storm-petrels. NIIZUMA, Y., TAKAHASHI, A. and WATANUKI, Y.
- P58. Diving patterns of Rhinoceros Auklet. KUROKI, M., KATO, A., WATANUKI, Y. and NAITO, Y.
- P59. Foraging and breeding performance of Japanese cormorants in relation to annual change in prey type. KATO, A., WATANUKI, Y., HAYASHI, E. and NAITO, Y.
- P60. Body temperature regulation in aquatic large reptiles. SATO, K., NAITO, Y., SAKAMOTO, W., TANAKA, H., MATSUZAWA, Y. and MINAMIKAWA, S.
- P61. Advances in studying the foraging behavior of Weddell seals. BORNEMANN, H. and PLOTZ, J.
- P62. Oxygen consumption of harbor porpoise in relation to swimming behavior in captivity. OTANI, S., NAITO, Y. and KAWAMURA, A.
- P63. Oceanographical analysis on the southern minke whale distribution based on the data during Japanese research take in 1994/95. NAGANOBU, M., KANO, H., FUJISE, Y. and NISHIKAWA, S.