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A BIBLIOGRAPHY ON THE BIOCHEMISTRY, NUTRITION,
AND RELATED AREAS OF AQUATIC MAMMALS
AND ARCTIC PEOPLE TO 1983

by

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ABSTRACT

Yurkowski, M. 1985. A bibliography on the biochemistry, nutrition, and related areas of aquatic mammals and Arctic peoples to 1983. Can. Tech. Rep. Fish. Aquat. Sci. 1361: iv + 236 p.

The bibliography proper consists of some 3 100 references in alphabetic order by author covering the biochemistry, nutrition, and related areas of aquatic mammals and Arctic peoples. Taxonomic and subject indexes to the citations listed are given. In the taxonomic index references are listed under marine mammals, Cetacea, Pinnipedia, genera and species of Cetacea, Pinnipedia, Ursidae and Mustelidae, and Inuit. In the subject index the references are listed under 28 areas, some of which are interrelated. Citations date from 1845 to 1983.

Key words: whale; seal; sea lion; walrus; sea otter; polar bear; Eskimo; toxic compounds; food; Inuit; Cetacea; Pinnipedia; Ursidae; Mustelidae.

RESUME

Yurkowski, M. 1985. A bibliography on the biochemistry, nutrition, and related areas of aquatic mammals and Arctic peoples to 1983. Can. Tech. Rep. Fish. Aquat. Sci. 1361: iv + 236 p.

La bibliographie comporte quelque 3 100 références classées alphabétiquement par auteur, et portant sur la biochimie des mammifères aquatiques et des peuples de l'Arctique, ainsi que sur leur nutrition et d'autres domaines connexes. L'on y trouve les index taxinomiques, et l'index par matières. Dans l'index taxinomique, les entrées sont faites à mammifères marins, cétacés, pinnipèdes, d'ursidés et de mustélidés, ainsi que Inuit. Dans l'index par matières, les références sont répertoriées selon 28 domaines dont certains connexes. Les citations datent de 1845 à 1983.

Mots-clés: baleine; phoque; lion de mer; morse; loutre de mer; ours polaire; eskimo; substances toxiques; aliments; Inuit; cétacés; pinnipèdes; ursidés; mustélidés.

INTRODUCTION

Although various species of aquatic mammals (Cetacea, Pinnipedia, Ursidae and Mustelidae) are becoming less significant to the commercial fishery of the world, some are still important to the subsistence hunt for the peoples of the Arctic. The over-exploitation and activities of man are creating conditions that are leading to the extinction of some species. If we are to know the ecological implications to the well-being and survival of aquatic mammal species, studies on the various effects of biochemistry, nutrition and related areas such as toxicology are important to provide the necessary information or knowledge.

This bibliography was compiled to provide a ready source of published information on biochemistry, nutrition, and related areas of most species of aquatic mammals and Inuit. The generic, specific common and scientific names are given in the taxonomic index. Genus and species names in most cases are those given in the references. Authorities for specific names follow Ridgway (1972a). The most recent acceptable common names are given in brackets.

FORMAT OF THE BIBLIOGRAPHY

AUTHOR INDEX

The author index is the bibliography proper. References are listed first alphabetically by authors and then chronologically by year of publication. For purposes of keying in the taxonomic and subject index, the references with same authors (two or less), or same first author (more than two authors), and same year of publication are differentiated by placing small letters after the year of publication.

TAXONOMIC INDEX

The taxonomic index is the key to references on the various mammals covered. The genera and species of Cetacea are listed by family and those of Pinnipedia by family then sub-family. Under each family or sub-family, genera and species are listed alphabetically. In the Table of Contents the sub-family or family names are listed. See "NOTES ON THE INDICES" for a full list of genera and species covered in the bibliography.

SUBJECT INDEX

The subject index provides a key to references by 28 subject areas. These are listed under subject index in the Table of Contents. The comments in the list (shown in parentheses) explain topics covered by that heading.

COMPILATION OF THE BIBLIOGRAPHY

The bibliography has been primarily compiled from manual searches of Chemical Abstracts (from 1947 to 1983) and Biological Abstracts

(1926 to 1983). Bibliographies on Pinnipedia (Ronald et al. 1976, 1983), references cited by Ridgway (1972a) and other available papers were also searched for relevant material. For the year 1983, CAN/SDI: BIDSIS Previews (Biological Abstracts) searches were also made. Some relevant references prior to 1926 especially those of Cetacea, polar bear and sea otter are expected to be missing. However, it is hoped that most major references are provided and can be located in libraries.

NOTES ON THE INDICES

AUTHOR INDEX

The titles of journals have been abbreviated following "Serial Sources for the BIOSIS data base" when listed. Those not listed in this book have been abbreviated as in "Chemical Abstracts Service Source Index."

When the title of non-English language publications is known; they are given in that language. However, some of the sources only gave titles in English. As far as possible the original language of the paper is indicated in parentheses at the end of the citation. Some references lack final page numbers or other details but we trust that sufficient detail is given to allow users to find the papers in a library.

TAXONOMIC INDEX

References are listed under marine animals (in general) followed by Cetacea, Pinnipedia, Mustelidae (Enhydra lutris), Ursidae (Ursus maritimus) and Inuit. Cetacea and Pinnipedia are broken down into families and species following Ridgway (1972). Users are referred back to the author index using the conventional author and date. Lower case "a", "b", etc. are used to differentiate between papers by the same author(s) (for more than two authors, the first author and "et al." was used) in the same year. Notes in parentheses indicate the general subject matter including applicable subject index area(s) in a paper.

SUBJECT INDEX

References are listed under 28 subject areas (for names of areas and their explanations (except for "special topics") in parenthesis, refer to subject index in Table of Contents). Subject area "special topics" covers references not covered under the other 27 areas and those providing general (biology; ecology) and specific (tissue sampling; tagging; ageing; strandings; noise; diseases; weight measurements of bodies, organs and tissues; regulations, etc.) information relevant to nutritional and biochemical studies of aquatic mammals. Users are referred back to the Author Index using the convention of author and date. Lower case "a", "b", etc. are used to differentiate between papers by the same author(s) (for more than two authors, the first author and "et al." was used) in the same year. Notes in parenthesis indicate

taxonomic index name(s) of animal(s) studied and general subject matter in a paper.

ALPHABETIC LIST OF AQUATIC MAMMALIAN SPECIES AND INUIT

All genus and species names (including common names in parenthesis) are listed alphabetically with page numbers to the taxonomic index proper. Papers using different pinniped genus and species names, given in parenthesis and similar to those of King (1983), were converted to those according to Ridgway (1972a).

<u>Genus species (Common names)</u>	<u>Page</u>
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<u>Arctocephalus forsteri</u> (New Zealand fur seal)	152
<u>Arctocephalus galapagoensis</u> (Galapagos fur seal)	152
<u>Arctocephalus gazella</u> (Antarctic or Kerguelen fur seal)	152
<u>Arctocephalus philippii</u> (<u>Otaria philippii</u>) (Juan Fernandez or Guadalupe fur seal)	152
<u>Arctocephalus pusillus</u> (Cape or South African fur seal)	152
<u>Arctocephalus tasmanicus</u> (Sub-species of Australian fur seal)	152
<u>Arctocephalus tropicalis</u> (Amsterdam Island or subantarctic fur seal)	153
<u>Arctocephalus</u> spp.	153
<u>Balaena australis</u>	128
<u>Balaena glacialis</u>	128
<u>Balaena mysticetus</u> (Bowhead, great polar, Arctic or Greenland right whale)	128
<u>Balaena sieboldii</u> (northern right whale)	128
<u>Balaena</u> spp.	128
<u>Balaenoptera acutorostrata</u> (Minke, little piked or little finner whale; lesser rorqual)	128
<u>Balaenoptera borealis</u> (northern or Rudolphi's rorqual; pollack, sardine, Japan finner or sei whale)	128
<u>Balaenoptera brydei</u>	130
<u>Balaenoptera davidsoni</u>	130
<u>Balaenoptera edeni</u> (Bryde's whale)	130
<u>Balaenoptera musculus</u> (blue or great whale; Sibbold's rorqual)	130
<u>Balaenoptera physalus</u> (fin or finback whale; common rorqual)	130
<u>Balaenoptera sibbaldi</u> (blue whale)	132
<u>Berardius bairdi</u> (Baird's beaked or Pacific beaked whale)	146
<u>Berardius</u> spp.	146
<u>Callorhinus ursinus</u> (northern, Alaskan or Pribilof fur seal)	153
<u>Cephalorhynchus commersoni</u> (Commerson's dolphin; piebald dolphin; Le Jacobite)	153
<u>Cystophora cristata</u> (hooded, crested or bladdernose seal)	157
<u>Delphinapterus leucas</u> (beluga or white whale)	139
<u>Delphinus delphis</u> (common dolphin)	134
<u>Delphinus longirostris</u>	134
<u>Delphinus</u> spp.	134
<u>Enhydra lutris</u> (sea otter)	173
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<u>Eschrichtius gibbosus</u> (California gray whale)	133
<u>Eschrichtius glaucus</u>	133
<u>Eschrichtius robustus</u> (gray whale)	133
<u>Eumetopias jubata</u> (<u>Eumetopias jubatus</u>) (Steller's or northern sea lion)	155
<u>Eubalaena glacialis</u> (black right or right whale)	128
<u>Feresa attenuata</u> (slender blackfish, slender pilot or pygmy killer whale)	138
<u>Globicephala macrorhyncha</u> (short-finned blackfish)	138
<u>Globicephala melaena</u> (pilot whale; Atlantic blackfish; calling whale)	138
<u>Globicephala scammoni</u> (Pacific pilot whale; blackfish)	138
<u>Globicephala</u> spp.	138
<u>Grampus griseus</u> (Risso's dolphin)	139
<u>Halichoerus grypus</u> (gray or Atlantic seal)	162
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<u>Hydrurga leptonyx</u> (leopard seal)	159
<u>Hyperoodon ampullatus</u> (bottle-nosed whale)	146
<u>Hyperoodon planifrons</u> (southern bottle-nosed whale)	146
<u>Hyperoodon rostratus</u>	146
<u>Inia geoffrensis</u> (Amazon River dolphin; pink porpoise)	142
<u>Inuit</u> (Eskimo)	175
<u>Kogia breviceps</u> (pigmy sperm whale; lesser cachalot)	139
<u>Kogia simus</u> (Owen's pigmy sperm whale)	139
<u>Lagenodelphis hosei</u>	134
<u>Lagenorhynchus acutus</u> (Atlantic white-sided dolphin)	134
<u>Lagenorhynchus albirostris</u> (white-beaked dolphin)	134
<u>Lagenorhynchus obliquidens</u> (Pacific white-sided or Pacific white-striped dolphin)	134
<u>Lagenorhynchus obscurus</u> (dusky dolphin)	135
<u>Leptonychotes weddelli</u> (Weddell seal)	160
<u>Lipotes vexillifer</u> (baiji; Chinese Lake, Chinese River or white flag dolphin; peic'ha)	142
<u>Lissodelphis borealis</u> (northern right whale dolphin)	135
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Canada); Sergeev 1962 (Product; vitamin; enrichment of oil with vitamin D); Severinghaus 1979 (Bibliography); Severinghaus & Nerini 1977 (Bibliography); Sharp 1975 (Haematology; electrophoretic & oxygen-dissociated properties of hemoglobins of dolphins); Shirai et al. 1977 (Enzyme; isozymes of creatine kinase in porpoise heart & brain); Sidwell 1981 (Lipid; mineral; product; vitamin; chemistry & nutritional composition); Sigel 1972 (Special topic; virological studies of dolphins); Sinitsyna et al. 1972 (Endocrinology; isolation of growth hormone & prolactin from hypophysis & their characteristics); Skinder 1979 (Nutrition; captivity); Skinder & Mead 1979 (Special topic; strandings, problems & solutions); Sleptsov 1961b (Food; distribution of feeding areas & whales in Okhotsk Sea); Slijper 1954 (Special topic; importance of measuring thickness of layers of blubber), 1956 (Reproduction; gestation & birth), 1958 (Special topic; organ weights & symmetry problems of porpoises), 1962 (Special topic; book); Smith et al. 1979a (Haematology; red blood cell deformity); Soldatovic & Petrovic 1970 (Toxic compounds; toxic poisoning with Tl, As & Hg & use of dithiocarbamate as antidote for porpoise); Sorimachi & Ui 1974 (Endocrinology; iodoamino acid distribution on thyroglobins of various spp.); Stolk 1952 (Special topic; tumor), 1953a (Special topic; tumor), 1953c (Special topic; tumor); 1954a (Special topic; inflammation), 1962 (Special topic; tumor); Storey & Hochachka 1974 (Carbohydrate & energetics; enzymes; diving; glycolytic enzyme in muscle; role of pyruvate kinase in aerobic & anaerobic transitions during diving); Stoyanov 1971 (Special topic; immunization of porpoise); Stroud & Roffe 1979 (Special topic; causes of death; Washington & Oregon); Stroud et al. 1979 (Special topic; mortality studies St. George I.); Suyama & Maruyama 1969a (Protein; balenine in dolphin muscle); Sweeney & Ridgway 1975 (Care; procedure for clinical management of small spp.), 1975a (Special topic; common diseases); Tachibana et al. 1972 (Endocrinology; toxic glycopeptide from stomach mucosa); Takaoka 1944 (Enzyme; protein; protease); Takaoka et al. 1946 (Lipid; vitamin; vitamin A content of liver; saponification No.; unsaponifiable matter; iodine No.; acid No.); Takemura 1927b (Mineral; protein; total N, Na, K & Ca of synovial fluid); Tamura & Ui 1970 (Endocrinology; origin of multiple components of thyroid-stimulating hormone), 1972a (Endocrinology; 4 active thyroid-stimulating components from pituitary gland), 1972b (Endocrinology; isolation of thyroid-stimulating component with luteinizing hormone activity); Tamura-Takahashi & Ui 1977 (Endocrinology; purification & properties of 4 biologically-active components of luteinizing hormone); Tanaka & Hata 1950 (Product; meat freezing using different heat conductivity on its surface); Tanaka 1982 (Food; krill; sighting survey); Tarr et al. 1950 (Vitamin; vitamin B₁₂ content); Taruska et al. 1975 (Toxic compounds; DDT, PCB, chlordane & dieldrin in blubber of 18 cetaceans); Taverner 1975 (Toxic compounds; product; protein; meal & solubles in pig feed; Hg accumulation in pig tissues); Tavalga 1983 (Biological sonar; theoretical principles for study of communication); Tawara & Fukazawa 1950a (Vitamin; vitamin A content of liver), 1950b (Vitamin; vitamin A content in liver), 1950c (Vitamin; factors in vitamin A decomposition in oil); Telfer et al. 1970 (Water; do dolphins drink water?); Terao et al. 1970 (Nucleic acid; pancreatic ribonuclease); Thompson 1978 (Special topic; California marine mammals center); Thompson & Kon 1950 (Vitamin; vitamin A content in liver); Tinoco 1982 (Lipid); Tinyakov et al. 1973 (Molting; patterns of skin microstructure); Titova 1958 (Product; digestibility of meat by foxes); Toda & Seno 1970 (Protein; sialic acid in keratin sulfate fraction from cartilage); Todd 1963 (Product; meal fed to pigs; Queensland); Tomilin 1946 (Nutrition; milk & lactation), 1957 (Special topic; Cetacea of U.S.S.R.), 1977 (Thermoregulation; peri-, semi- & aquatic mammals); Tomilin et al. 1982 (Special topic; tagging of small spp.; non-traumatic method); Toyomizu et al. 1963 (Lipid; product; oil on fatty acid composition of rainbow trout); Tranter 1977a (Food; planktonic ecosystems studies of E. Indian Ocean; Copepoda), 1977b (Food; planktonic ecosystem studies of E. Indian Ocean; Amphipoda); Tranter & Kerr 1977 (Food; numerical abundance & biomass of plankton; E. Indian Ocean); Troitskaya 1968 (Myoglobin; proteolytic enzyme hydrolyses of myoglobin; peptide maps); Turner & Norris 1966 (Biological sonar; discriminative echolocation; porpoise); Tyutyunnikov & Grechishnikova 1965 (Lipid; low molecular weight fatty acids in fat); U.S. Marine Mammal Commission 1979 (Bibliography); Van Genderen et al. 1950 (Vitamin; vitamin A); Vernberg 1976 (Toxic compounds; effects of pollution); Ver Ploeg et al. 1971 (Myoglobin; mechanism & catalysis for addition of cyanide to myoglobins); Viale 1981 (Special topic; lung pathology in stranded; Mediterranean sea); Vincenti & Chabert 1978 (Toxic compounds; Pb, PCB, DDT, DDE & ODD in dolphin blubber); Voogt & De Vries 1966 (Protein; balenine); Wagemann & Muir 1984 (Toxic compounds; heavy metals & organochlorines; overview & evaluation); Wahnou 1956 (Lipid; product; head oil triglycerides; uses); Waldern 1963 (Product; solubles in beef calf feed); Wartzok et al. 1980 (Special topic; radio tag); Watanabe & Suzuki 1950b (Product; proximate composition; various parts); Waterworth 1964 (Product; nutritive quality & available amino acid composition of protein concentrates); Watson 1981 (Special topic; bibliography; sea guide to world's whales); Wedmid 1975 (Biological sonar; NMR spectroscopy of isoaleryl triglycerides using lanthanide shift reagents); Watkins 1975 (Food; right whale feeding & baleen rattle); Watkins et al. 1980 (Special topic; radio tag); White 1953 (Milk & lactation; composition of milk); Wilhelm & Tastaldi 1964 (Vitamin; tocopherols); Williams & Natoli 1972 (Product; solubles in pig feed); Winters & Carscadden 1978 (Food; review of capelin ecology & estimation of surplus yield from predator dynamics); Wollenberger et al. 1958 (Mineral; protein; orthophosphate & phosphocreatine content of heart); Wood 1978 (Bibliography), 1980 (Bibliography); Woodman & Evans 1948 (Product; composition & nutritive value of meat meal fed to pigs); Woodhouse et al. 1979 (Special topic; strandings; Santa Barbara channel region); Wynston et al. 1960 (Endocrinology; thyrotropin); Yamagawa & Nakamura 1926 (Endocrinology; chemical study of pancreatic insulin); Yasugi et al. 1983 (Lipid; brain cerebroside; 2-O-acylgalactose ceramide); Yazawa 1933 (Protein; nucleic acid; hypoxanthine, histidine & lysine); Yone & Tomiyama 1953 (Nutrition; product; extraction of

antianemic factors); Yozhizawa 1964 (Carbohydrate & energetics; ω -heparin isolated from organs); Zenkovitch 1938 (Milk & lactation; milk of large spp.), 1970 (Food; Antarctic plankton); Zitko 1975 (Toxic compounds; aromatic hydrocarbons); Zubchenko 1977 (Special topic; biosorption).

Mystoceti; Balaenidae

Balaena australia

Townsend 1935 (Special topic; distribution; logbooks of American whaleships).

Balaena glacialis

Toyama & Takai 1954 (Lipid; physicochemical properties of oil).

Balaena mysticetus Linnaeus, 1758 (bowhead whale; Great Polar whale; Arctic or Greenland right whale)

Arnason 1982 (Nucleic acid; DNA); Arnason et al. 1982 (Nucleic acid; DNA); Beaubier et al. 1970 (Food; N.W.T.); Braham & Krogman 1977 (Special topic; population biology; Bering, Chukchi & Beaufort seas); Braham et al. 1977 (Food; Bering, Chukchi & Beaufort seas); Brown 1868 (Food; Davis Str. & Baffin I.); Brueggeman 1982 (Food; early spring distribution; Bering Sea); Christiansen 1981 (Food; polar bear foraged on dead whale); Finley et al. 1974 (Food; number & distribution; central Canadian Arctic); Finley & Johnson 1977 (Special topic; distribution; vicinity of Somerset I. - Bellot Str. on Aug.-Sept. 1976); Fraker 1979a (Special topic; spring migration; Beaufort Sea); Fraker et al. 1978 (Special topic; S. Beaufort Sea); Frost & Lowry 1981 (Food; feeding & trophic relationship; Bering Sea); Henry et al. 1983 (Special topic; gross anatomy of respiratory system); Herwig et al. 1983 (Lipid; stomach microbial formation of volatile fatty acids); Johnson et al. 1966 (Food); Lowry et al. 1978 (Food; Point Barrow, Alaska); Mansfield 1971 (Special topic; occurrence in Canadian Arctic); Marquette 1977 (Food; catch by Alaskan Eskimos); Mitchell 1975 (Food; trophic relationship & competition for food; N.W. Atlantic); Nemoto 1970 (Food; feeding patterns); Reeves 1980 (Special topic; Spitzbergen stock; short review); Ross 1974 (Special topic; distribution, migration & depletion in Hudson Bay 1860-1915); Scammon 1874 (Food; N.W. coast of N. America; account of American whale fishery); Scoresby 1820 (Special topic; account of Arctic regions with history & description of northern whale fishery); Sergeant & Hoek 1975 (Food; special topic; seasonal distribution, E. Beaufort Sea); Tillman 1980 (Special topic; scientific perspective); Townsend 1935 (Special topic; distribution; log of American whaleships).

Balaena sieboldii (northern right whale)

Townsend 1935 (Special topic; distribution logbooks of American whaleships).

Eubalaena glacialis Borowski, 1781 (black right whale; right whale)

Tsuyuki & Itoh 1970 (Lipid; fatty acid composition of blubber, liver, stomach & tongue); Tsuyuki et al. 1964 (Lipid; fatty acid composition of liver oil); Tsuyuki & Naruse 1963 (Lipid; fatty acid composition of oil), 1964 (Lipid; fatty acid composition of brain neutral lipids & phospholipids); Watkins 1975 (Food; feeding); Watkins & Schevill 1979 (Food; feeding behaviour), 1982 (Food; feeding; Cape Cod, Massachusetts, U.S.A.).

Balaena sp.

Mermoz 1980 (Special topic; preliminary report; S.W. Atlantic).

Mystoceti; Balaenopteridae

(Balaenoptera acutorostrata Lacépède, 1804 (minke whale; lesser rorqual; little piked whale; little finner whale).

Arnason 1982 (Nucleic acid; DNA); Arnason et al. 1976 (Nucleic acid; liver; DNA), 1977 (Nucleic acid; DNA); 1978 (Nucleic acid; DNA), 1982 (Nucleic acid; DNA); Best 1982 (Special topic; food; reproduction; seasonal abundance, feeding, reproduction, age & growth; Durban, Antarctic); Betesheva 1961 (Food; Kurile region), 1962 (Food; Kurile area; stomach content); Borisov 1981a (Haematology; myoglobin; protein; electrophoresis of hemoglobin & myoglobin), 1981b (Enzyme; haematology; protein; electrophoresis of lactate dehydrogenase isozymes of blood plasma, corpus luteum, corpus albicans & testes), 1981c (Protein; evolution & taxonomy; electrophoresis of proteins; haptoglobins); Braekkan 1948 (Vitamin; vitamin A & D, riboflavin & thiamine in liver, blubber areas and tongue); Bricteux-Gregoire et al. 1975 (Enzyme; nucleic acid; isolation of pancreatic ribonuclease, trypsinogen and 2 chymotrypsinogens); Henry and Best 1983 (Toxic compounds; DDT, dieldrin & PCB in blubber); Ishihara 1960 (Enzyme; protein; crystalline stomach pepsin), 1961 (Enzyme; lipid; pancreatic lipase); Kendrew et al. 1954 (Evolution & taxonomy; myoglobin; spp. specificity of myoglobins); Kusakabe et al. 1962 (Protein; content of anserine, carnosine, creatine & amino acids); Lehman 1980 (Myoglobin; structure); Partman & Schlaszus 1973 (Protein; free amino acids, anserine & carnosine of muscle); Pederson 1950 (Lipid; content of saturated fatty acids in blubber); Saito & Yokoyama 1954 (Endocrinology; insulin extraction); Sergeant 1963a (Special topic; N.W. Atlantic), 1982 (Special topic; mass stranding); Ueno & Mitsushima 1958 (Lipid; composition of oil); Undrum et al. 1982 (Protein; meat ophidine (β -alanyl-3-methylhistidine) in human urine); Xu et al. 1983 (Special topic; food; reproduction; eat Ammodytes personatus & Euphausia pacifica; body length & embryo length).

Balaenoptera borealis Lesson 1828 (sei whale; northern rorqual; pollack whale; sardine whale; Japan finner whale; Rudolphi's rorqual)

Ackman et al. 1975c (Lipid; blubber fat deposition in Mystoceti), 1975b (Lipid; layering &

- & tissue composition of blubber; N.W. Atlantic); Arnason et al. 1977 (Nucleic acid; DNA), 1978 (Nucleic acid; DNA), 1982 (Taxonomy & evolution, nucleic acid; DNA); Betesheva 1961 (Food; Kurile region), 1962 (Food; stomach content; Kurile area); Borisov 1981a (Haematology; protein; taxonomy & evolution; myoglobin; electrophoresis of hemoglobin & myoglobins), 1981b (Enzyme; haematology; taxonomy & evolution; protein; electrophoresis of lactate dehydrogenase; isozymes in blood plasma, corpus luteum, corpus albicans & testes), 1981c (Protein; evolution & taxonomy; electrophoresis of proteins; haptoglobins); Bottino 1978 (Lipid; lipids of blubber, liver, muscle and stomach contents (Parathemisto gaudichaudii); triglycerides and phospholipids; positional distribution of fatty acids); Brockerhoff et al. 1968 (Lipid; positional distribution of fatty acids in depot triglycerides); Brown & Mayhall 1977 (Enzyme; protein; urea formation in liver; urea cycle; ornithine carbamyl transferase activity); Bulatov et al. 1983 (Endocrinology; neurotropic effect of pituitary somatotropin & its fragments); Elizandrova et al. 1982 (Endocrinology; isolation & partial characterization of amino-acid sequence of prolactin); Gamble 1968 (Reproduction; seasonal cycle & reproduction in the S. hemisphere); Gill & Hughes 1971 (Food; Pacific saury, Cololabis saira); Gray et al. 1951b (Product; mineral; vitamin; composition of liver extract); Hashimoto & Mamuro 1967 (Lipid; hydrocarbons; pristane & squalene in unsaponifiable matter of blubber oil); Hasnain 1978 (Protein; tryptic susceptibility of actinomycin); Henry & Best 1983 (Toxic compounds; DDT, dieldrin & PCB in blubber); Igarashi et al. 1956a (Lipid; heart phospholipids (PC; PE) and neutral lipids (unsaponifiable matter, cholesterol & fatty acids)), 1956b (Lipid; heart phosphatidic acid; iodine No. & fatty acids); Ishihara 1960 (Enzyme; protein; crystalline stomach pepsin); Ishihara et al. 1958 (Endocrinology; insulin structure; amino acid analysis); Ito et al. 1952 (Endocrinology; pituitary adrenocorticotropin activity); Jonsgard & Darling 1977 (Special topic; biology in E. Atlantic); Kawamura 1970 (Food; stomach contents; Japanese Antarctic expedition), 1974 (Food; eat 23 spp. of crustaceans; feeding ecology), 1982 (Food; stomach content; food habits; N. Pacific Ocean & prey distribution; zooplankton Calanus, Euphausia, Thysanoessa, Nematoscelis, Sergestes, Vinciguerra, Scomber, Cololabis, & Pseudopentaceros); Kawamura et al. 1976 (Protein; composition of baleen; amino acid composition; water & ash); Kawauchi et al. 1978 (Endocrinology; isolation & primary structure of adrenocorticotropin from pituitary); Kendrew et al. 1954 (Evolution & taxonomy; myoglobin; spp. specificity of myoglobins); Kimura et al. 1981 (Protein; electrophoresis of connectin from muscle); Komori & Morita 1951 (Lipid; brain sterols & unsaponifiable matter); Kusakabe et al. 1962 (Protein; content of anserine, carnosine, creatine & amino acids); Litchfield 1968 (Lipid; predicting positional distribution of 22:5 ω 6 & 22:6 ω 3 fatty acids in triglycerides); Lockyer 1977 (Nutrition; special topic; estimates of growth), 1978 (Nutrition; reproduction; theoretical approach to growth and energy balance, to female reproduction), Mednikov & Shubina 1976 (Nucleic acid; taxonomy & evolution; DNA); Mrochkov & Baidalinova 1974 (Protein; lipid; nucleic acid; mineral; proximate composition; lipid content & amino acid composition of meat; Co, Mn, Sn, anserine, carnosine & purines); Nemoto & Kawamura 1977 (Food; food habits & distribution; N. Pacific); Nemoto & Yoo 1970 (Food; eat Parathemisto gaudichaudii; Antarctic); Okura & Mori 1957 (Lipid; quality & properties of oil); Oseki 1934 (Product; vitamin; nutritive value & vitamins A & E content of liver); Osipova et al. 1978 (Endocrinology; pituitary somatotropin; structure studies); Pankov 1982 (Enzyme; endocrinology; role of proteolytic enzymes in biological activity of pituitary somatotrophic hormones); Pankov et al. 1982 (Endocrinology; pituitary somatotropin), 1976a (Endocrinology; structural characteristics of pituitary somatotropin), 1977 (Endocrinology; amino acid sequence of corticotropins), 1978 (Endocrinology; primary structure of pituitary body hormones; corticotropin, β -lipotropin, prolactin and somatotropin); Rice 1977 (Special topic; biological data; N.E. Pacific); Rzhavskaya & Mrochkov 1967 (Lipid; bibliography; characteristics of fats from various body parts); Saiki & Mori 1953d (Lipid; property of oil from various body tissues & stomach content); Saito & Yokoyama 1954 (Endocrinology; Langerhans' islet and insulin extraction); Sano et al. 1965 (Lipid; fatty acid composition of oil); Sano 1966c (Lipid; identification of 3,7,11,15-tetramethylhexadecanoic acid), 1967a (Lipid; identification of 4,8,12-trimethyltridecanoic acid; Antarctic); Sano & Murase 1965 (Lipid; fatty acid composition of blubber oil); Schmidt-Nielsen & Frog (Lipid; proximate composition; milk & lactation); Shoubridge et al. 1976 (Enzyme; diving; carbohydrate & energetics; evolution & taxonomy; LDH isozyme patterns for biochemical adaptation to diving); Suyama & Maruyama 1969b (Protein; carnosine, anserine & balenine in muscle); Suzuki & Mitsuhashi 1969 (Lipid; lipid & fatty acid composition of tendons; sterols & alcohols); Takao et al. 1949 (Enzyme; protein; stomach pepsin); Takemura 1927a (Protein; milk & lactation; protein content of milk); Travis et al. 1971 (Haematology; protein; electrophoresis of hemoglobins & haptoglobins), 1972 (Haematology; protein; immunoglobins; structure); Tsuchiya & Tanaka 1955 (Lipid; vitamin; vitamin A, cholesterol & hydrocarbon of liver); Watkins & Schevill 1979 (Food; feeding behavior); Yadaev et al. 1982 (Endocrinology; somatotropin, amino acid sequence); Yamagawa & Yasaka 1926 (Nucleic acid; pancreatic nucleoprotein; spleen histone, nucleoprotein; nucleic acid analysis & P content); Yoneda 1974 (Enzyme; protein; properties & preparation of carboxypeptidase A), 1980 (Enzyme; protein; amino acid compositions & protein form of pancreatic procarboxylpeptidase A & electrophoresis); Zama & Igarashi 1957 (Lipid; brain phospholipids (PC, PS, PI & PE) & their fatty acid composition), 1959a (Blood; brain phospholipids (PS & PE) & their fatty acid composition), 1959b (Lipid; brain phospholipid (PI) & its fatty acid composition); Zama 1963 (Lipid;

composition of phospholipids & their fatty acids in tissues).

Balaenoptera brydei

Kawamura 1982 (Food; stomach contents; food habits; N. Pacific Ocean & prey distribution; zooplankton Calanus, Euphausia, Thysanoessa, Nematoscelis, Sergestes, Vinciguerrria, Scomber, Cololabis, & Pseudopentaceros); Rice 1977 (Special topic; biological data; N.E. Pacific).

Balaenoptera davidsoni

Xu et al. 1983 (Special topic; food; reproduction; eat Ammodytes & Euphausia; body length & embryo length).

Balaenoptera edeni Anderson, 1878 (Bryde's whale)

Kawamura 1977 (Food; stomach content; crustacea of S. Pacific-Indian Ocean), 1980a (Food; stomach content; crustaceans; Pacific & Indian Oceans); Kawamura & Hamaoka 1981 (Food; stomach contents; eat fish, Vinciguerrria nimbaria, & crustaceans in S.W.N. Pacific); Kawamura 1982 (Food; stomach contents, food habits; N. Pacific Ocean & prey distribution; zooplankton Calanus, Euphausia, Thysanoessa, Nematoscelis, Sergestes, Vinciguerrria, Scomber, Cololabis, & Pseudopentaceros); Nemoto & Kawamura 1977 (Food; food habits & distribution in N. Pacific).

Balaenoptera musculus Linnaeus, 1758 (blue whale; great whale; Sibbold's rorqual)

Abe & Soda 1953 (Lipid; isolation of lipids from baleens & body; wax & sterols); Betesheva 1961 (Food; Kurile region); Bøe et al. 1951 (Endocrinology; adrenocorticotrophic hormone (pituitary prolactin) extraction); Borisov 1969b (Evolution & taxonomy; haematology; protein; antigenic properties of serum proteins); Braekkan 1948 (Vitamin; vitamins A & D, niacin, riboflavin & thiamine in liver, blubber areas & tongue); Denton 1963 (Lipid; special topic; buoyancy mechanism; long-chain fatty acids; review of lipids on buoyancy); Fujino 1962 (B.m. breviceauda; evolution & taxonomy; haematology; blood types); Gregory et al. 1955 (Carbohydrate & energetics; mineral; lipid; protein; vitamin; milk & lactation; composition milk); Hennings 1950 (Endocrinology; ACTH content in hypophysis; pituitary); Hirao et al. 1950 (Vitamin; vitamin A content of oil); Ishihara 1960 (Enzymes; protein; crystalline stomach pepsin); Kendrew et al. 1954 (Evolution & taxonomy; myoglobin; spp. specificity of myoglobins); Krogh 1934 (Special topic; physiology); Mackintosh & Wheeler 1928 (Special topic; report); Miyazaki et al. 1974 (Endocrinology; TSH content in posterior pituitary gland); Mori & Asakawa 1941 (Vitamin; vitamin A content of liver); Mrochov 1951 (Vitamin; vitamin A content of liver; Antarctic); Nagano et al. 1969 (Lipid; fatty acid composition; branched C₄-C₁₂ fatty acids); Nakayama 1950 (Vitamin; vitamin A content of liver & fecal oil); Novikova 1953 (Vitamin; vitamins B₁ & B₂ in liver, heart, tongue & brain); Okura &

Mori 1957 (Lipid; quality & properties of oil); Okura & Nagata 1957 (Lipid; properties of oil; Antarctic; iodine No. annual variations); Okura et al. 1957a (Lipid; oil content in blubber & iodine No. of oil); Pederson 1952a (Lipid; carbohydrate & energetics; proximate composition; lipid; ash, dry matter, and sugar content of milk); Pike 1950 (Food; crustaceans; Canadian); Rewell & Willis 1949 (Special topic; tumors); Rzhavskaya & Mrochov 1967 (Lipid; bibliography; characteristics of lipid from various body parts); Sabasi et al. 1950 (Vitamin; biological potency of liver vitamin A); Sano et al. 1965 (Lipid; fatty acid composition of oil); Sano 1966b (Lipid; fatty acid composition in bone oil; iso & anteiso fatty acids & phytanic acid; Antarctic), 1967a (Lipid; identification of 4,8,12-trimethyltridecanoic acid); Schmidt-Nielson et al. 1933 (Lipid; oil; color); Schmidt-Nielson & Frog 1933 (Lipid; proximate composition; milk & lactation); Schmidt-Nielson et al. 1933 (Lipid; lipochrome in oil); Shoubridge et al. 1976 (Enzyme; diving; carbohydrate & energetics; evolution & taxonomy; LDH isozyme patterns; biochemical adaptation to diving); Slijper 1948 (Special topic; thickness of blubber); Stolk 1950 (Special topic; tumor); Stolk 1953b (Special topic; hepatic cirrhosis); Stolk 1954b (Special topic; hepatic cirrhosis); Thompson & Friedl 1982 (Biological sonar; special topic; long-term study of low-frequency sounds off Oahu, Hawaii; seasonal migration & distribution); Thuesen 1953 (Lipid; cholesterol content of liver oil); Tveraen 1935 (Proximate composition; lipid; chemical analysis of oils); Vladimirtseva et al. 1981 (Special topic; influenza virus); Wheeler 1929 (Product; special topic; changes in condition of blubber); Yamada 1946 (Lipid; fat distribution in corium layers of skin).

Balaenopterus physalus Linnaeus, 1750 (fin whale; common rorqual; finback whale)

Abe & Soda 1953 (Lipid; isolation of lipid from baleens; body wax & sterols); Ackman & Eaton 1966 (Food; lipid; 20:1 and 22:1 fatty acids are derived from zooplankton, Meganyctiphanes norvegica); Ackman et al. 1968 (Lipid; milk & lactation; lipid content, fatty acid comparison of triglycerides (positional distribution) and phospholipids of milk; N. Atlantic), 1965a (Lipid; fatty acid composition of whale blubber & blubber sections; N. Atlantic), 1965b (Lipid; fatty acid composition of liver; 19:4ω5, N. Atlantic), 1971c (Lipid; fatty acid composition of blubber fats; N.W. Atlantic), 1975c (Lipid; blubber fat deposition); Ackman & Hooper 1968 (Lipid; milk & lactation; isoprenoid fatty acids; 4,8,12-trimethyltridecanoic acid; L,D,D- and D,D,D-diastereomers of pristanic & phytanic acids); Ackman & Sipos 1965 (Lipid; even- and odd-numbered and branched chain fatty acids of blubber); Aguilar & Jover 1982 (Toxic compounds; PCB & DDT residues; N. Atlantic); Arnason et al. 1976 (Nucleic acid; liver DNA), 1978 (Nucleic acid; DNA); Atassi & Saplin 1966 (Myoglobin; electrophoresis; physicochemical & immunological characterization & amino acid composition); Baker & Lauer 1971 (Carbohydrate &

- energetics; milk & lactation; carbohydrate content of casein); Beare-Rogers 1969 (Lipid; reaction of lipoxidase with polyenoic acids in marine oils); Betesheva 1955 (Food; Calanus tonsus; Thysanoessa inermis; T. longipes & Euphausia pacifica), 1961 (Food; Kurile region), 1962 (Food; stomach content; Kurile area); Bøe et al. 1951 (Endocrinology; pituitary prolactin extraction; adrenocorticotrophic activity); Borisov 1969b (Haematology; protein; evolution & taxonomy; antigenic properties of serum proteins), 1981a (Protein; haematology; taxonomy & evolution; myoglobin; electrophoresis of hemoglobin & myoglobins); Braekkan 1948 (Vitamin; vitamin A & D, niacin, riboflavin & thiamine in liver, blubber areas & tongue); Brockerhoff & Ackman 1967 (Lipid; milk & lactation; isomers of monoenoic fatty acids in glycerolipids of fat depots; positional distribution); Brodie et al. 1978 (Food; euphausiid, Meganctiphanes norvegica); Cama & Meara 1953 (Lipid; milk & lactation; milk & blubber fat content & fatty acid composition); Chauvet et al. 1963 (Endocrinology; neurohypophysial hormones; isolation & characterization of oxytocin & vasopressin), 1978 (Endocrinology; evolution & taxonomy; phylogeny of neurophysins; amino acid composition); Egorova 1964 (Product; vitamin; vitamin A & kitol content change in liver during storage), 1968 (Product; vitamin; vitamin A level change during γ -irradiation); Foglia & Penhos 1954 (Endocrinology; hormone content of hypophysis); Fujino 1962 (Haematology; blood types; Antarctic); Geschwind 1966 (Endocrinology; melanocyte-stimulating hormones from pituitary); Gray et al. 1951b (Product; mineral; vitamins; composition of liver extracts); Hama et al. 1964 (Endocrinology; amino acid sequence of insulin); Hashimoto et al. 1966 (Lipid; monoenoic, dienoic & trienoic fatty alcohols); Hennings 1950 (Endocrinology; ACTH content in hypophysis; pituitary); Henry & Best 1983 (Toxic compounds; DDT, dieldrin & PCB in blubber); Higashi et al. 1950 (Product; lipid; nutritive value of oil & its hardened or polymerized form; digestibility), 1960 (Lipid; nutrition; fatty acids & vitamins; composition (bromide method) of liver from pregnant & non-pregnant); Hirao et al. 1950 (Vitamin; vitamin A content in oil); Hoekstra & Burgers 1967 (Endocrinology; melanophore-stimulating hormones in hypophysis; electrophoresis of 3 component identical with fat mobilizing factor); Howell & Laurence 1930 (Food; Euphausia pacifica & small fish); Irie et al. 1966 (Enzymes; nucleic acids; 2 isozymes of pancreatic ribonuclease; purification & properties); Ishihara 1960 (Enzyme; protein; crystalline stomach pepsin); Jensen et al. 1939 (Endocrinology; gonadotropic activity of anterior pituitary follicle-stimulating hormone, luteinizing hormone, thyrotrophic activity & interstitial cell-stimulating hormone); Jonsgard 1966 (Special topic; biology); Kabeno et al. 1970 (Endocrinology; gastrointestinal hormone; active glycoprotein isolated), 1969 (Endocrinology; gastrointestinal hormone; isolation of gastrin & gastrone-like substance from stomach); Kakinuma et al. 1950-51 (Product; lipid; carbohydrate & energetics; nutritional studies of fats fed to rats; specific dynamic action); Kawamura 1975 (Food; special care; available source of energy & its cost of locomotion; seasonal migration), 1982 (Food; stomach contents; food habits; N. Pacific Ocean; prey distribution; zooplankton Calanus, Euphausia, Thysanoessa, Nematoscelis, Sergestes, Vinciguerria, Scomber, Cololabis, & Pseudopentaceros); Kawauchi et al. 1980 (Endocrinology; isolation & characterization of α -lipotropin from pituitary gland); Kawauchi & Tubokawa 1979 (Endocrinology; isolation & characterization of prolactin from pituitary gland); Kawauchi et al. 1978 (Endocrinology; isolation & primary structure of adrenocorticotrophic (ACTH)); Kendrew et al. 1954 (Evolution & taxonomy; myoglobin; spp. specificity of myoglobins); Kitagawa et al. 1973 (Endocrinology; adrenergic activity from liver hydrolysate); Klumov 1961 (Food; eat 1.0-1.5 metric tons/day); Koide & Matsuoka 1969 (Enzyme; protein; purification of pancreatic anionic chymotrypsin & trypsin), 1970 (Enzyme; protein; properties of anionic pancreatic chymotrypsin), 1971a (Enzyme; protein; properties of cationic pancreatic trypsin), 1971b (Enzyme; protein; properties of cationic pancreatic chymotrypsin); Kristoffersen et al. 1961 (Identification 20 α -hydroxyprogren-4-ene-3-one in luteal tissue of pregnant); Kusakabe et al. 1962 (Protein; content of anserine, carnosine, creatine & amino acids); Kusakari & Tsutsui 1927 (Mineral; Ca & P in tissues); Lauer & Baker 1969a (Lipid; milk & lactation; proximate composition; fatty acid composition; milk); Lesch 1969 (Lipid; development of neutral lipids & fatty acids in brain of man, whale, & dolphins); Lesch & Bernhard 1968 (Lipid; composition of neutral lipids & their fatty acids from 5 regions of brain); Lloyd et al. 1963 (Carbohydrate & energetics; cartilage amino polysaccharide sulfates); Lockyer 1978 (Nutrition; reproduction; theoretical approach to growth & energy budget, to female reproduction); Ludowieg et al. 1972 (Carbohydrate & energetics; composition of nucleus pulposus during development & aging; polysaccharides); Lunde 1970 (Toxic compounds; As & Se in tissues); Mackintosh & Wheeler 1928 (Special topic; report); Matsumura 1950/51 (Lipid; product; effect of oil on humans); Matsuno 1964 (Carbohydrate & energetics; lipid; lung heparin & its lipemia-clearing activities); Matsuoka & Koide 1966 (Enzyme; protein; anionic & cationic chymotrypsin); Matthews 1932 (Food; eat crustaceans); Mednikov & Shubina 1976 (Nucleic acid; DNA); Mitchell 1972a (Special topic; assessment of N.W. Atlantic stocks); Mrochkov 1951 (Vitamin; vitamin A content in liver; Antarctic); Mrochkov & Baidalinova 1974 (Protein; nucleic acid; proximate composition; mineral; product; lipid; lipid content; amino acid composition of meat; Co, Mn, Sn, anserine, carnosine & purine); Nagasawa et al. 1956 (Endocrinology; follicular hormones; estrone & estradiol in ovary), 1964 (Carbohydrate & energetics; heparin); Nakai et al. 1963 (Protein; product; nitrogenous compounds in muscle extract); Nakamura et al. 1968 (Lipid; separation & characterization of fatty amides from visceral lipids); Nakamura & Toyomizu 1967 (Lipid; analysis of visceral lipid; neutral lipid composition), 1970 (Lipid; preparation of

fatty acid amides from visceral lipids; analysis); Nakayama 1950 (Vitamin; vitamin A content in liver & fecal oil); Nikolaeva 1954 (Enzyme; protein; amino acid composition of meat); Nikonova 1957 (Lipid; protein; oil content of blubber); Novikova 1953 (Vitamin; vitamin B₁ and B₂ in liver, heart, tongue & brain); Ohta et al. 1955 (Milk & lactation; proximate composition); Okada et al. 1953 (Special topic; polarographic studies on odors); Okura & Mori 1957 (Lipid; properties of oil); Okura & Nagata 1957 (Lipid; properties of oil; iodine No., annual variation; Antarctic); Okura et al. 1957b (Lipid; oil content of head & blubber; iodine No. of oil; Antarctic); Omura 1950 (Special topic; body weight; adjacent waters of Japan); Oseki 1934 (Product; vitamin; nutritive value & vitamin A & E content of liver); Osterberg et al. 1964 (Toxic compounds; Zn-66, K-40; Mn-54, Cs-137, Zn-95, Nb-95, Ce-141,144 & Ru-103,106; gamma-emitting elements); Otatani et al. 1982 (Carbohydrate & energetics; structure & biological activity of heparin octasaccharide; NMR, enzymic & biological studies); Overholtz & Nicolas 1979 (Food; eat *Ammodytes americanus*; N.W. Atlantic); Pankov et al. 1976b (Endocrinology; primary structure (amino acid sequence) of corticotropin), 1977 (Endocrinology; amino acid sequence of corticotropins); Raga et al. 1982 (Special topic; stranded on Spanish Mediterranean coast); Ray et al. 1978 (Special topic; radio tracking); Rorvik et al. 1976 (Food; krill, *M. norvegica*; coast of Iceland); Rzhavskaya & Mrochkov 1967 (Lipid; bibliography; characteristics of edible fats; various body parts); Rzhekhin & Pogonkina 1966 (Lipid; fatty acid composition of blubber; Antarctic); Sabasi et al. 1950 (Vitamin; biological potency of liver vitamin A); Sachitanathan & Hijama 1965 (Toxic compounds; mineral; gamma-emitting elements; Cs-137, Zn-65, Zn, Mn, Cs & K); Saiki & Mori 1953d (Lipid; oil properties of various body tissues & stomach content); 1956 (Food; lipid; lipid content & fatty acid composition of stomach contents (*Calanus cristatus*); N. Pacific); Saito & Yokoyama 1954 (Endocrinology; insulin extraction); Samuels et al. 1970 (Toxic compounds; Sr-90 & Cs-137 levels in tissues); Sano et al. 1965 (Lipid; fatty acid composition of oil); Sano 1966a (Lipid; fatty acid composition of blubber; polybranched and unsaturated branched fatty acids; Antarctic), 1966c (Lipid; identification of 3,7,11,15-tetramethylhexadecanoic acid), 1967a (Lipid; identification of 4,8, 12-trimethyltridecanoic acid; Antarctic), 1967b (Lipid; identification 7-methyl-6-hexadecenoic acid in blubber oil; Antarctic); Sasano & Ota 1964 (Enzyme; protein; pancreatic proteolytic enzymes); Saschenbrecker 1973 (Toxic compounds; levels of DDT & PCB); Schmidt 1950 (Vitamin; assay of vitamin A; British Columbia); Schmidt-Nielsen & Frog 1933 (Lipid; milk & lactation; proximate composition; composition of milk); Schmidt-Nielsen & Johansen 1932 (Mineral; proteins; composition of urine; uric acid, hippuric acid, protein, creatinine, ash, total solid, PO₄, Cl, Ca, Mg, Na & F); Sergeant 1966 (Special topic; population in N.W. Atlantic); Shoubridge et al. 1976 (Diving; carbohydrate & energetics; enzyme; evolution &

taxonomy; LDH isozyme patterns; biochemical adaptation to diving); Sleptsov 1961c (Special topic; results in weighing; Far East); Slijper 1948 (Special topic; blubber thickness); Stolk 1950 (Special topic; tumor); Suyama et al. 1977 (Protein; amino acid, balenine & peptides in muscle); Sverdrup & Arnesen 1952 (Endocrinology; study of anterior lobe of hypophysis; diagnosis of pregnancy); Tachibana et al. 1972 (Endocrinology; toxicity of glycopeptide from gastric mucosa); Takahashi et al. 1966 (Lipid; cardiolipin & its fatty composition of heart); Takaoka et al. 1953 (Endocrinology; insulin); Takeda et al. 1957 (Lipid; oil; iodine No. & refractive index correlation); Takemura 1927a (Protein; milk & lactation; protein content of milk); Thompson & Friedl 1982 (Biological sonar; special topic; long-term study of low-frequency sounds off Oahu, Hawaii; seasonal distribution & migration); Tower & Young 1973 (Enzyme; carbohydrate & energetics; minerals; brain acetylcholine esterase activity; chloride content of brain); Toyama & Takagi 1962 (Lipid; 20:5w3; 22:5w3; and 22:6w3 in oil); Travis et al. 1971 (Protein; haematology; electrophoresis of hemoglobin and haptoglobin), 1972 (Haematology; protein; immunoglobins; structure); Tsubokawa et al. 1980 (Endocrinology; isolation & characterization of growth hormone (somatotropin) of pituitary gland); Tsuchiya & Kato 1950b (Lipid; highly unsaturated hydrocarbon in liver, C₄₅H₇₈); Ueno & Tsuichikawa 1942 (Lipid; composition of hydrogenated oil); Viale 1979 (Lipid; mineral; excretory function of skin; salt excretion; lipid synthesis); Vliegenthart 1964 (Endocrinology; neurohypophyseal hormones; oxytocin, lysine & arginine vasopressin; anti-diuretic hormones); Watkins 1981 (Biological sonar; special topic; activities & underwater sounds); Watkins & Schevill 1979 (Food; feeding behavior); Wheeler 1929 (Special topic; lipid; changes in condition of blubber); Yamada 1946 (Lipid; molting; proximate composition; fat distribution of corium layers of skin); Yamagawa & Shibuya 1926 (Protein; amino acid composition of muscle); Yanuras et al. 1972 (Endocrinology; teratogenic effects of gastric mucosa extracts (hormones) on rats & mice); Yazawa 1935 (Protein; nitrogenous compounds); Zenskii 1958 (Thermoregulation; morphological adaptation of newborn from Antarctic).

Balaenoptera sibbaldi (blue whale)

Gregory et al. 1955 (Lipid; mineral; carbohydrate & energetics; milk & lactation; vitamin; milk composition).

Megaptera nodosa (humpback whale)

Ackman et al. 1975c (Lipid; blubber fat deposition); Beck 1961 (Mineral; liver Cu levels of fetal & newly born); Bentley 1963 (Water; mineral; protein; Na, K & urea in urine during fasting; metabolic water of tissues); Beteshera 1961 (Food; Kurile region); Gray et al. 1951b (Product; mineral; vitamin; composition of liver extract); Howell & Laurence 1930 (Food; eat *Euphausia pacifica* & small fish); Huber et al. 1982 (Special topic; sighting off Gulf of

Farallones, California); Pedersen 1952a (Lipid; milk & lactation; carbohydrate & energetics; proximate composition; lipid; water, ash, dry matter & sugar content of milk; iodine No., saponification No., unsaponifiable matter & fatty acids); Rzhavskaya & Mrochkov 1967 (Lipid; bibliography; characteristics of fats from various body parts); Townsend 1935 (Special topic; distribution; logbook of American whale-ships); Yamada 1946 (Lipid; fat distribution of corium layers of skin).

Megaptera novaeangliae (Borowski, 1781)
(humpback whale)

Ackman et al. 1975c (Lipid; blubber fat deposition); Bryant et al. 1981 (Food; krill availability & whale distribution; S. Alaska); Hain et al. 1982 (Food; feeding behavior; N.W. Atlantic); Jurasz 1975 (Food; bubble net feeding); Jurasz & Jurasz 1979 (Food; eat euphausiids, herring & capelin; method of feeding in S.E. Alaska); Klumov 1961 (Food; eat 1.0-1.5 metric tons/day of plankton); Lehman 1980 (Myoglobin; structure); Lesch & Bernhard 1966 (Lipid; brain lipids; cortex & cerebellum; cholesterol, cerebroside, sphingomyelin & lecithins & their fatty acid composition); Matthews 1932 (Food; eat crustaceans); Mrochkov 1951 (Vitamin; vitamin A content of liver; Antarctic); Overholtz & Nicolas 1979 (Food; eat Ammodytes americanus; N.W. Atlantic); Papkoff & Li 1958 (Endocrinology; isolation & characterization of growth hormone; anterior pituitary lobe); Perkins et al. 1982 (Food; feeding; W. coast of Greenland & Labrador, Newfoundland, Canada); Pike 1950 (Food; eat crustaceans; Canadian); Pilleri 1966 (Special topic; brain lipoma); Reichert 1962 (Enzyme; protein; proteinases of pituitaries); Schmidt 1950 (Vitamin; assay of liver vitamin A; British Columbia); Sergeant 1982 (Special topic; mass stranding); Shoubridge et al. 1975 (Carbohydrates & energetics; diving; enzyme; evolution & taxonomy; protein; amino acids; biochemical adaptation to diving); Suyama et al. 1977 (Protein; amino acid, balenine & peptides in muscle); Taruski et al. 1975 (Toxic compounds; DDT, PCB, chlordane & dieldrin in blubber); Thompson & Friedl 1982 (Biological sonar; special topic; long-term study of low-frequency sounds off Oahu, Hawaii; seasonal migration & distribution); Travis et al. 1971 (Haematology; protein; electrophoresis of hemoglobin & haptoglobin), 1972 (Haematology; hemoglobin; protein; immunoglobins; structure); Watkins & Schevill 1979 (Food; feeding behaviour); Whitehead 1983 (Food; special topic; structure & stability of groups off Newfoundland, Canada); Whitehead & Moore 1982 (Food; special topic; distribution & movements in winter of W. Indian Ocean); Whitehead et al. 1982 (Special topic; migration off N.E. Newfoundland).

Mystoceti; Eschrichtiidae

Eschrichtius gibbosus Erxleben, 1777 (California gray whale)

Garner et al. 1973 (Myoglobin); Gilmartin et al. 1974 (Haematology; physiological parameters

of blood); Huber et al. 1982 (Special topic; sighting in Gulf of Farallones, California); Matthews 1932 (Food; eat crustaceans); Pike 1962 (Food; feeding & migration); Shire et al. 1975 (Myoglobin; electrostatic effects in myoglobin application of Tanford-Kirkwood theory to myoglobin); Zettner 1974 (Haematology; hematological observations); Zimushko & Linskaya 1970a (Food; feeding on foraging grounds), 1970b (Food; feeding in foraging grounds).

Eschrichtius glaucus Cope

Darling 1977 (Special topic; aspects of behavior & ecology).

Eschrichtius robustus

Carlton & Schevill 1974 (Care; food; feeding captive whales); Curran & Asher 1974 (Special topic; blubber thickness by ultrasonography); Gill & Hall 1983 (Special topic; eat Crangon seasonally; use of nearshore and estuarine area of S.E. Bering Sea); Herwig et al. 1983 (Lipid; stomach microbial formation of volatile fatty acids); Hessing 1981 (Special topic; spring migration into Bering Sea); Howell & Laurence 1930 (Food; eat Euphausia pacificus & small fish); Marquette & Braham 1982 (Special topic; Inuit; distribution & catch; Alaska); Mate et al. 1983 (Special topic; new attachment device for radio tagging large whales); Medway 1974 (Carbohydrate & energetics; haematology; coagulation factors in plasma); Nerini & Oliver 1983 (Food; structure of Bering Sea benthos; eat amphipod, Ampelisca macrocephala); Norris et al. 1982 (Special topic; lagoon entrance & other aggregations); Oliver et al. 1983a (Food; eat polychaetes, bivalves & crustaceans; comparison of Bering Sea & Baja, California, Mexico feeding areas); Ray & Schevill 1974 (Food; care; nutrition; feeding of captive); Reilly et al. 1983 (Special topic; population assessment; California, U.S.A. shore census 1967-1980; seasonal migration); Rice 1978 (Special topic; general); Rice & Wolman 1971 (Special topic; life history & ecology); Rugh & Braham 1979 (Special topic; fall migration; Unimak Pass Alaska; 1977); Sokolova 1969 (Toxic compounds; artificial radioactivity in tissues); Sumich 1983 (Special topic; lipid; cost of locomotion in migration); Sund 1975 (Food; special topic; evidence for feeding during migration & an early birth of calves); Sweeney & Mattson 1974 (Special topic; surgical attachment of telemetry device to dorsal ridge of yearling); Votrogov & Bogoslovskaya 1980 (Special topic; off Chukotka Peninsula); Wang et al. 1979 (Myoglobins); Wellington & Anderson 1978 (Food; stomach contents; kelp, mysids & sculpins); Wolman & Wilson 1970 (Toxic compounds; DDT & dieldrin in brain, liver & blubber); Zimushko & Ivashin 1980 (Special topic; whaling).

Odontoceti; Delphinidae

Cephalorhynchus commersoni (Lacépède, 1804)
(Commerson's dolphin; piebald porpoise; Le Jacobite)

Pilleri 1983 (Biological sonar; sonar system); Shochi et al. 1982 (Biological sonar; characteristics and directional properties of sonar signal emitted by captive); Spotte et al. 1979 (Care; captivity).

Delphinus delphis Linnaeus, 1758 (common dolphin)

Alzieu & Duguy 1979 (Toxic compounds; PCB, DDT, DDE & DDD in blubber, muscle, liver, kidney, stomach and in unborn); André 1947 (Lipid; bibliography; oil; literature review); André & Maille 1947 (Lipid; head oil; spermaceti; saponification values); Atanasov 1966 (Myoglobin; physicochemical properties of metmyoglobin); Atanasov & Mitova 1970 (Myoglobin; reversible thermal denaturation of ferrimyoglobin derivatives); De Monte & Pilleri 1968a (Haematology; protein; electrophoresis of plasma proteins of fractions (albumin; proalbumin; several post-albumins); hemoglobin electrophoresis), 1968b (Haematology; protein; electrophoretic mobility of hemoglobin; observation on plasma protein fractions); Gallien et al. 1967 (Haematology; protein; taxonomy & evolution; serum proteins, prealbumins, albumins, transferrin & globulins; electrophoresis, 21 fractions), 1970 (Haematology; taxonomy & evolution; population studies; protein; immunoelectrophoresis of serum proteins, 21 fractions; transferrin); Horvath et al. 1968 (Haematology; taxonomy & evolution; respiratory & electrophoretic characteristics of hemoglobins); Hui 1979 (Water; sea water consumption), 1981 (Mineral; water; sea water consumption; water flux; metabolic water; Na); Hussein et al. 1982 (Enzyme; product; production of pancreatin); Jones 1981 (Food; food habits; N. California, U.S.A.); Karadzova et al. 1964 (Myoglobin; isolation & properties of myoglobin); Koeman et al. 1973b (Hg-Se correlations in marine mammals); Kuznetsov 1979 (Special topic; chemoreception; detect caproic, citric, oxalic and picric acids, indole & NaCl, but not sucrose or glucose); Lantz & Gunasekera 1956 (Product; proximate composition; edible flesh, skin, head, bone, tail, fin, liver, intestine & other viscera); Lesch 1969b (Lipid; development of neutral lipids and fatty acids in brain of unborn & mature); Litchfield & Greenberg 1974 (Biological sonar; lipid; melon fat; comparative lipid patterns; triglycerides and wax esters contain isovaleric acid); Nikitenko 1963 (Special topic; brain morphology; weight of different brain parts); Rankov & Iovchev 1955 (Product; vitamin; lipid; vitamin A content & oil characteristics of subcutaneous fats under different rendering conditions), 1954 (Lipid; yield & characteristics of blubber oil; dependent on duration of melting time); Sokolov 1961 (Reproduction; reproductive phase determination, use vaginal smear); Suyama & Maruyama 1969b (Protein; carnosine, anserine and balenine in muscle); Suzuki et al. 1983 (Enzyme; lipid; carbohydrate & energetics; nucleic acid; vitamin; histological properties of myofibers of longissimus muscle; ATPase; glycerol-3-phosphate; menadione oxido-reductase; lipid oxidative metabolism; glycolytic metabolism); Varanasi & Malins

1975 (Biological sonar; lipid; brain lipids; phosphoglycerides rich in isovaleric & long-chain iso-acids), 1982 (Biological sonar; lipid; role of isovaleric lipids in channeling sound in melon); Viale 1979 (Lipid; mineral; excretory function of skin; salt excretion; lipid synthesis); Wedmid & Litchfield 1976 (Biological sonar; lipid; positional analysis of triglycerides using PMR with shift reagents).

Delphinus longirostris

Tsuchiya 1943 (Lipid; polyunsaturated fatty acids in liver oil); Tsuchuja & Kato 1950a (Lipid; hydrocarbons in fatty matter of liver; Delphane, C₄₄H₉₀).

Delphinus sp.

Kato & Shimada 1970 (Protein; isolation of ferritin from spleen).

Lagenodelphis hosei (F.C. Fraser)

Robison & Craddock 1983 (Food; nutrition; stomach content; nutritional value prey size selection).

Lagenorhynchus acutus Gray, 1828 (Atlantic white-sided dolphin)

Geraci et al. 1978 (Special topic; mass stranding; pathobiology; life history); Sergeant 1982 (Special topic; mass stranding).

Lagenorhynchus albirostris Gray, 1846 (white-beaked dolphin)

Arnason 1982 (Nucleic acid; DNA); Arnason et al. 1982 (Taxonomy & evolution; nucleic acid; DNA); Kerkhoff et al. 1981 (Toxic compounds; heptachlor epoxide); Litchfield & Greenberg 1974 (Biological sonar; lipid; taxonomy & evolution; comparative lipid patterns in melon fat; isovalerate lipids; long-chain wax esters); Wedmid & Litchfield 1976 (Biological sonar; lipid; positional analysis of triglycerides using PMR with shift reagents).

Lagenorhynchus obliquidens (Gill, 1865) (Pacific white-sided or Pacific white-striped dolphin)

Border 1975 (Taxonomy & evolution; haematology; protein; hemoglobin electrophoresis); Fiscus et al. 1980 (Food; California & Washington); Horvath et al. 1968 (Haematology; taxonomy & evolution; respiratory & electrophoretic characteristics of hemoglobins); Huber et al. 1982 (Special topic; sighting in Gulf of Farallones, USA, 1971-1979); Jones 1981 (Food; food habits; N. California; 11 spp.); Kajimura et al. 1981 (Food; California & Washington); Medway et al. 1970b (Anaesthesia; enzyme; protein; prolonged halothane anaesthesia on serum glutamic oxaloacetic transaminase, ornithine carbamyltransferase, alkaline phosphatase, lactic dehydrogenase and total protein); Ridgway et al. 1968 (Enzyme; haematology; lipid; protein; chemical & physical characteristics of blood; serum glutamic oxaloacetic transaminase; leukocytes; eosin-

ophil; serum BUN, NaCl, K & cholesterol); Sterling et al. 1975 (Endocrinology; thyroid hormone metabolism; T_3 & T_4 concentrations).

Lagenorhynchus obscurus Gray, 1828 (dusky dolphin)

Koeman et al. 1973b (Toxic compounds; Hg-Se correlation in marine mammals); Würsig 1976 (Special topic; radio tracking).

Lissodelphis borealis (Peale, 1848) (northern right whale dolphin)

Leatherwood & Walker 1973 (Special topic; behaviour; N.E. Pacific); Litchfield et al. 1975 (Biological sonar; lipid; comparative lipid pattern in acoustical & non-acoustical fatty tissues; jaw triglycerides & wax esters; mechanisms of echolocation); Wedmid & Litchfield 1976 (Positional analysis of triglyceride using PMR with shift reagents).

Lissodelphis peroni (Linnaeus, 1758) (southern right whale dolphin)

Baker 1981 (Food; stomach contents; squid & fish).

Sousa plumbea Cuvier, 1829 (Plumbeous dolphin)

Lal Mohan 1982 (Special topic; note on unborn; S.W. coast of India).

Sotalia fluviatilis (Gervais & De Ville, 1853) (Amazon dolphin; buffe negro; tucuxi; pirayaguara)

Ackman et al. 1975a (Biological sonar; lipid; lipid composition of melon, jaw & blubber; isovaleryl wax esters & diisovaleryl triglycerides); Litchfield et al. 1971a (Lipid; biological sonar; comparative lipid patterns); Wedmid & Litchfield 1976 (Lipid; positional analysis of triglyceride using PMR with shift reagents).

Sotalia guianensis (Van Bénéden, 1864) (Guiana dolphin)

Koeman et al. 1973b (Toxic compounds; Hg-Se correlation); Pilleri 1982 (Biological sonar; sense of vision & sonar field of some cetaceans).

Stenella attenuata Gray, 1846 (white-dotted dolphin; slender-beaked porpoise)

Castellini et al. 1981 (Carbohydrate & energetics; enzyme; glycolytic enzymes in tissues; lactate dehydrogenase & pyruvate kinase); Morii & Kanazu 1972 (Lipid; fatty acid composition in unborn, nursing & adult); Morii 1982a (Lipid; milk & lactation; fatty acid composition of milk; short chain & long chain fatty acids); Myrick et al. 1983 (Special topic; estimation of age from teeth); Smith 1983 (Special topic; change in size of population); Solntseva 1983 (Biological sonar; early development of acoustic analyzer in peripheral region); Stuntz 1981 (Care; enzyme; relationship between passive behaviour & capture stress; serum enzymes).

Stenella coeruleoalba (Meyen, 1833) (blue-white dolphin; little toothed whale)

Alzieu & Duguay 1979 (Toxic compounds; PCB, DDT, DDE & DDD in blubber, muscle, liver, kidney, stomach & in unborn); Arima & Nagakura 1979 (Toxic compounds; Hg & Se in muscle of fetal & adult); Honda et al. 1982 (Toxic compounds; heavy metal distribution in muscle, skin, gonad, kidney & bone), 1983 (Toxic compounds; heavy metal concentrations in muscle, liver & kidney & their variations with body length, weight, age and sex); Kanazu et al. 1969a (Lipid; branched chain fatty acids in head oil), 1969b (Lipid; higher branched-chain fatty acids in head oil); Konogaya 1963 (Haematology; amino acid sequence of hemoglobin); Matsui et al. 1975a (Enzyme; myoglobin; diaphorase; methmyoglobin reducing-enzyme system in muscle), 1975b (Enzyme; myoglobin; purification & physicochemical properties of ferrimyoglobin reductase); Miyazaki 1977 (Nutrition; reproduction; growth & reproduction; Pacific coast of Japan); Morii 1973 (Lipid; free volatile fatty acids of microorganisms isolated from stomach), 1974b (Lipid; fatty acid composition of microorganisms isolated from stomach), 1979a (Lipid; free volatile fatty acids of stomach microorganisms), 1979b (Lipid; production short- & long-chain branched fatty acids of stomach *Vibrio* sp. media), 1979c (Protein; lipid; amino acid, ammonia & volatile fatty acids in stomach fluid), 1979d (Lipid; long-chain branched (iso & anteiso) fatty acids in stomach contents), 1980 (Lipid; distribution of branched-chain fatty acids in muscle, adipose, melon, jaw and subcutaneous tissues of nursing & unborn), 1981 (Haematology; lipid; fatty acids in blood, blood plasma, proteins & erythrocytes), 1982b (Lipid; fatty acids & fatty alcohols of triglycerides & wax esters of subcutaneous tissues); Morii & Kaneda 1982 (Lipid; biosynthesis of branched-chain fatty acids from branched-chain amino acids in subcutaneous tissue (melon, blubber, liver & muscle of adult)); Raduan & Raga 1982 (Special topic; beaching in Valencia region, Spain); Raga et al. 1982 (Special topic; stranded on Spanish Mediterranean coast); Shimizu & Matsuura 1962 (Enzyme; haematology; physicochemical properties of crystalline carbonic anhydrase from erythrocytes), 1971 (Enzyme; myoglobin; methmyoglobin reductase in muscle & erythrocytes); Suyama et al. 1977 (Lipid; protein; amino acids, balenine and free fatty acids); Tanabe et al. 1982 (Toxic compounds; transplacental transfer of PCB & chlorinated hydrocarbons), 1981 (Toxic compounds; distribution & total burden of chlorinated hydrocarbons (PCB; H_6Cl_6 isomers; hexachlorobenzene) in whole body & tissue organs of females and unborn; mostly in blubber); Viale 1978 (Toxic compounds; Fe, Ti, Cr, V, Cd, Rb & Hg in skin, blubber, muscle, liver, lung, kidney & brain).

Stenella frontalis (G. Cuvier, 1829) (bridled dolphin)

Arnason et al. 1982 (Taxonomy & evolution; nucleic acid; DNA).

Stenella graffmani (Lönnerberg, 1934) (Graffman's porpoise)

Varanasi et al. 1975 (Biological sonar; lipid; molecular bases for formation of lipid soundlens in echolocating cetaceans; mono-, di-, tri- and no valeryl triglycerides; wax esters with valeric acid).

Stenella longirostris Gray, 1871 (long-beaked or spinner porpoise; long-snouted dolphin)

Gaskin et al. 1974 (Toxic compounds; Hg, PCB & dieldrin in muscle, kidney, liver & blubber; St. Lucia, Lesser Antilles); Myrick et al. 1983 (Special topic; estimation of age from teeth); Robineau & Rose 1983 (Special topic; Gulf of Aden water of Djibouti Indian Ocean; pigmentation); Smith 1983 (Special topic; changes in size of population).

Stenella plagiodon (Cope, 1866) (spotted dolphin)

Litchfield & Greenberg 1974 (Biological sonar; lipid; taxonomy & evolution; comparative lipid patterns in the melon fats; isovalerate lipids; long-chain wax esters); Pilson & Waller 1970 (Milk & lactation; composition of milk); Walker et al. 1975 (Nucleic acid; nucleotide sequence of 5S-ribosomal ribonucleic acid); Wedmid & Litchfield 1976 (Positional analysis of triglyceride using PMR with shift reagents).

Stenella styx Gray, 1846 (Gray's porpoise)

Gallien et al. 1970 (Haematology; taxonomy & evolution; population studies; protein; immunoelectrophoresis of serum proteins).

Stenella sp.

Perrin et al. 1973 (Food; stomach contents; yellow fin, Thunnus albacares), 1979 (Special topic; tagging movements and results in tropical E. Pacific).

Steno bredanensis (Lesson, 1828) (rough-toothed dolphin)

O'Shea et al. 1980 (Toxic compounds; DDE, p,p'-DDT, p,p'-DDT, p,p'-DDE, & PCB in blubber, brain & muscle).

Tursiops aduncus (Ehrenberg, 1833)

Lal Mohan 1982 (Special topic; note on unborn S.W. coast of India); Perkins & Miller 1983 (Special topic; mass strandings at Belize); Saayman et al. 1973 (Special topic; diurnal activity cycles in captive & free ranging in Indian Ocean).

Tursiops gilli (Dall, 1873) (Gill's bottlenosed dolphin; cowfish)

Arima & Nagakura 1979 (Toxic compounds; Hg & Se in adult & fetal Odontoceti); Malins & Varanasi 1972 (Biological sonar; lipid; acoustic tissue contain isovaleric acid; triacylglycerols resistant to porcine pancreatic lipase; triacylglycerides contain isopentadecanoic & isovaleric

acids); Nishiwaki & Tobayama 1982 (Special topic; morphological study of fetal growth); Ridgway et al. 1968 (Enzyme; haematology; chemical & physical characteristics of blood; serum eosinophil, leukocyte, glutamic oxaloacetic transaminase, BUN, NaCl, K & cholesterol); Varanasi & Malins 1970a (Biological sonar; lipid; unusual wax esters in mandibular canal; isovaleryl derivatives of fatty alcohol; isovaleric acid & a little isopentyl alcohol), 1971 (Biological sonar; lipid; differences in triacylglycerols and wax esters of acoustic mandibular canal, melon & blubber), 1972 (Biological sonar; lipid; molecular structure of diisovaleryl glyceride of acoustic tissues), 1974a (Biological sonar; lipid; structure of phospholipids & triacylglycerols containing long-chain iso-acids in acoustic tissue, but not in blubber; positional distribution of fatty acids in triacylglycerols).

Tursiops truncatus (Montagu, 1821) (Atlantic bottlenosed dolphin; bottlenosed porpoise)

Ackman et al. 1971b (Lipid; milk & lactation; fatty acid composition of milk triglycerides), 1973 (Lipid; molecular species of wax esters of jaw fat); Amundin & Andersen 1983 (Biological sonar; sound production regulation); Au & Turl 1983 (Biological sonar; target detection in reverberation by echolocating); Border (Taxonomy & evolution; haematology; protein; hemoglobin electrophoresis); Brown & Mayhall 1977 (Enzyme; protein; urea formation in liver; ornithine-urea cycle; ornithine carbonyl transferase activity); Brown et al. 1983b (Nucleic acid; epidermal cell proliferation); Eichelberger 1940 (Mineral; water; distribution of water & electrolytes in muscle); Fetcher & Fetcher 1942 (Mineral; osmotic regulation); Geraci et al. 1983 (Toxic compounds; can detect oil?), 1969 (Carbohydrate & energetics; enzyme; haematology; mineral; protein; serum Na, Cl, Ca, P, urea, uric acid, total protein albumin, globulins and lactic acid; glutamic oxaloacetic transaminase; glutamic pyruvic transaminase); Geraci & Medway 1973 (Special topic; haematology; blood sampling; simulated field studies; stress on haematologic & plasma biochemical parameters), 1974 (Special topic; haematology; simulated field studies; change in haematology & chemistry during blood & plasma storage); Geraci & St. Aubin 1979 (Care; enzyme; protein; tissue sources & diagnostic value of circulating enzymes; plasma, liver & muscle alanine aminotransferase, aspartate aminotransferase, sorbitol dehydrogenase, γ -glutamyl transferase, alkaline phosphatase & creatine kinase); Greenwood & Barlow 1979 (Endocrinology; thyroid function; male & female T_4 & T_3 levels & thyroid-binding capacity); Gruber 1981 (Special topic; ecology in Pass Cavallo area of Matagorda Bay, Texas); Hamilton & Nishimoto 1977 (Food, eat Mugil); Harkness & Grayson 1969 (Carbohydrate & energetics; enzyme; haematology; erythrocyte metabolism; glucose metabolism via hexose monophosphate shunt; phosphoglyceric cycle; glucose-6-phosphate dehydrogenase); Horvath et al. 1968 (Haematology; taxonomy & evolution; respiratory & electrophoretic characteristics of hemoglobins); Irvine et al. 1982 (Special topic; evaluation tagging techni-

- ques); Irvine & Wells 1972 (Special topic; results of tagging attempts); Irving et al. 1941 (Carbohydrate & energetics; respiration); Kadane & Penner 1983 (Biological sonar; range ambiguity and pulse-interval jitter echolocation); Koeman et al. 1973b (Toxic compounds; Hg-Se correlation in marine mammals); Kubota et al. 1967 (Protein; physicochemical properties of solubilized collagen of hide); Kuznetsov 1974 (Special topic; chemoreception; use valeric acid), 1979 (Special topic; chemoreception; detect indole, caproic acid, citric acid, oxalic acid, picric acid & NaCl, but not sucrose or glucose); Lewis et al. 1969 (Haematology; coagulation factor 12 deficiency); Litchfield & Ackman 1973 (Biological sonar; lipid; isovalerate & isoamyl wax esters of head fat); Litchfield & Greenberg 1974 (Biological sonar; lipid; melon fat; comparative lipid patterns of cetaceans; triglycerides & wax esters contain isovalerate); Litchfield et al. 1973 (Biological sonar; lipid; compositional topography of melon lipids; implication for echolocation; melon (4 layers) fat content of each aid in collimation of the ultrasonic pulses used for echolocation); Lukhanin 1983 (Special topic; *T. t. ponticus*; intestinal anatomy); MacKay 1981 (Biological sonar; dolphins interaction with acoustically controlled systems aspects of frequency control of learning & non-food rewards); Malins et al. 1972 (Biological sonar; lipid; biosynthesis of triacylglycerols containing isovaleric acid); Malvin et al. 1971 (Endocrinology; antidiuretic hormone levels; plasma ADH concentration & urine flow rate), 1978 (Endocrinology; mineral; renin & aldosterone levels; correlation between urinary Na excretion & plasma renin; renin-angiotensin-aldosterone axis; regulation of salt balance); Mankovskaya 1975 (Myoglobin; content & distribution in muscle); Medway 1979 (Protein; bisalbuminemia in females); Medway & Geraci 1964 (Haematology), 1965 (Haematology; mineral; protein; blood chemistry of whole blood, plasma & serum; Na, Cl, albumin, α_1 -, α_2 - & β -globulins & BUN), 1972a (Haematology; leukocyte distribution in blood capillaries & large vessels), 1972b (Carbohydrate & energetics; distribution of glucose); Medway et al. 1970a (Endocrinology; haematology; hematologic response to corticosteroids (Dexamethasone); eosinophil count; plasma cortisol levels; lymphopenia; neutrophilia), 1970b (Anaesthesia; enzyme; protein; effect of halothane anaesthesia on serum glutamic oxaloacetic transaminase, ornithine carbamyl transferase, alkaline phosphatase & lactic dehydrogenase activities & bilirubin & total protein levels); Mermoz 1977 (Food; demersal fish; mouth of La Plata River, Argentina); Murchison 1980 (Biological sonar; detection range & range resolution of echolocating); Myhre et al. 1969 (Haematology; taxonomy & evolution; blood groups), 1971 (Taxonomy & evolution; haematology; blood groups); Nachtigall 1975 (Nutrition; food deprivation & work rate); Nagel et al. 1964 (Anaesthesia), 1965 (Anaesthesia; addendum); Nelson 1971 (Haematology; lipid; lipid composition of blood, plasma & erythrocytes; phospholipids (PS, PC, SPH) & glucosphingolipids), 1973 (Haematology; lipid; fatty acid composition of plasma & erythrocytes; iso & multiple-branched fatty acids); Odell 1979 (Mineral; toxic compounds; chlorinated hydrocarbons & trace metals); O'Shea et al. 1980 (Toxic compounds; DDE, p,p'-DDT, P,p'-DDE & PCB in blubber, brain & muscle; Pacific & S. Atlantic oceans, November 1968 to June 1976); Pilleri 1982 (Biological sonar; sense of vision & sonar field), 1983 (Biological sonar; sonar system); Provanca et al. 1982 (Special topic; capture, marking & resighting of free-ranging; Indian River lagoon, Florida); Puppione & Nichols 1970 (Haematology; lipid; protein; characterization of chemical & physical properties of serum lipoproteins); Reijnders & Wolff 1981 (Special topic; life history, population dynamics & disease); Ridgway 1968 (Care; special topic; biomedical experimentation); Ridgway et al. 1968 (Enzyme; haematology; chemical & physical characteristics of blood; eosinophil; leukocytes; serum glutamic oxaloacetate transaminase, BUN, Ca, Cl, K & cholesterol), 1969 (Diving; carbohydrate & energetics; respiration & deep diving); Saiki & Mori 1952 (Lipid; properties of oils from various body parts); Saito et al. 1974 (Haematology; Fletcher factor activity in plasma); Sawyer-Steffan & Kirby 1980 (Endocrinology; reproduction; serum steroid hormone (progesterone; estrogen) levels in captive females; correlation with reproductive status & their application to ovulation induction); Sawyer-Steffans et al. 1983 (Endocrinology; reproduction; progesterone & estrogens in pregnant & non-pregnant & effects of induced ovulation); Sergeant 1982 (Special topic; mass stranding); Sergeant et al. 1973 (Special topic; nutrition; reproduction; age, growth and maturity; N.E. Florida); Shapunov 1971 (Carbohydrate & energetics; food; food requirements & energy balance); Shaw 1971a (Carbohydrate & energetics; milk & lactation; vitamin; neutral carbohydrates (lactose; D-glucose; myo- and scyllo-inositol) in milk); Smith et al. 1983 (Toxic compounds; reaction to controlled oil spill); Sokolov & Rodionov 1978 (Enzyme; muscle succinate dehydrogenase; histological study); St. Aubin & Geraci 1980 (Vitamin; tissue levels of vitamin C); Sterling et al. 1975 (Endocrinology; thyroid hormones metabolism; T_3 & T_4 concentrations); Sweeney 1977 (Care; intratracheal injection of antibiotics); Varanasi et al. 1973 (Biological sonar; lipid; isomeric composition of diisovaleroyl glycerides; specificity for biosynthesis of diisovaleroyl glyceride); Varanasi & Malins 1974b (Biological sonar; lipid; distribution & metabolism of wax esters in putative acoustic tissues; formation of 1,3-diisovaleryl glyceride); Wedmid & Litchfield 1976 (Biological sonar; lipid; positional analyses of triglycerides using PMR with shift reagents); White 1970 (Nutrition; vitamin; thiaminase deficiency, raw fish diet); Williams 1981 (Lipid; nutrition; dietary deficiencies; 20:4 ω 6 in phospholipids (PC & PE) of liver & muscle; prostaglandins); Williams et al. 1977 (Food; lipid; taxonomy & evolution; fatty acid composition of tissues & food (herring) phospholipids; lipid composition closer to land animals); Williams 1968 (Carbohydrate & energetics; glycogen in epidermis); Würsig & Würsig 1977 (Special

topic; photographic determination of group composition & stability), 1979 (Special topic; behavior & ecology; S. Atlantic).

Tursiops tursio

Sleptsov 1961a (Food; crustacean, molluscs fish; Bering Sea).

Tursiops sp.

Duffield et al. 1983 (Haematology; hematologic differences of off-shore and in-shore forms of Tursiops); Lu & Yang 1980 (Lipid; comparative study on lipid components & properties; fatty acids, wax esters, iodine No. & unsaponifiable matter).

Odontoceti; Globicephalidae

Feresa attenuata Gray, 1871 (slender blackfish; slender pilot whale; pygmy killer whale)

Litchfield et al. 1975 (Biological sonar; lipid; comparative lipid patterns of acoustical & non-acoustical fatty tissues; blubber & jaw fat triglycerides & wax esters; echolocation mechanisms); Perrin & Hubbs 1969 (Special topic; observation tropical E. Pacific Ocean).

Globicephala macrorhyncha (Gray, 1846) (short-finned blackfish)

Gaskin et al. 1974 (Toxic compounds; Hg, dieldrin & PCB; St. Lucia, Lesser Antilles); Stoneburner 1978 (Toxic compounds; Se, Cd & Hg in liver, kidney & blubber; toxicosis); Thompson & Friedl 1982 (Biological sonar; special topic; long-term study of low frequency sounds off Oahu, Hawaii, seasonal migration & distribution).

Globicephala melaena (Traill, 1809) (pilot whale; Atlantic blackfish; calling whale)

Alzieu & Duguay 1979 (Toxic compounds; PCB, DDT, DDE & DDD in blubber, muscle, liver, kidney, stomach & in unborn); Arima & Nagakura 1979 (Toxic compounds; Hg & Se in muscle of fetal & adult); Birkby et al. 1982 (Lipid; glycolipids of keratinized tissue; epidermis); Blomberg 1972 (Lipid; biological sonar; head oil, lipid & analysis & ultrasonic structure), 1974 (Lipid; G.m. melaena; head oil hydrocarbons (pristane), wax esters, triglycerides, cholesterol, isovaleryl triglycerides & diglycerides); Blomberg & Lindholm 1976 (Biological sonar; lipid; variation of composition of lipids & sound velocity in melon; N. Atlantic); Blomberg 1978 (Biological sonar; lipid; functional aspects of head oil lipids); Brockerhoff 1966 (Lipid; fatty acid distribution patterns of animal depot fats); Brockerhoff & Hoyle 1963 (Lipid; positional distribution of fatty acids of blubber fats); Cowan 1966 (Special topic; pathology); Gallien et al. 1970 (Haematology; taxonomy & evolution; population studies; protein; immunoelectrophoresis; comparative study of serum proteins (21 constituents); transferrin); Garner et al. 1973 (Myoglobin); Hashimoto et al. 1967a (Haematology;

lipid; nutrition; aliphatic wax alcohols & fatty acid of atheromata & arterial tissues; plasma lipids; lipoproteins, wax esters & sterol esters); Lesch 1969 (Lipid; development of neutral lipids & fatty acids in brain); Lesch et al. 1968 (Lipid; composition of neutral lipids & phospholipids & their fatty acids of brain; cholesterol); Litchfield & Greenberg 1974 (Biological sonar; lipid; taxonomy & evolution; comparative lipid pattern in the melon fats; isovalerate fats; triglycerides & long-chain wax esters); Lygonis 1966 (Lipid; product; dietary whale oil on serum cholesterol of man & rat); Medway & Moldavon 1966 (Haematology; blood studies); Mercer 1975 (Food; squid, Illex illecebrosus, Newfoundland); Nores & Perez 1982 (Special topic; mass stranding; Cantabrian Coast, N. Spain); Pilson 1970b (Special topic; tears); Raga et al. 1982 (Special topic; stranded on Spanish Mediterranean coast); Sergeant 1962a (Special topic; biology; Newfoundland waters), 1982 (Special topic; mass stranding); Sleptsov 1961a (Food; eat crustaceans, fish & molluscs; Bering Sea); St. Aubin & Geraci 1980 (Vitamin; vitamin C levels in adrenals, epidermis, muscle & blubber); Taruski et al. 1975 (Toxic compounds; DDT, chlordane, dieldrin & PCB levels in blubber); Tsujimoto & Koyanagi 1973 (Lipid; distillation of head oil under vacuum); Wedmid & Litchfield 1976 (Lipid; biological sonar; positional analyses of triglyceride using PMR with shift reagents); Wedmid et al. 1972 (Lipid; biological sonar; heterogeneity of lipid composition within cephalic melon), 1973 (Biological sonar; lipid; heterogeneity of lipid composition within the cephalic melon; lipid classes & molecular species; fatty acid & fatty alcohol composition; wax esters & triglycerides contain valeric acid & long-chain fatty acids; acoustical function).

Globicephala scammoni (Cope, 1869) (Pacific pilot whale; blackfish)

Beal & Cardeilhac 1979 (Protein; ceruloplasmin); Border 1975 (Haematology; protein; electrophoretic analyses of hemoglobins); Hall et al. 1971 (Special topic; stranding San Clemente I.); Taruski et al. 1975 (Toxic compounds; DDT, dieldrin, chlordane, & PCB levels in blubber).

Globicephala spp.

Sergeant 1982 (Special topic; mass stranding).

Orincus orca (Linnaeus, 1785) (Atlantic killer whale)

Arvy & Pilleri 1983 (Special topic; reproduction; migration & reproduction); Baldrige 1972 (Food; eat gray whales); Barr & Barr 1921 (Food; eat Dall's porpoise); Betesheva 1961 (Food; eat squid & fish; Kurile I.); Border 1975 (Haematology; protein; electrophoretic analysis of hemoglobins); Castello 1977 (Food; sea birds, sea mammals, fish, squid, rays, shots & sharks); Castello et al. 1977 (Myoglobin); Cohen et al. 1983 (Haematology; differential lymphocytotoxicity of sera to human leukemic & normal lympho-

cytes); Cornell 1983 (Haematology; protein; enzyme; carbohydrates & energetics; nematology & clinical chemistry; serum LDH, urea, creatinine, glucose & hemoglobin concentrations); Dhindsa et al. 1974 (Carbohydrate & energetics; haematology; hemoglobin electrophoresis; respiratory function of blood); Goldsberry et al. 1976 (Special topic; live capture techniques); Hashimoto & Dayton 1964 (Lipid; nutrition; lipids from coronary & aortic atheromata); Hashimoto et al. 1967a (Haematology; lipid; nutrition; aliphatic wax alcohols & fatty acids of atheromata & arterial tissues; plasma lipids, lipoproteins, fatty acids, wax esters & sterol esters); Huber et al. 1982 (Special topic; sightings in Gulf of Farallones, U.S.A., 1971-1979); Lenfant et al. 1968 (Carbohydrate & energetics; respiratory function); Malvin et al. 1971 (Endocrinology; antidiuretic hormone levels; plasma ADH concentration); Meuth 1982 (Myoglobin; sequence determination of major components); Meuth et al. 1981 (Myoglobin; taxonomy & evolution; phylogenetic relation of myoglobin); Nores & Perez 1982 (Special topic; mass stranding Cantabrian coasts of N. Spain); Palo 1972 (Special topic; natural history; Washington state, U.S.A.); Popov et al. 1976 (Product; food; amino acid composition of meat); Puppione et al. 1971 (Haematology; lipid; protein; serum lipoproteins classes & lipids; composition of VLDL, LDL & HDL; electrophoretic patterns); Rice 1968 (Food; stomach contents; feeding behavior; N.E. Pacific); Ridgway 1979 (Special topic; reported causes of death); Saito et al. 1974 (Haematology; Fletcher factor activity in plasmas of various spp.); 1976 (Haematology; Fitzgerald factor high molecular weight kininogen clotting activity in human plasma on health & disease of various animal plasma); Saito & Yokoyama 1954 (Endocrinology; *Orcinus rectipenna*; Langerhans' islets & extraction method); Sleptsov 1961a (Food; fish, crustaceans & molluscs; Bering sea), 1961c (Special topic; results on weighing large & small captured whales); Spencer et al. 1967 (Carbohydrate & energetics; respiration & cardiac activity); Steiner et al. 1979 (Food; special topic; vocalization & feeding behaviour); Taylor & Farrell 1973 (Haematology; light & electron microscopy of peripheral blood neutrophils affected by Chediak-Higashi syndrome); Watson & Gaskin 1983 (Special topic; ventilation cycle; Bay of Fundy); Wilson & Pitcher 1979 (Food; feeding & behaviour, Foyle estuary, Ireland).

Peponocephala electra (Gray, 1846) (many-toothed blackfish; finless porpoise)

Tsuyuki & Itoh 1969b (Lipid; fatty acid composition of oil; density, specific gravity, iodine No., unsaponifiable matter & acid No.).

Pseudorca crassidens (Owen, 1846) (false killer whale)

Litchfield & Greenberg 1974 (Biological sonar; lipid; taxonomy & evolution; comparative lipid patterns in the melon fats; isovaleryl lipids, triglycerides & long-chain fatty acids); Nishi-

waki & Tobayama 1982 (Special topic; a morphological study of fetal growth); Nores & Perez 1982 (Special topic; mass stranding; Cantabrian coast of N. Spain); Sergeant 1982 (Special topic; mass stranding); Wedmid & Litchfield 1976 (Biological sonar; lipid; positional analyses of triglyceride using PMR with shift reagents).

Odontoceti; Grampidae

Grampus griseus (G. Cuvier, 1812) (Risso's dolphin)

Aucamp et al. 1971 (Toxic compounds; DDT & dieldrin in liver & blubber); Brahm 1983 (Special topic; northern records in N.E. Pacific); Gallien et al. 1970 (Haematology; taxonomy & evolution; protein; immunoelectrophoresis of serum proteins); Jones 1981 (Food; food habits; N. California); Litchfield & Greenberg 1974 (Biological sonar; lipid; taxonomy & evolution; comparative lipid patterns in melon fats; isovalerate lipid; long-chain wax esters); Raga et al. 1982 (Special topic; stranded on Spanish Mediterranean coast); Wedmid & Litchfield 1976 (Biological sonar; lipid; positional analysis of triglycerides using PMR with shift reagents).

Odontoceti; Kogiidae

Kogia breviceps (Blainville, 1838) (pigmy sperm whale; lesser cachalot)

Hale 1962 (Special topic; S. Australian coast); Jenness & Odell 1978 (Toxic compounds; milk & lactation; lipid; protein; lactose, fatty acids & protein content; electrophoresis of casein; DDT, dieldrin & PCB 1203 in milk); Karl et al. 1978 (Biological sonar; lipid; compositional topography of melon & spermaceti organ (fat-filled) lipids; implications in echolocation; wax ester & triglyceride composition (3 regions of melon)); Nagorsen & Stewart 1983 (Food; special topic; stomach content; Vancouver I.); Odell 1979 (Mineral; toxic compounds; chlorinated hydrocarbons & trace metals; ecology & population biology; S.E. Florida); Ross 1979 (Food; stomach contents; fish, Crustacea & cephalopods); St. Aubin & Geraci 1980 (Vitamin; vitamin C in adrenals, epidermis, muscle & blubber).

Kogia simus (Owen, 1866) (Owen's pigmy sperm whale)

Jones 1981 (Food; N. California); Litchfield & Greenberg 1974 (Biological sonar; lipid; taxonomy & evolution; comparative lipid patterns in melon fats; contains no isovalerate; triglycerides & wax esters; long-chain wax esters); Odell 1979 (Mineral; toxic compounds; chlorinated hydrocarbons & trace metals; ecology & population biology; S.E. Florida); Ross 1979 (Food; stomach contents, crustaceans, fish & cephalopods).

Odontoceti; Monodontidae

Delphinapterus leucas (Pallas, 1776) (beluga; white whale)

Addison & Brodie 1973 (Toxic compounds; DDT derivations in liver & muscle; McKenzie Delta); Arnason 1982 (Nucleic acid; DNA); Arnason et al. 1982 (Taxonomy & evolution; nucleic acid; DNA; balaenopterids); Braham et al. 1977 (Food; Bering, Chuckchi & Beaufort seas); Braham & Krogman 1977 (Special topic; population, biology; Bering, Chukchi & Beaufort seas); Brodie 1969 (Special topic; mandibular layering & age determination), 1971 (Nutrition; reproduction; aspects of growth, reproduction & behaviour; Cumberland Sound-Baffin I. populations); Brooks 1954a (Special topic; investigation), 1954b (Special topic; preliminary report on investigation, Bristol Bay), 1955 (Special topic; investigation), 1956 (Special topic; investigation), 1957 (Special topic; investigation); D'Angelo 1982 (Haematology; carbohydrate & energetics; protein, erythrocyte glucose transport; protein permeability); Degerbol & Nielsen 1930 (Special topic; biological observations & measurements of female & newborn); Denisov 1936 (Lipid; chemical composition of fat); Dhindsa et al. 1974 (Haematology; carbohydrate & energetics; respiratory function of blood; hemoglobin electrophoresis); Doan & Douglas 1953 (Food; Churchill region, Hudson Bay); Douglas 1951 (Special topic; reproduction; investigations; Churchill, Hudson Bay); Fay 1978 (Special topic; general); Finley 1976 (Food; special topic; status of marine animals, central District of Franklin, N.W.T.); Finley et al. 1982 (Food; special topic; taxonomy & evolution; abundance, distribution, stock identity, catch history & management; N. Quebec); Fraker et al. 1978 (Special topic; S. Beaufort Sea); Fraker 1979a (Special topic; spring migration; Beaufort Sea, Alaska), 1979b (Special topic; distribution & abundance & relationship to physical & chemical characteristics of MacKenzie estuary, Canada); Freeman 1968 (Special topic; winter observations in Jones Sound, N.W.T.); Geraci et al. 1969 (Carbohydrate & energetics; haematology; enzyme, mineral, protein; serum constituents; urea, creatinine, uric acid, Na, Cl, Ca, P, total protein, albumin, lactic acid, globulins, glutamic oxaloacetic transaminase & glutamic pyruvic transaminase), 1969a (Haematology; studies); Geraci & St. Aubin 1979 (Care; enzyme; diagnostic value of tissue enzymes; liver, muscle & plasma alanine aminotransferase, aspartate aminotransferase, sorbitol dehydrogenase; γ -glutamyl transferase, alkaline phosphatase & creatine kinase), Harms et al. 1977/78 (Toxic compounds; DDT, PCB, Cu, Tn, Cd, Pb & Hg in mineral, blubber, liver, brain & liver); Harrison & Hall 1978 (Special topic; Alaskan distribution); Hay & McClung 1976 (Special topic; observation, Canadian High Arctic); Hopkins & Chisholm 1954 (Lipid; 22:1 in blubber oil); Johnson 1979 (Special topic; fall westward migration along central Alaska Beaufort Sea coasts); Jonkel 1969a (Special topic); Kapel 1977 (Food; special topic; catch in Greenland, 1954-75); Kleinenberg et al. 1964 (Special topic; investigation); Klinkhart 1966 (Special topic; Alaska); Lauer & Baker 1969a (Lipid; milk & lactation; proximate composition; gross composition and fatty constitution of milk); Lensink 1961 (Special topic; status report); Litch-

field et al. 1971 (Biological sonar; lipid; isovaleryl triglycerides in blubber & melon oils; echolocation role); Litchfield & Greenberg 1974 (Biological sonar; lipid; taxonomy & evolution; comparative lipid patterns of melon fat; isovalerate fat; triglycerides & wax esters containing long-chain fatty acids); Medvedev 1971 (Food; data on feeding; Dickson region); Mironova 1951 (Vitamin; vitamin A in fat); Pilleri 1982 (Biological sonar; sense of vision & sonar field), 1983 (Biological sonar; sonar system of dolphins); Saito et al. 1974 (Haematology; Fletcher factor activity in plasma of various spp.), 1976 (Haematology; Fitzgerald factor high molecular weight kininogen clotting activity in human plasmas in health & disease in various animal plasmas); Seaman & Burns 1981 (Special topic; studies in Alaskan waters); Seaman et al. 1982 (Food; W. Alaska; eat fish, shrimp & octopus); Sergeant 1962 (Special topic; biology; hunting; Canadian Arctic), 1969 (Food; feeding rates), 1973b (Special topic; biology; W. Hudson Bay); Sergeant & Brodie 1969a (Special topic; body size), 1969b (Special topic; tagging), 1975 (Special topic; identity, abundance & present states of populations, N. America); Sergeant & Hoek 1975 (Food; special topic; seasonal distribution in E. Beaufort Sea); Shochi et al. 1982 (Biological sonar; characteristic and directional properties of sonar signal emitted by captive); St. Aubin & Geraci 1977 (Protein; enzyme; activities & distribution in tissues & plasma; aspartate aminotransferase, alanine aminotransferase, ornithine carbonyl transferase & sorbitol dehydrogenase; spp. & tissues differences), 1980 (Vitamin; vitamin C levels in adrenals, epidermis, muscle & blubber); Tarasevich 1974 (Special topic; characteristics of migration towards coast); Vibe 1950 (Food; Thule district; N.W. Greenland); Vladykov 1944 (Special topic; hunting & biology; Gulf of St. Lawrence), 1946 (Food; St. Lawrence river); Vogl & Fisher 1982 (Haematology; special topic; arterial retia related to supply of the central nervous system; hemoglobin; myoglobin); Wedmid & Litchfield 1976 (Lipid; biological sonar; positional analysis of triglycerides using PMR with shift reagents).

Monodon monoceros Linnaeus, 1758 (narwhal; unicorn whale; monodon)

Bada et al. 1983 (Special topic; age determination by aspartic acid racemization); Best & Fisher 1974 (Reproduction; seasonal breeding); Degerbol & Freuchen 1935 (Food); Finley & Gibb 1982 (Food; summer diet; Pond Inlet, N. Baffin I.); Finley & Miller 1982 (Special topic; examination of harpoon gun technology, Pond Inlet, N. Baffin I.); Finley et al. 1980 (Special topic; aspects of hunt; E. Canadian Arctic); Hay & McClung 1976 (Special topic; observation, Canadian high Arctic); Howell 1930 (Lipid; subdermal oil reserves; myology); Kapel 1977 (Food; special topic; catch on Greenland 1954-75); Litchfield & Greenberg 1974 (Biological sonar; lipid; taxonomy & evolution; comparative lipid patterns of melon fats; isovalerate fats; triglycerides & long-chain wax esters); Litchfield et al. 1975 (Biological sonar; lipid;

comparative lipid patterns in acoustical & non-acoustical fatty tissues; blubber & jaw fat; triglycerides & wax esters; echolocation mechanisms); Mansfield 1964 (Special topic; present & future research); Mansfield et al. 1975 (Food; E. Canadian waters), 1975a (Special topic; E. Canadian waters); Merdsoy et al. 1979 (Special topic; occurrence at Hall's Bay, Newfoundland); Pilleri 1983 (Biological sonar; sonar system of dolphins); Pilleri et al. 1982a (Biological sonar; taxonomy & evolution; osteological consideration in shape of sonar field; melon); Robisch et al. 1972 (Biological sonar; lipid; differences in triacylglycerols from acoustic tissues & posterior cranial blubber); Silverman 1979 (Special topic; social organization & behaviour; Lancaster Sound, Pond Inlet & Tremblay Sound, N.W.T.); Vibe 1956 (Food; Thule district; N.W. Greenland); Vogl & Fisher 1982 (Haematology; myoglobin; special topic; arterial retia related to supply of the central nervous system; hemoglobin; myoglobin); Wagemann et al. 1983 (Toxic compounds; heavy metals in tissues & organs); Wedmid & Litchfield 1976 (Biological sonar; lipid; positional analysis of triglycerides using PMR with shift reagents).

Odontoceti; Phocoenidae

Neomeris phocoenoides

Tsuyuki & Itoh 1969a (Lipid; fatty acid composition of oil; oil content, specific gravity, acid No., iodine No. & unsaponifiable matter).

Neophocoena asiaorientalis (finless black porpoise)

Pilleri & Gahr 1975 (Food; taxonomy & evolution; special topic; ecology).

Neophocoena sunamari

Pilleri & Gahr 1975 (Food; taxonomy & evolution; special topic; ecology).

Neophocoena phocoenoides (G. Cuvier, 1829) (finless black porpoise; Indian porpoise)

Arima & Nagakura 1979 (Toxic compounds; Hg & Se of adult & fetal Odontoceti); Itoh & Tsuyuki 1974a (Lipid; fatty acid composition of blubber (different areas) oil; iodine No., acid No. & unsaponifiable matter); Pilleri 1983 (Biological sonar; sonar systems); Pilleri & Gahr 1975 (Food; taxonomy & evolution); Pilleri et al. 1982b (Biological sonar; taxonomy & evolution; osteological consideration on shape of sonar field; melon); Shochi et al. 1982 (Biological sonar; characteristic and directional properties of sonar signal emitted by captive).

Phocoena phocoena (Linnaeus, 1758) (harbor porpoise; common porpoise)

Amundin & Andersen 1983 (Biological sonar; sound production regulation); Andersen 1966 (Haematology; physiological range of elements formed in the blood), 1968 (Haematology; physiological

ranges of chemical parameters in captive porpoises); Andersen & Nielsen 1983 (Water; exchange of water between animal & environment); Arnason 1968 (Nucleic acid; DNA); Arnason et al. 1982 (Taxonomy & evolution; nucleic acid; DNA; monophylogenetic origin); Arnold 1972 (Special topic; predation by whale shark); Blessing 1972 (Myoglobin; myoglobin concentration); Bock et al. 1968 (Milk & lactation; protein; amino acid composition of milk); Busnel & Dziedzic 1966 (Biological sonar; book; experimental metrological results of echolocation & compare with others); Clausen et al. 1974 (Toxic compounds; lindane, heptachlor epoxide, aldrin, PCB & DDE in adipose); Duinker & Hillebrand 1979 (Toxic compounds; transplacental transfer of PCB, DDT & dieldrin from maternal to fetal porpoise; mobilization of pesticides from lipid during pregnancy), 1979a (Lipids; toxic compounds; transplacental transfer of organochlorines from female tissue to unborn); Falconer et al. 1983 (Mineral; toxic compounds; Hg, Cd, Cu & Zn in liver & kidney); Gaskin et al. 1962 (Toxic compounds; Hg; Bay of Fundy region), 1975 (Special topic; preliminary movements study using radiotelemetry; Bay of Fundy), 1979 (Toxic compounds; changes in Hg of levels in adult muscle, cerebrum, cerebellum, kidney, liver & mammary glands; Bay of Fundy & adjacent areas, 1969-1977); Geraci & St. Aubin 1979 (Care; enzyme; protein; diagnostic value of tissue enzymes; liver, muscle & plasma alanine aminotransferase, aspartate aminotransferase, sorbitol dehydrogenase, γ -glutamyl transferase, alkaline phosphatase & creatine kinase); Harms et al. 1977/78 (Toxic compounds; PCB, DDT, Cu, Zn, Cd, Pb & Hg in muscle, blubber, brain & liver in adults); Hedges et al. 1979 (Special topic; renal morphology & renal vascular system); Huber et al. 1982 (Special topic; sightings in Gulf of Farallones, California, 1971-1979); Jones 1981 (Food; N. California); Kapel 1977 (Special topic; catch in Greenland 1954-1975 by year, month & region); Koeman et al. 1973b (Toxic compounds; Hg-Se correlations); Kuznetsov 1979 (Special topic; chemoreception of various substances); Litchfield & Greenberg 1974 (Biological sonar; lipid; taxonomy & evolution; comparative lipid patterns in melon fats; isovallate wax esters & triglycerides; long-chain wax esters); Meuth 1982 (Myoglobin; sequence determination of major components); Neave & Wright 1968 (Special topic; seasonal migration, Bay of Fundy); Rae 1973a (Food); Reijnders & Wolff 1981 (Special topic; life history; population dynamics & disease); Sergeant 1982 (Special topic; mass stranding); Shochi et al. 1982 (Biological sonar; characteristics and directional properties of sonar signal emitted by captive); Sleptsov 1961a (Food; eat crustaceans, molluscs & fish; Bering Sea); Smith 1971 (Food; diet; stomach contents); Smith & Gaskin 1974 (Food; diet; coastal waters of E. Canada, especially Bay of Fundy), 1983 (Special topic; food; environment index for habitat use by females with calves near Deer I., Bay of Fundy); Spotte et al. 1978 (Care; beach-stranded); St. Aubin & Geraci 1980 (Vitamin; vitamin C in adrenals, epidermis, muscle & liver); Varanasi & Malins 1969 (Biological sonar; lipid; diol lipids;

dialkoxypentanes in jaw oil; acoustic dialkyl-ethers), 1970b (Biological sonar; lipid; ester- & ether-linked lipids in the mandibular oil; isovaleric acid in glycerolipids; isopentadecanoic acid in neutral lipids); Voronov 1982 (Biological sonar; frequency temporal analysis of ultrasonic calls); Voronov & Stosman 1982 (Biological sonar; sound perception); Watson & Gas-kin 1983 (Special topic; ventilation cycle; Bay of Fundy); Wedmid & Litchfield 1976 (Biological sonar; lipid; positional analyses of triglycerides using PMR with shift reagents).

Phocoenoides dalli (True, 1885) (Dall porpoise)

Fiscus et al. 1980 (Food; off California & Washington); Garner et al. 1973 (Myoglobin; determination of α -amino acid pK); Horvath et al. 1968 (Haematology; taxonomy & evolution; respiratory & electrophoretic characteristics of hemoglobins); Huber et al. 1982 (Special topic; sightings in Gulf of Farallones, California, 1971-1979); Jones 1981 (Food; N. California); Kajimura et al. 1981 (Food; off California & Washington); Litchfield & Greenberg 1974 (Biological sonar; lipid; taxonomy & evolution; comparative lipid patterns in the melon fats; isovalerate wax esters & triglycerides; long-chain wax esters); Meuth 1982 (Myoglobin; sequence determination of major components); Morejohn 1973 (Special topic; natural history); Nakamura & Tsujino 1952 (Lipid; fatty acid composition of mandibular, head & skin oil; density, iodine No., saponification No. & unsaponifiable matter); Ridgway et al. 1968 (Enzyme; haematology; lipid; mineral; protein; chemical & physical properties of blood; corpuscle volume; eosinophil & leukocyte counts; serum Na, Cl, K, cholesterol, BUN & glutamic oxaloacetate transaminase); Sterling et al. 1975 (Endocrinology; thyroid hormone metabolism; T_3 & T_4 concentrations); Takaoka & Tsujino 1952 (Lipids; properties of body oils & their volatile fatty acids); Wedmid & Litchfield 1976 (Biological sonar; lipid; positional analysis of triglycerides using PMR with shift reagents).

Odontoceti; Platanistidae

Inia geoffrensis (Blainville, 1817) (Amazon River dolphin; pink porpoise)

Ackman et al. 1971a (Biological sonar; lipid; composition of wax esters, triglycerides & diacylglycerol ethers in jaw & blubber fats); De Monte & Pilleri 1972 (Haematology; mineral; hematological plasmic & urinary values); Garman et al. 1983 (Special topic; molting; cutaneous gout); Johnson 1982 (Special topic; food; sharing); Litchfield et al. 1971a (Lipid; biological sonar; comparative lipid patterns); Litchfield & Greenberg 1974 (Biological sonar; lipid; taxonomy & evolution; comparative lipid patterns in melon fats; contains no isovalerate wax esters & triglycerides), 1979 (Biological sonar; lipid; compositional topography of melon lipids; wax esters & triglycerides; refractive collimation of echolocation sound beam); Penner & Murchison 1970 (Biological sonar; experimental

demonstrated echolocation); Pilleri 1983 (Biological sonar; sonar system).

Lipotes vexillifer Miller, 191B (baiji, Chinese Lake dolphin; Chinese River dolphin; white flag dolphin; peic'hi)

Lu & Yang 1980 (Lipid; melon oil iodine No., unsaponifiable matter, fatty acids & wax esters); Pilleri 1983 (Biological sonar; sonar system).

Platanista gangetica (Lebeck, 1801) (Ganges River dolphin, Ganges susu; blind dolphin; gangetic dolphin)

De Monte & Pilleri 1972 (Haematology; mineral; hematological plasmic & urinary values); Haque et al. 1977 (Food; observation on behavior & other biological aspects; eat fish); Litchfield & Greenberg 1974 (Biological sonar; lipid; taxonomy & evolution; comparative lipid patterns in the melon fats; contains no isovalerate triglycerides & wax esters); Pathak et al. 1956 (Lipid; component fatty acids of blubber & liver fat); Tsuyuki & Itoh 1971 (Lipid; fatty acid components of oil), 1972 (Lipid; fatty acid composition of oils from various blubber parts), 1973 (Lipid; fatty acid component of blubber).

Platanista indi

Arnason et al. 1977 (Nucleic acid; DNA), 1982 (Taxonomy & evolution; nucleic acid; DNA; monophyletic origin); De Monte & Pilleri 1972 (Haematology; mineral; hematological plasmic & urinary values); Grillo & Sisini 1976 (Enzyme; nucleic acid; protein; urea cycle enzymes; liver carbamyl phosphate synthase, arginase, AMP deaminase, glutamic oxaloacetic transaminase, glutamate dehydrogenase & ornithine transaminase); Pilleri 1983 (Biological sonar; sonar system).

Platanista minor

Butt 1972 (Food; eat crustaceans, Palaemon carcinus, P. malcolmsonii, and fish, Glossogobius giurus; River Indus Dera Ismail Khan, Pakistan).

Pontoporia blainvillei (Gervais, 1844) (La Plata River dolphin; Franciscana)

Fitch & Brownell 1971 (Food; food habits; South America); Pilleri 1983 (Biological sonar; sonar system); Pilleri et al. 1982b (Biological sonar; sonar emission field with osteological remarks on the pterygoid region).

Odontoceti; Physeteridae

Physeter catodon Linnaeus, 1758 (sperm whale; cachalot)

Andr  & Francois 1926 (Lipid; head, muscle & spermaceti glycerol & fatty acid content); Arnason et al. 1977 (Nucleic acid; DNA); Arnason et al. 1982 (Taxonomy & evolution; nucleic acid; DNA; monophyletic origin); Baltes 1968 (Products; composition of meat extract; water, PO_4 ,

total N & amino acids); Best 1969 (Special topic; distribution & movement W. coast of South Africa); Betesheva 1961 (Food; Kurile region; squid, octopus & fish), 1962 (Food; stomach contents); Betesheva & Akimushkin 1955 (Food; stomach contents; molluscs & fish); Bolognesi et al. 1982 (Myoglobin; reactivity of myoglobins toward imidazole, x-ray & binding study); Borisov 1969b (Haematology; protein; antigenic properties of serum proteins), 1981a (Myoglobin; taxonomy & evolution; haematology; protein; electrophoretic analyses of myoglobins & hemoglobins); Braekkan 1948 (Vitamin; vitamins A & D, riboflavin & thiamine in liver, blubber areas & tongue); Budantseva 1980 (Product; lipid; haematology; spermaceti oil on rat enzymes; alanine aminotransferase, alkaline phosphatase & bilirubin); Challinor et al. 1969 (Lipid; head oil; hydrocarbon, wax ester, triglycerides & fatty acids; wax esters with C₂₅-C₃₈ chains); Chen 1967 (Myoglobin; amino acids); Crumpton 1967 (Myoglobin; antigenic site of myoglobin); Cushing et al. 1963 (Taxonomy & evolution; haematology; JU blood-typing system & specific soluble substances); Egorova 1964 (Product; vitamin; vitamin A & kitol content changes in liver during storage), 1968 (Product; vitamin; vitamin A level change during liver preservation with γ -irradiation); Frederickhsen 1977 (Food; eat rockfish; stomach contents); Fujii & Okura 1956a (Lipid; product; nutritive value of oil; causes seborrhea); Fujii & Matsumoto 1957 (Lipid; purification of wax from oil with lipase); Gambell 1970 (Special topic; weight of whale & its parts); Garner et al. 1973 (Myoglobin; determination of α -amino acid pK); Gilbert et al. 1982 (Nucleic acid; protein; pancreatic RNAase A); Grynberg & Szczepanska 1965 (Lipid; head oil fatty acid & fatty alcohol composition); Gutman et al. 1982 (Myoglobin); Hamilton et al. 1972 (Lipid; head oil alkanes & alcohols); Hansen & Cheah 1969 (Lipid; related dietary & tissue lipids; triglycerides, wax ester & fatty alcohol in head, blubber & stomach contents); Hapner et al. 1968 (Myoglobins; comparison of seal, porpoise & whale); Harris & Milne 1981 (Protein; balenine (β -methyl-N-methyl histidine, carnosine & anserine); Hasinoff & Christi 1982 (Myoglobin); Henry & Best 1983 (Toxic compounds; organochlorine residues in landed whales, Durban, South Africa; DDT, dieldrin, PCB in blubber); Idyll 1958 (Special topic; ambergris produced in intestine); Igarashi & Zama 1965 (Lipid; brain lecithin & their fatty acids); Ishihara 1960 (Enzyme; protein; stomach mucosa pepsin); Ishikawa 1949 (Enzyme; protein; proteolytic enzyme activity in pancreas); Itabashi & Takagi 1980 (Lipid; GLC separation of diacylglycerols & monoacylglycerols according to number of double bonds & positional placement of acyl groups); Kawauchi et al. 1978 (Endocrinology; isolation & primary structure of adrenocorticotropin; ACTH isolation from pituitary gland); Kenery et al. 1983 (Myoglobin; NMR study of amino acids & protein chain mobility in crystalline amino acids & myoglobins); Khrstova & Atanasov 1982 (Myoglobin; oxymyoglobin oxidation in presence of Zn & Au ions); Kolchev & Marieva 1953 (Lipid; product; lipid, total solids & moisture of blubber; rendering of blubber); Lee & Oldfield 1982 (Myoglobin; structure of heme); Litchfield et al. 1975 (Biological sonar; lipid; comparative lipid patterns in acoustical & nonacoustical fatty tissues; echolocation mechanisms); Lockyer 1975 (Food; nutrition; estimates of growth & energy budgets); Ludoweig et al. 1972 (Carbohydrate & energetics; polysaccharides of nucleus pulposus during fetal development & aging); Matsumoto 1980 (Enzyme; protein; ATPase activating substances in dentrifice); Mednikov & Shubina 1976 (Taxonomy & evolution; nucleic acid; role of transcription promoter sites in microevolutionary processes); Mori et al. 1964 (Lipid; fatty acid & alcohol composition of oil); Morris 1973 (Lipid; wax & triglycerides content & fatty acid composition of spermaceti organ); Morris 1975 (Biological sonar; lipid; special topic; lipid content & fatty acid composition of spermaceti organ in calf, adults; buoyancy regulations; acoustic lens); Mrochkov 1951 (Vitamin; vitamin A content in liver); Mrochkov & Kiselev 1972 (Product; proximate composition; body parts; Antarctic); Nigen & Gurd 1973 (Myoglobin; comparison of carboxymethylated patterns of myoglobins); Norris & Harvey 1972 (Biological sonar; special topic; theory for function of spermaceti organ); Ohi et al. 1980 (Product; toxic compounds; CH₃Hg; relationship of Hg & Se in rat organs; marine meat protects against CH₃Hg neurotoxicity); Okura & Goto 1957 (Lipid; properties of blubber oil; iodine No., saponification No. & unsaponifiable matter; Japan); Okutani & Nernoto 1964 (Food; squid; Bering Sea & Alaskan Gulf); Omura 1950 (Special topic; body weights; Japan); Pascal & Ackman 1975 (Lipid; occurrence of 7-methyl-7-hexadecenoic acid, the corresponding alcohol, 7-methyl-6-hexadecenoic acid & 5-methyl-4-hexadecenoic acid; N. & S. hemisphere); Pedersen 1952a (Lipid; milk & lactation; milk composition; fat, water, dry matter & no sugar; iodine No., saponification No., unsaponifiable matter & free fatty acid), 1952b (Lipid; oil & moisture content of meat), 1952c (Lipid; milk & lactation; lipid content of milk; iodine No., unsaponifiable matter, acid No. & water content); Pike 1950 (Food; crustacean, squid & fish); Poncz & Dearborn 1983 (Myoglobin; resistance to tryptic hydrolysis of peptide bond adjacent to N-epsilon-N-dimethyllysyl residues); Rice 1972 (Food; stomach contents; giant sea-devil, *Ceratias holbolli*); Roe 1969 (Food; food & feeding habits; W. coast of Iceland); Ros de Ursinos et al. 1953 (Lipid; separation of components by urea complexes); Rouzet 1969 (Lipid; identification & determination of unsaponifiable matter, lanolins, squalene, carotenoids, hydrocarbons & sterols); Ruzic et al. 1982 (Myoglobins); Saito & Yokoyama 1954 (Endocrinology; insulin interaction from Langerhans' islets); Sano 1967a (Lipid; identification of 4,8,12-trimethyltridecanoic acid in oil); Schmidt 1950 (Vitamin; vitamin A in liver oil, British Columbia); Senda 1953 (Lipid; constituents of sperm oil); Sergeant 1982 (Special topic; mass stranding); Shibata 1951 (Protein; product; nitrogen compounds in meat); Shoubridge et al. 1976 (Carbohydrate & energetics; diving; enzyme; taxonomy & evolution; lactate dehydrogenase

isozymes in brain & muscle & in anoxia in diving); Sleet et al. 1981 (Haematology; special topic; estimate of total blood volume & total body weight); Sleptsov 1961c (Special topic; results of weighing large & small cetaceans); Sono & Dawson 1982 (Myoglobin); Suyama et al. 1977 (Lipid; protein; balenine, free amino acids, peptide & imidazole); Tagaki & Itabashi 1977 (Lipid; random composition of acyl & alcoholic group of wax esters of head oils); Takaoka et al. 1953 (Endocrinology; insulin); Tarasevitch 1968 (Food; squid, octopus & 5 spp. of fish; N. Pacific); Tower & Young 1973 (Carbohydrate & energetics; enzyme; mineral; intraspecies correlations of cerebral cortical oxygen consumption, acetylcholinesterase activity & chloride content); Travis et al. 1971 (Haematology; protein; electrophoresis of hemoglobin (6 bands) & haptoglobin); Watanabe & Suzuki 1950a (Proximate composition; product; various body parts); Wolman & Wilson 1970 (Toxic compounds; DDT & dieldrin in brain, liver & blubber); Yasugi et al. 1982 (Lipid; 2-O-acyl galactosyl ceramide in brain; 4 glycolipids); Zama & Igarashi 1956 (Lipid; brain cephalins (PE) & phosphatidyl inositol; fatty acids); Zama 1963 (Lipid; heart and brain phospholipids & fatty acid composition).

Physeter macrocephalus

Aguilar 1983 (Toxic compounds; food; food intake; DDD, DDT & PCB in blubber; N. Atlantic temperate waters); André & Maille 1947 (Lipid; head & spermaceti oil; saponification No.); Arvy & Pilleri 1983 (Special topic; reproduction; migration & reproduction); Best 1978 (Special topic; social organization); Borisov 1981b (Enzyme; protein; electrophoretic spectra of proteins from blood plasma, corpus luteum, corpus albicans & testes; lactate dehydrogenase); Clarke 1978a (Special topic; lipid; structure & proportions of spermaceti organ), 1978b (Lipid; physical properties of spermaceti oil), 1978c (Special topic; buoyancy control as a function of spermaceti organ), 1980 (Food; stomach contents; Cephalopoda diet & their bearing on biology; S. hemisphere); Clarke & MacLeod 1974 (Food; stomach contents; cephalopods; Vigo, Spain), 1981 (Food; stomach contents; cephalopods; Tasman Sea); Clarke et al. 1978 (Food; special topic; eat squid; marking off coast of Chile in 1964); Hansen & Cheah 1969 (Lipid; lipid & fatty acid composition; triglycerides, wax esters & fatty alcohols in head cavity, blubber & stomach contents (squid)); Harltes & Leaver 1955 (Nucleic acid; cementum thymine; dentine pyrimidines & basic pyrimidines); Hashimoto et al. 1967 (Haematology; lipid; nutrition, aliphatic wax alcohols & other lipids of atheromata & arterial tissues), 1967a (Haematology; lipid; nutrition; aliphatic wax alcohols & other lipids in atheromata & arterial tissues); Kawakami 1980 (Food; bibliography; review of food); Keil & Boerma 1964 (Mineral; F content in dentin & cementum); Kovacs 1961 (Lipid; head, body & muscle oil; density; saponification No., iodine No., unsaponifiable matter & fatty acid composition); Mori et al. 1965b (Lipid; composition of lipids in head cavity, blubber & meat; wax &

glyceride content; fatty acid & fatty alcohol composition); Okura & Taguchi 1957 (Lipid; oil content of blubber); Raga et al. 1982 (Special topic; stranded on Spanish Mediterranean coast); Thompson & Friedl 1982 (Biological sonar; special topic; long-term study of low-frequency sounds, Oahu, Hawaii; seasonal migration & distribution); Wellendorf 1963 (Lipid; composition of spermaceti); Yamada 1946 (Lipid; proximate composition; distribution of fat in the corium layer).

Physeter spp.

Akiya et al. 1950 (Lipid; product; nutritive value of fatty acid ethyl esters of spermaceti oil); Andres 1972 (Myoglobin; myoglobin conformation & immunochemistry); Atassi 1967 (Myoglobin; immunochemistry of myoglobins, modified by porphyrins & metalloporphyrin); Atassi et al. 1981 (Myoglobins; immune response to myoglobin; genetic control; antigenic sites), 1983 (Myoglobin; production of monoclonal antibodies with preselected submolecular specificities to the 5 antigenic sites); Ballschmiter & Zell 1980 (Toxic compounds; DDT & metabolites; polychlorocamphenes, heptachlor epoxide & hexachlorobenzene); Berkower et al. 1982 (Myoglobin; possible immunodominant epitope recognized by murine T lymphocytes immune to different myoglobins); Berzin 1972 (Special topic; general book); Berzofsky et al. 1982 (Myoglobin; topographic antigenic determinants recognized by monoclonal antibodies to myoglobins); Blum et al. 1983 (Myoglobin); Brachi 1953 (Lipid; vitamin; carotene, vitamin A & anhydrovitamin A in oil); Bradshaw et al. 1969a (Myoglobin; isolation & characterization of tryptic peptides of myoglobin), 1969b (Myoglobin; isolation & characterization of tryptic peptides of myoglobin); Bradshaw & Gurd 1969 (Myoglobin; amino acid sequence); Brown et al. 1983 (Myoglobin), 1983a (Myoglobin); Budantseva 1973 (Lipid; product; whale oil preparation on regeneration of chronic gastric ulcers in rats), 1980 (Haematology; lipid; product; spermaceti oil on variations in activity of alanine aminotransferase & alkaline phosphatase & bilirubin content); Bukin & Skorobogatova 1951 (Product; vitamin; liver as source of vitamin A); Bulatov et al. 1980 (Endocrinology; somatotropin; hydrophobic peptide with growth activity from trypsin hydrolysates); Bulatov & Sadovnikova 1981 (Carbohydrate & energetics; endocrinology; somatotropin & its biologically active fragments in carbohydrate metabolism in rat diaphragmic muscle *in vivo*); Choon & Rodley 1983 (Myoglobin); Clarke et al. 1978 (Cetacea; special topic; observations & markings off coast of Chile in 1964); Colonna et al. 1978 (Taxonomy & evolution; protein; myoglobin; effect of evolution on homologous proteins); Croxall & Prince 1982 (Food; carbohydrate & energetics; calorific content of squid); Crumpton 1967 (Myoglobin; antigenic sites on myoglobins); Cushing et al. 1963 (Taxonomy & evolution; JU blood typing system and of specific soluble substances); Doster 1983 (Myoglobin; proteins; scaling & protein dynamics); Flanagan et al. 1983 (Myoglobin; single amino acid residues & stability of myoglobin); Fujii et al.

- 1954a (Lipid; blubber oil molecular distillation); Fujii & Matsumoto 1957 (Lipid; purification of wax by lipase); Fujii & Okura 1956a (Lipid; product; toxic substance in oil cause seborrhea); Fujii et al. 1957 (Lipid; separation of wax & glycerides & composition of other fatty acids); Fujino 1954 (Haematology; blood groups; serological constitution); Gambell 1970 (Special topic; weight of whale & its parts); Gilbert et al. 1982 (Nucleic acid; pancreatic RNAase); Goldanskii et al. 1982 (Myoglobin; structure); Gray et al. 1951b (Product; mineral; vitamin; B vitamins; S, P, Na, K, Ca, Mg, Fe, Al & Cl); Gurd et al. 1980 (Myoglobins; electrostatic stabilization in myoglobins); Hartzell et al. 1968a (Myoglobin; reactivity towards hydrogen & cupric ions); Hashimoto et al. 1967 (Lipid; wax, fatty acids & alcohols); Hashimoto & Mukai 1963 (Lipid; separation of alcohols & hydrocarbons by TLC), 1969 (Lipid; GLC separation of straight-chain saturated wax esters); Hasinoff & Pecht 1983 (Myoglobin); Hatano et al. 1967a (Lipid; spinal cord wax esters & glyceride fractionation), 1967b (Lipid; fatty acids & fatty alcohol composition of spinal cord wax & glycerides); Higashi et al. 1951 (Vitamin; vitamin A in oil); Hilditch & Lovern 1929 (Lipid; head & blubber oil; fatty alcohols); Hori et al. 1983 (Myoglobin); Infante et al. 1981 (Myoglobins); Iguchi 1953 (Lipid; product; industrial uses); Imaizumi et al. 1982 (Myoglobin; haematology; hemoglobin); Ishihara et al. 1958 (Endocrinology; structure of insulin & breakdown by pepsin); Ishikawa 1949 (Enzyme; protein; pancreatic proteolytic enzyme activity); Jamieson & Reid 1967 (Lipid; separation factors for identification of acetates, alcohols & hydrocarbons); Jue et al. 1983 (Myoglobin); Kabeno et al. 1971 (Endocrinology; glycoprotein fraction inhibits gastric juice secretions; gastrointestinal hormone); Kakinuma et al. 1950/51 (Lipid; product; carbohydrate & energetics; nutritional status of rats fed the oil; specific dynamic action); Kaufman & Shoeb 1961 (Lipid; composition of oil; 16:1); Kawakami 1976 (Food; stomach contents, squid; N.W. Pacific); Kawamura 1971 (Food; food content in stomach after chasing); Khristova & Atansov 1982 (Myoglobin; oxidation in presence of Zn & Au ions); Kinery et al. 1983 (Myoglobin; NMR study of amino acids & proteins side chain mobility in crystalline amino acids & myoglobins); Kuo & Weng 1975 (Lipid; temperature & frequency dependencies of ultrasonic velocity & absorption of oil); Kusakabe et al. 1962 (Protein; content of anserine carnosine, creatine & amino acids); Kolchev & Marieva (Product; technochemical composition of blubber & its changes during rendering); La mar et al. 1983 (Myoglobin); Lando et al. 1982 (Myoglobin; antigenic structure); Lando & Reichlin 1982 (Myoglobin; antigenic structure); Levit & Vasil'eva 1965 (Lipid; separation of fatty acids of fat & oil by centrifuging); Mims et al. 1983 (Myoglobin); Mori et al. 1966a (Lipid; fatty acid & fatty alcohol composition of oil), 1966b (Lipid; fatty acid & fatty alcohol composition of oil prepared in the laboratory & factory), 1966c (Lipid; fatty acid composition of waxes & glycerides of head & body oil), 1966d (Lipid; fatty acid & fatty alcohol composition of oil; contain branched C₁₄ fatty acid), 1966e (Lipid; fatty acid & fatty alcohol composition of head cavity & suika oil); 1965a (Lipid; fatty acid composition of waxes & glycerides), 1966f (Lipid; fatty acid composition of waxes & glycerides of head & body oil); Mori et al. 1954 (Lipid; saponification of oil); Morishima & Hara 1983 (Myoglobin); Morris 1973 (Lipid; wax & triglyceride content & fatty acid composition of spermaceti organ); Mrochov & Kiselev 1972 (Product; chemical composition of parts of body; Antarctic); Okura & Morii 1957 (Lipid; quality & properties of oil from head & body; iodine No., saponification No. & unsaponifiable matter; Japanese coast), 1957a (Lipid; quality & properties of oil; coastal Japan); Okura et al. 1957 (Lipid; composition of commercial alcohols), 1952a (Lipid; properties of oil; moisture, iodine No. & saponification No.); Okura & Nagata 1952 (Lipid; iodine value of unsaponifiable matter produced in a coastal factory); Okura et al. 1966a (Lipid; comparison of alcohol composition of adjacent body parts), 1966b (Lipid; fatty alcohol composition of head oil), 1966c (Lipid; fatty alcohol composition of blubber oil), 1966d (Lipid; fatty alcohol composition of head & body oils; N. Pacific), 1966e (Lipid; fatty alcohol composition of different individuals & body parts; oils from head, dorsal blubber, dorsal vertebra & large intestine); Okura & Nishimura 1957a (Lipid; properties of oil; iodine No. & saponification No.; seasonal variations; Antarctic), 1957b (Lipid; unsaponifiable matter of various body parts of animal; coast of Japan); Okura et al. 1966f (Lipid; fatty alcohol composition of head-sac & dorsal blubber oil; Antarctic); Ono & Toyama 1954 (Lipid; water; moisture content of fatty oils); Osawa et al. 1981 (Mineral; Ca & P of dentine); Poncz & Dearborn 1983 (Myoglobin; resistance of tryptic hydrolysis of peptide bond adjacent to N-epsilon-N-dimethyllysyl residues); Raie 1976 (Lipid; location of ethylenic bonds in fatty/alkane compounds); Rzhavskaya et al. 1977 (Lipid; oxidation of lipid during storage); Saiki & Mori 1953a (Lipid; fatty acid composition of head cavity; unsaponifiable matter, iodine No. & saponification No.), 1953b (Lipid; fatty acid composition of bone oil & large intestine oil; unsaponifiable matter, saponification No. & iodine No.), 1953e (Lipid; unsaponifiable matter content in various body parts), 1953f (Lipid; fat content of body parts of an unborn); Saito & Yokoyama 1954 (Endocrinology; Langerhans' islets & insulin extraction); Sano 1968 (Lipid; polyunsaturated fatty acids & alcohols in blubber oil); Sasano & Ota 1964 (Enzyme; protein; pancreatic proteolytic enzymes); Sasano & Yoshiwara 1965 (Enzyme; protein; use of pancreatic proteolytic enzymes); Sato & Tsuchiya 1977a (Lipid; oil cause of seborrhea in rats), 1977b (Lipid; waxes with different carbon atom chains cause seborrhea in rats); Schmitz et al. 1982 (Myoglobin), 1983 (Myoglobin), 1983a (Myoglobin; production of monoclonal antibodies to antigenic & nonantigenic proteins region using free synthetic peptides & immunoglobulin), 1983b (Myoglobin), 1983c (Myoglobin); Shibata 1951 (Product; distribution of nitrogenous compounds in toko-

meat); Simmerman et al. 1982 (Myoglobin; semi-synthesis); Singh & Gershbein 1969 (Lipid; fatty acid composition of oil); Solov'ev & Kolchanov 1982 (Myoglobin); Spencer 1979 (Lipid; alkoxyacyl combination of wax esters of winterized oil by GLC-MS); Spencer & Kleiman 1978 (Product; spermaceti cream); Spencer & Tallent 1973 (Lipid; GLC-MS analysis of oil; triglycerides & wax esters, C₄₂-C₅₈); Srinivasan & Ravichandran 1982 (Myoglobin; structure); St. Aubin & Geraci 1980 (Vitamin; vitamin C in adrenals, epidermis, muscle & blubber); Streibl et al. 1971 (Lipid; composition of oil; wax ester separation); Sushko & Emelyanenko 1959 (Enzyme; protein; pancreatic tryptic activity); Suzuki & Shikama 1983 (Myoglobin); Takagi et al. 1976 (Lipid; GLC separation of wax esters of head oil by degree of unsaturation); Taruski et al. 1975 (Toxic compounds; DDT, chlordane, dieldrin & PCB levels in blubber); Tinyakov et al. 1975 (Milk & lactation; lipid; microstructure of milk; fat globules); Traylor et al. 1983 (Myoglobin); Tsuchiya & Kaneko 1951 (Lipid; pristane & hydrocarbons in liver unsaponifiable matter); Tsukahara & Yamamoto 1983 (Myoglobin); Twinning et al. 1981 (Myoglobin; antigenic sites); Ver Ploeg et al. 1971 (Myoglobin; mechanism & catalysis for addition of cyanide to myoglobins); Viglierchio & Gortz 1972 (Haematology; hemoglobin; parasites); Viswanadhan & Sundaram 1983 (Taxonomy & evolution; specificity of spatial clustering of amino acid residues as evolutionary trends in patterns); Wang et al. 1979 (Myoglobin; oxygen binding); Watanabe & Suzuki 1950a (Product; proximate composition; various body parts); Williams 1949 (Lipid; analysis of fatty oils with hydrocarbons); Yoshida et al. 1965 (Lipid; product; nutritive value of fatty acids in poultry; available energy, fatty acids & total digestible nutrients); Young & Atassi 1982 (Myoglobin; antibodies to myoglobin; antigenic sites), 1983 (Myoglobin), 1983a (Myoglobin), 1983b (Myoglobin); Young et al. 1983 (Myoglobin); Yukhov 1971 (Food; feeding in high latitudes of Antarctica).

Odontoceti; Ziphiidae

Berardius bairdi (Stejneger, 1883) (Baird's beaked whale; Pacific-beaked whale)

Betesheva 1961 (Food; cephalopods; Kurile region), 1962 (Food; stomach contents); Fujino 1954 (Haematology; serological constitution; blood groups); Litchfield & Greenberg 1974 (Biological sonar; lipid; taxonomy & evolution; comparative lipid patterns in melon fats; no isovalerate triglycerides & wax esters; long-chain wax esters); Litchfield et al. 1978 (Biological sonar; lipid; distinctive medium-chain wax esters, triglycerides & diacylglycerylethers in head fats, mandibular fat body, jaw, melon & dorsal blubber); Saiki 1953a (Lipid; fatty acid composition of blubber; iodine No., unsaponifiable matter, saponification No. & acid No.), 1953b (Lipid; fatty acid composition of visceral oil; iodine No.), 1954a (Lipid; proximate composition; vitamin; fatty acid composition of liver; acetone-soluble & acetone-insoluble

lipids; vitamin A & B₁₂ content in liver), 1954b (Lipid; vitamin; vitamin A in liver oil); Saiki et al. 1958 (Lipid; fatty alcohol composition of blubber oil); Sleptsov 1961c (Special topic; results of weighting small & large cetaceans).

Berardius sp.

Sleptsov 1961a (Food; eat crustaceans, fish & molluscs; Bering Sea).

Hyperoodon ampullatus (Forster, 1770) (bottle-nosed whale)

Arvy & Pilleri 1983 (Special topic; reproduction; migration & reproduction); Benjamin & Christiansen 1978 (Food; natural history); Clarke & Kristensen 1980 (Food; 8 genera of cephalopods); Harms et al. 1977/78 (Toxic compounds; PCB, DDT, Cu, Zn, Cd, Pb & Hg in muscle, blubber, brain & liver); Jangaard et al. 1963b (Lipid; fatty acid composition of blubber oil); Litchfield et al. 1975 (Biological sonar; lipid; comparative lipid patterns in acoustical & non-acoustical tissues, blubber fat; echolocation mechanisms; longer chain fatty acids in wax esters & triglycerides); Saiki & Mori 1952 (Lipid; properties of oils contained in various body parts), 1953c (Lipid; fatty acid composition of head & jaw oils; saponification No., iodine No., & unsaponifiable matter).

Hyperoodon planifrons (Flower, 1882) (southern bottle-nosed whale)

Arvy & Pilleri 1983 (Special topic; reproduction; migration & reproduction).

Hyperoodon rostratus

Mori et al. 1966a (Lipid; fatty acid & fatty alcohol composition of oil).

Mesoplodon bidens (Sowerby, 1804) (Sowerby's beaked whale)

André & Canal 1926 (Lipid); Lok & Folkersma 1979 (Biological sonar; lipid; composition of wax esters & triacylglycerols in melon & blubber fat in young animals; diet change from triglycerides in milk to wax esters in natural food).

Mesoplodon densirostris (Blainville, 1817) (Blainville's beaked whale)

Litchfield et al. 1975 (Biological sonar; lipid; comparative lipid patterns in acoustical & non-acoustical fatty tissues; longer chain fatty acids in wax ester & triglycerides; mechanism of echolocation).

Mesoplodon sp.

Sleptsov 1961a (Food; eat molluscs, fish & crustaceans; Bering Sea).

Ziphius cavirostris G. Cuvier, 1823 (goose-beaked whale; Cuvier's beaked whale)

Arnason et al. 1982 (Taxonomy & evolution; nucleic acid; DNA; monophylogenetic origin); Baptist

1941 (Lipid; head & body oil; specific gravity, refractive index, saponification No. & iodine No.); Fordyce et al. 1979 (Nutrition; toxic compounds; heavy metals & atherosclerosis of stranded); Igarashi et al. 1953 (Lipid; head blubber oil; specific gravity, acid No., saponification No., unsaponifiable matter & total fatty acids); Knap & Jickells 1983 (Toxic compounds; DDT, PCB and trace metals); Lehman 1980 (Myoglobin; structure); Lehman et al. 1980 (Myoglobin; amino acid sequence); Litchfield et al. 1975 (Biological sonar; lipid; comparative lipid patterns in acoustical & nonacoustical fatty tissues; longer-chain fatty acids in wax esters & triglycerides; jaw & blubber oil); Raga et al. 1982 (Special topic; stranded on Spanish Mediterranean coast); Viale 1979 (Lipid; mineral; excretory function (salt excretion) and lipid synthesis of skin).

Ziphius sp.

Sleptsov 1961a (Food; eat crustaceans, molluscs & fish; Bering Sea).

PINNIPEDIA

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Odobenus rosmarus (Linnaeus, 1758) (Walrus)

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accumulation of pesticides in Alaskan marine mammals); Gavrilenko 1952 (Vitamin; vitamin A content in liver; Chukchi Sea area); Goldfischer 1967 (Myoglobin; in striated muscle); Gulliver 1847 (Haematology; measurement of blood red corpuscles); Hagenbeck 1962 (Special topic; notes on captivity); Hammarsten 1909 (Special topic; lipid; analysis of bile); Hart & Fisher 1964 (Thermoregulation; adaptations to polar environment); Heu 1978 (Taxonomy & evolution); Kiliaan & Stirling 1978 (Special topic; observation of overwintering in E. Canadian high Arctic); Krogh & Iversen 1968a (Thermoregulation; comparative studies on temperature gradients in limbs & blubber), 1968b (Carbohydrate & energetics; thermoregulation; metabolism); Krylov 1965 (Nutrition; special topic; determination of age, rate of growth & analysis of age structure of Pacific walrus), 1971 (Food; O. r. divergens; feeding); Lenfant & Johansen 1968 (Haematology; morphological & chemical properties of blood); Lincoln et al. 1973 (Haematology; taxonomy & evolution; hemoglobin electrophoresis); Ling 1965c (Special topic; integument; functional significance of sweat glands & sebaceous glands); Loughrey 1959 (Food; O. r. rosmarus; preliminary investigation); Lowry & Fay 1981 (Food; Bristol Bay, Alaska); Lowry et al. 1980a (Food; special topic; trophic interaction with bearded seals in the Bering Sea & Chukchi Sea; eat crustaceans & molluscs), 1979 (Food; carrying capacity for feeding in Bering & Chukchi seas); Lowry & Frost 1981 (Food; special topic; feeding & trophic relationships in E. Bering sea); Lyall-Watson (Care; milk & lactation; nutrition; animal milk analysis; hand-rearing techniques); Mansfield 1956 (Reproduction; male reproduction cycle), 1958 (Food; molting; biology; E. Canadian Arctic), 1959 (Food; Canadian Arctic), 1964 (Special topic; present & future research), 1966a (Food; Canadian Arctic), 1966b (Food; molting; Canadian Arctic), 1973 (Special topic; food; Canada; Greenland); Nyholm 1975 (Special topic; food; observation; Spitsbergen, 1971-1972); Oliver 1981 (Food; benthic prospective; Bering Sea); Oliver et al. 1983 (Food; eat polychaetes, bivalves & crustaceans; Bering Sea); Olsson 1980 (Taxonomy & evolution; content of C-14; N. Europe); Pauly & Wolfe 1957 (Taxonomy & evolution; haematology; serological relationship among Carnivora); Puppiione 1969 (Haematology; lipid; protein; physical & chemical characterization of serum lipoproteins); Puppiione & Nichols 1970 (Haematology; lipid; protein; characterization of chemical & physical properties of serum lipoproteins); Ray & Fay 1968 (Special topic; thermoregulation; influence of climate on distribution; evidence from physiological characteristics); Reeves 1978 (Bibliography; literature survey & status report); Repenning 1975 (Taxonomy & evolution), 1976 (Taxonomy & evolution; adaptive evolution); Salter 1979 (Special topic; site utilization activity budgets & disturbance responses during terrestrial haul-out); Sarich 1969b (Taxonomy & evolution; adaptive evolution); Salter 1979 (Special topic; site utilization activity budgets & disturbance responses during terrestrial haul-out); Sarich 1969b (Taxonomy & evolution; pinniped phylogeny), 1972 (Haematology; non-identity of several carnivore hemoglobins); Scheffer 1958 (Special topic; general); Schroeder 1933 (Nutrition; cow's milk protein hyper-

sensitivity); Simonsen et al. 1982b (Haematology; protein; taxonomy & evolution; *O. r. ros-marus*; electrophoretic variation of liver, blood & muscle proteins; 21 enzymes; proalbumin & transferrin; polymorphism; Thule district, Greenland); Smith et al. 1983b (Special topic; new calicivirus isolated from feces; Pribilof I., Alaska; S. central Chukchi Sea); Sökolov 1966 (Haematology; ecolo-functional & age peculiarities of red blood; N. Pacific), 1967 (Haematology; blood properties; N. Pacific); Greenland); Smith et al. 1983b (Special topic; new calicivirus isolated from feces; Pribilof I., Alaska; S. central Chukchi Sea); Sökolov 1966 (Haematology; ecolo-functional & age peculiarities of red blood; N. Pacific), 1967 (Haematology; blood properties; N. Pacific); Svizhenko 1983 (Biological sonar; analysis of spectral characteristics of sound signals); Versaggi 1975 (Mineral; haematology; relation to acid-base homeostasis; intrasosseous architecture); Vibe 1950 (Food; Thule district, Greenland); West et al. 1979b (Lipid; milk & lactation; fatty acid composition of skin & blubber fat in males, lactating & non-lactating females); Wilber & Musachia 1950 (Lipid; comparison of lipids of Arctic marine mammals); Wolk & Kosygin 1979 (Haematology; physical parameters of blood; hemoglobin volume; erythrocyte & leukocyte counts; mean corpuscular hemoglobin content; diameter of erythrocytes & sedimentation rate of blood).

Otarioidea; Otariidae; Archocephalinae

Arctocephalus australis (Zimmerman, 1783) (Falkland's fur seal; South American fur seal)

Lombardi et al. 1971 (Lipid; composition of oil, triglyceride content & fatty acid composition of oil); Martinez 1980 (Haematology; hematological & serological studies); Phillippi 1888 (Bibliography); Zoological Society of London 1978 (Care; captivity).

Arctocephalus doriferus (Wood Jones, 1925) (Australian fur seal)

Zoological Society of London 1978 (Care; captivity).

Arctocephalus forsteri (Lesson, 1828) (New Zealand fur seal)

Crawley & Brown 1971 (Special topic; measurement of tagged pups & population estimates); Crawley et al. 1977 (Special topic; reproduction; activity budgets during breeding season); Erickson & Hofman 1974 (Special topic; behaviour & distribution; Antarctic); Gentry 1981 (Protein; water; sea water drinking; nitrogen excretion in fasting animals); Kerry & Messer 1968 (Carbohydrate & energetics; enzyme; haematology; milk & lactation; nucleic acid; intestinal glycosidases; pancreatic amylase; low intestinal lactase; sucrase; trehalase; erythrocyte hexose-1-PO₄; uridyl transferase; UDP-glucose pyrophosphatase; milk lactase); Ling 1965c (Special topic; integument; functional significance of sweat & sebaceous glands); Stirling 1971b (Special topic; behavior); Wells 1978 (Carbohydrate & energy

tics; haematology; oxygen transport; hemoglobin concentration; blood hematocrit; mean cell hemoglobin content; erythrocyte 2,3-diphosphoglycerate).

Arctocephalus galapagoensis (Heller, 1904) (Galapagos fur seal)

Clarke & Trillmich 1980 (Food; cephalopods; Galapagos Islands).

Arctocephalus gazella (Peters, 1875) (Antarctic fur seal; Kerguelen fur seal)

Bonner & Hunter 1982 (Food; eat penguins); Bonner & McCann 1982 (Special topic; neck collar; tagging; S. Georgia & S. Atlantic Ocean); Condy 1981b (Food; animal food consumption & seasonal fluctuation in biomass of seals at Marion I., S. Pacific); Kerley & Bester 1983 (Special topic; body fluid & whole mass corrections from piecemeal determination); Kooyman & Davis 1981 (Food; feeding behaviour of female); Payne 1979 (Nutrition; growth); Peaker & Goode 1978 (Carbohydrate & energetics; milk & lactation; mineral; composition of milk; lactose, citrate, Na, K, Cl, Ca, Mg, PO₄ & fat content from 0 to 26 days after post partum; 40% fat).

Arctocephalus philippi (Peters, 1866) (Guadalupe fur seal; Juan Fernandez seal)

Phillippi 1888 (Bibliography).

Arctocephalus pusillus (Schreber, 1776) (Cape fur seal; South African fur seal)

Arnason 1975a (Taxonomy & evolution; relationships between 4 principle karyotypes), 1981 (Taxonomy & evolution; localization of nucleolar organizing regions in karyotypes); Bester 1975 (Special topic; functional morphology of kidney); Carnio et al. 1982 (Care; reproduction; management and breeding at metro zoo, Toronto, Canada; gestation, weaning, growth & feeding); Cleland & Southcott 1969 (Product; vitamin; illness from eating liver); Fletemeyer 1978 (Special topic; laminae in teeth used for ageing); Guiler 1978 (Special topic; strandings); Hayashi et al. 1968 (Endocrinology; product; vasodilating peptides); Karnovsky & Rapson 1947 (Lipid; products; Fitelson method of "squalene" determination on oil); Lategan 1948 (Vitamin; vitamin A content in oils; South Africa); Ling 1965c (Special topic; integument; functional significance of sweat & sebaceous glands); Lyall-Watson 1962 (Care; nutrition); Bonner & McCann 1982 (Special milk & lactation; animal milk analysis & hand-rearing techniques); Peak et al. 1971 (Carbohydrate & energetics; enzyme; comparison of lactate dehydrogenase isozymes); Rand 1955 (Reproduction; females); Shaughnessy 1981 (Vitamin; geographical variation in vitamin A content of adult male livers); Southcott et al. 1974 (Vitamin; *A. p. doriferus*; vitamin A content in liver); Thurman et al. 1982 (Anaesthesia; care; anaesthetic & treatment of a chronic eye infection & amputation); Zoological Society of London 1978 (Care; captivity).

Arctocephalus tasmanicus (Scott & Lord, 1926) (Tasmanian fur seal)

Kerry & Messer 1968 (Enzyme; haematology; carbohydrate & energetics; milk & lactation; nucleic acid; intestinal glycosidases; pancreatic amylase; intestinal lactase (low); sucrase; trihalase; erythrocyte hexose-1- PO_4 ; uridyl transferase; UDP-glucose pyrophosphatase; milk lactase).

Arctocephalus tropicalis (Gray, 1872) (Subantarctic or Amsterdam Island fur seal)

Bester & Kerley 1983 (Food; rearing twin pups to weaning by a female); Condy 1981b (Food; annual food consumption; seasonal fluctuation of biomass of seals, Marion I., S. Pacific Ocean); Erickson & Hofman 1974 (Special topic; distribution & behaviour; Antarctic).

Arctocephalus spp.

Shaughnessy 1970 (Haematology; protein; taxonomy & evolution; serum protein variations); Stirling & Warneke 1971 (Taxonomy & evolution).

Callorhinus ursinus (Linnaeus, 1758) (Northern fur seal; Alaskan or Pribilof fur seal)

Aman 1973 (Endocrinology; gonadotrophic factors effecting the onset of reproductive maturity of females), 1975 (Reproduction; reproductive maturity in females; affected by gonadotropic factors); Anas 1970 (Toxic compounds; Hg); 1971 (Toxic compounds; organochlorine pesticides), 1973 (Toxic compounds; Hg), 1974a (Toxic compounds; Hg, Cd & Pb in fetal & newborn liver, kidney & muscle; levels vary with age); Anas & Wilson 1970a (Toxic compounds; milk & lactation; PCB, dieldrin, DDT & metabolites in blubber & muscle of unborn & in ingested milk, brain, liver & blubber of nursing pups), 1970b (Toxic compounds; PCB, dieldrin, DDT & metabolites in adults & unborn; liver & brain); Anas & Worlund 1975 (Toxic compounds; special topic; PCB & DDT in blubber of 8-13 year-old adult; blubber sampling technique), Andreev 1978 (Special topic; structural & functional properties of eye); Arnason 1977 (Taxonomy & evolution; relationship between 4 principle pinniped karyotypes); Ashworth et al. 1966 (Milk & lactation; proximate composition; composition of milk & spp. differences); Bailey 1952 (Lipid; oil; Canada); Baker et al. 1970a (Special topic; general); Bartlett & Weir 1974 (Reproduction; circulating levels of oestradiol in early pregnancy estrogen surge prior to ova implantation); Blix & Grav 1979 (Thermoregulation; non-shivering thermogenesis in skeletal muscle); Blix et al. 1979 (Thermoregulation; do they suffer from cold?); Blix & Steen 1979 (Thermoregulation; newborns; review); Bogdanov et al. 1977 (Enzyme; protein; population study; taxonomy & evolution; biochemical polymorphism; N.W. Pacific Ocean); Bonham 1941 (Food; stomach examinations, April 25, 1941); Bonner & McCann 1982 (Special constituents change with age & sex); Bowes & Jonkel 1975 (Toxic compounds; PCB; food chains in Arctic & subarctic); Brown et al. 1975 (Special topic; renal lymphosarcoma); Bychkov 1971/1972 (Special topic; age variation of body length & weight); Cavagnolo 1979 (Haematology; immunology); Cavagnolo & Vedros 1978 (Haematology; protein; identification & characterization of 3 immunoglobulin classes in serum & throat mucus),

1978a (Haematology; protein; immunoglobulin levels), 1979 (Haematology; protein; serum & colostrum immunoglobulin levels of adult; IgG, IgM & IgA); Chapman 1962 (Special topic; problems in analysis of tagging experiments); Chernouvanov & Bogdanov 1979 (Enzyme; haematology; taxonomy & evolution; population studies; inherited polymorphism of blood serum peroxidase); Chuba et al. 1970 (Haematology; β -like blood factor); Chugunkov 1970 (Special topic; tag losses, Commander Islands, USSR); Clegg 1951 (Lipid; characterization of oil from cold rendered blubber); Clemens & Wilby 1933 (Food; coast of British Columbia); Clemens et al. 1936 (Food; stomach contents; coast of Vancouver I.); Cowan et al. 1981 (Carbohydrates & energetics; reproductive bioenergetics); Craig 1964 (Endocrinology; reproduction; histology of reproduction & estrus cycle in the female), 1966 (Reproduction; female); Cushing 1961 (Taxonomy & evolution; haematology; blood typing); Daniel 1967 (Endocrinology; reproduction; diapausing blastocyst), 1971a (Endocrinology; protein; reproduction; growth of preimplantation embryo & its correlation with changes in uterine protein), 1971b (Reproduction; embryo dormancy), 1972 (Endocrinology; blastokinin), 1974 (Endocrinology; reproduction; circulating levels of estradiol-17- β during early pregnancy showing estrogen surge preceding implantation), 1975 (Endocrinology; reproduction; concentration of circulating progesterone during early pregnancy), 1981 (Endocrinology; reproduction; delayed implantation due to growth inhibitor); Daniel & Krishnan 1969 (Endocrinology; reproduction; uterine fluid components; diapausing state of blastocysts; delayed implantation); Dosako et al. 1983 (Milk & lactation; protein; carbohydrate & energetics); Elden et al. 1971 (Endocrinology; enzyme; function of pineal body in pups, bulls & pre-adult males; hydroxy-0-methyltransferase; photoperiodic nature of life cycle); Farmer 1899 (Special topic; electrical experiments in branding pups 1877); Fiscus et al. 1980 (Food; California & Washington); Fowler 1982 (Food; special topic; interaction with commercial fisheries); Fujino & Cushing 1960 (Haematology; taxonomy & evolution; blood types); Garibaldi et al. 1979 (Special topic; beachings); Gentry 1981 (Protein; water; sea water drinking; nitrogen excretion in fasting animals), 1981a (Nutrition; taxonomy & evolution; reproduction; care; handbook); Gentry et al. 1981 (Reproduction; estrus); Gentry & Johnson 1978 (Anaesthesia; special topic; physical restraint for immobilizing), 1981 (Special topic; neonates are eaten by Eumatopias jubatus; Alaska); Geraci 1981a (Nutrition; care; dietary disorders); Ginatulina et al. 1982a (Nucleic acid; molecular structure of genome), 1980b (Nucleic acid; molecular structure of genome); Goldblatt & Anthony 1983 (Toxic compounds; heavy metals; Pribilof I., Alaska); Grav & Blix 1979 (Thermoregulation; thermogenesis (nonshivering) in skeletal muscle, coupling of mitochondria); Hayashi et al. 1966 (Endocrinology; product; vasoactive polypeptides from muscle & viscera; clinical applications, vasodilator); Hayashi et al. 1968 (Endocrinology; product; vasodilating peptides); Hayashi & Suzuki 1967 (Endocrinology; protein; biologically-active peptide in muscle); Hayashi et al. 1969 (Endocrinology; peripheral vasodilator);

Higashi et al. 1960 (Nutrition; lipid; vitamin; fatty acid of liver from liver of pregnant & non-pregnant; vitamin A, B₁ & B₆ are low in pregnant); Hunter & Madin 1976 (Haematology; lipid; protein; clinical blood value; serum cholesterol, globulins, total protein, BUN & bilirubin), 1978 (Haematology; lipid; mineral; protein; clinical blood values in fresh & frozen serum samples; all change except total protein, globulins, P & creatinine), 1978a (Haematology; special topic; compare eye fluid with blood serum); Imamura 1944 (Vitamin; vitamin A in oil); International Nickel Company Inc. 1956 (Special topic; metal tags; migration); Irving et al. 1962 (Thermoregulation; temperature regulation); Jones 1981 (Food; food habits in N. California, U.S.A.); Jordan & Clark 1899 (Special topic; experiments in herding & branding), 1912 (Bibliography; review & on enemies); Judge 1899 (Special topic; branding on St. George, Pribilof I., U.S.A.); Kajimura et al. 1981 (Food; off California & Washington); Keyes 1965 (Care; special topic; pathology), 1966 (Anaesthesia; immobilization, tranquillizing & anaesthetizing drugs); Keyes et al. 1971a (Mineral; carbohydrate & energetics; protein; analysis of urine), 1971b (Endocrinology; seasonal fluctuation of hydroxyindole levels in pineal gland); Kim 1974 (Toxic compounds; Hg in tissues); Kishori & Guinn 1972 (Toxic compounds; base line studies; Hg, Se & Zn in marine mammals); Kolesnik & Timofeema 1980 (Milk & lactation; nutrition; growth, nutrition & production; Tyuleniy I., USSR); Kooyman et al. 1977 (Thermoregulation; thermal conductance of immersed pelts before & after oiling with Prudhoe Bay crude); Krogh & Iversen 1968a (Thermoregulation; comparative studies on temperature gradients in limbs & blubber; Arctic), 1968b (Carbohydrate & energetics; thermoregulation; metabolism; Arctic); Kubota & Quanbunchan 1965 (Special topic; experimental studies of tooth development by means of EDTA-PB subcutaneous injections); Kurtz & Kim 1976 (Toxic compounds; hydrocarbon & bi-phenyl residues in tissues & lice); Kuzin 1971 (Haematology; morphologic patterns of blood in ontogeny), 1972 (Haematology; peculiarities of red blood in embryo); Kuzin & Sokolov 1970 (Haematology; red blood cells in embryos & newborn); Lander 1979 (Special topic); Lavigne & Ronald 1975 (Vitamin; visual pigments), 1981 (Special topic; reproduction; life table & biomass estimate); Lenfant & Johansen 1968 (Haematology; morphological & chemical properties of blood); Leone & Wiens 1956 (Taxonomy & evolution; haematology; comparative serology); Lincoln et al. 1973 (Haematology; taxonomy & evolution; hemoglobin electrophoresis); Ling 1965c (Special topic; integument; functional significance of sweat & sebaceous glands); Mangold & Malins 1960 (Lipid; fractionation of oil, fats & waxes); Marakov 1963 (Anaesthesia; experiment in immobilization by electric current); Matsumoto et al. 1976 (Protein; muscle hydrolysate peptides with vasoactive & vasodilating function); McAlister 1981 (Thermoregulation; carbohydrates & energetics; heat loss & energy consumption); McDonald 1914 (Bibliography); McHugh 1952 (Food; eat black-footed albatross); Mead 1953 (Food; eat fish; food habits; Japanese waters); Mikeladze 1971 (Care; Batumi aquarium); Miller 1978 (Carbohydrates & energetics; special topic; energy-

tics in relation to climate & food resources; Bering Sea), 1978a (Carbohydrates & energetics; energetics in relation to climate & food resources of Bering Sea); Miyauchi & Sanford 1947 (Vitamin; vitamin A content in liver, carcass & blubber oil); Murray 1899 (Special topic; experiments in branding & herding; St. Paul I., 1897); Nelson & Barnett 1970 (Proximate composition; meat); Nesterov 1965 (Anaesthesia; immobilization), 1966 (Anaesthesia; experimental use of ditilinum to kill); O'Ferrell & Daniel 1971 (Endocrinology; reproduction; estrogen-binding in uteri with delayed implantations); Ohata et al. 1975 (Water; proximate composition; water metabolism & body composition), 1977 (Thermoregulation; thermal responses to pelagic conditions), 1977a (Carbohydrate & energetics; model of energy balance; Arctic); Ohata & Miller 1976 (Thermoregulation; management based on metabolic & thermoregulatory studies), 1977 (Thermoregulation; responses to forced activity on land), 1977a (Thermoregulation; temperature responses of pups); Olafson & Thompson 1974 (Mineral; protein; toxic compounds; isolation of heavy metal-binding proteins); Oliver 1912/1913 (Reproduction; spermatogenesis); Panina 1966a (Food; W. Pacific), 1969 (Food; Bering Sea), 1970 (Food; nutrition on Commander I., USSR), 1971 (Food; food habits & food resources in Sea of Japan), 1972 (Food; nutrition; fattening as indicator well fed fur seals during pelagic period of their life); Patten & Saruba 1979 (Special topic; strandings in Los Angeles & Orange counties); Payne 1977 (Nutrition; growth of population); Pearson & Enders 1951 (Reproduction; observations); Perez 1981 (Food; stomach contents); Perez & Mooney 1981 (Milk & lactation; carbohydrates & energetics; nutrition food consumption of lactating seals); Perks 1977 (Endocrinology; taxonomy & evolution; neurohypophysis, development & evolutionary aspects); Peterson 1965 (Care; drugs for handling); Philippi 1888 (Bibliography); Prato et al. 1974 (Special topic; serological evidence for calicivirus transmission between marine & terrestrial animals); Puppione 1969 (Haematology; lipid; protein; physical & chemical characterization of serum lipoproteins); Ramaiah 1965 (Milk & lactation; lipid; quality & fatty acid composition of milk fats); Sanford et al. 1949 (Vitamin; vitamin A in liver); Sarich 1972 (Haematology; non-identity of several carnivore hemoglobins); Scheffer 1950 (Food); Scheffer et al. 1950 (Vitamin; vitamin A in selected pale-colored livers); Schmidt et al. 1971 (Milk & lactation; nutrition; enzyme; carbohydrate & energetics; lactose synthetase activity in milk); Schultz & Rafn 1936 (Food; stomach contents; Washington); Shima & Taguchi 1961 (Lipid; vitamin; survey of liver oils & its vitamin A content); Shun'ichi et al. 1983 (Milk & lactation; protein; carbohydrate & energetics; composition of carbohydrates & proteins); Smith et al. 1976 (Haematology; special topic; serotypes of San Miguel sea lion virus serum); Spalding 1964 (Food; comparative feeding habits, British Columbia); Spotte 1980 (Care; endocrinology; use of anabolic steroids for acclimation of adults to captivity); Spotte & Adams 1979 (Food; food intake), 1981 (Food; feeding rate of captive adults); Starks 1927/1928 (Reproduction; spermatogenesis); Stedman et al. 1976 (Special topic; lymphosarcoma in infant

seal), 1977 (Special topic; lymphosarcoma in infant seals); Stromberg et al. 1980 (Nucleic acid; nutrition; growth potential of cells; SV40 early region DNA); Stroud & Stevens 1980 (Special topic; lymphosarcoma); Suzuki et al. 1974 (Endocrinology; protein; peripheral vasodilating action of peptide from skeletal muscles; different ages & sexes); Swartzman & Haar 1983 (Food; eat fish; population & fishing, Bering Sea); Tamiya et al. 1976 (Protein; enzyme; muscle peptide effect on actomyosin); Tamiya & Matsumoto 1979 (Enzyme; nucleic acid; protein; adenosine triphosphatase; accelerating peptide from muscle hydrolysate); Taylor et al. 1955 (Food; distribution & food habits in N. Pacific); Taylor 1971 (Food; eat Pacific herring; stomach contents); Todd 1969 (Bibliography; recent literature); Tomilin 1977 (Thermoregulation; anaesthesia; immobilization); Tsunoo et al. 1967 (Protein; histidine compounds in musculature & brain); Urmanov 1971 (Special topic; angioarchitectonics of the liver with reference to gall-excretion system); U.S. Fish and Wildlife Service 1958 (Bibliography); Vizsolyi 1972 (Endocrinology; reproduction; neurohypophyseal physiology during fetal development and pregnancy); Vizsolyi & Perks 1969 (Endocrinology; reproduction; new neurohypophysial principle in fetal mammals), 1974 (Endocrinology; reproduction; isolation of arginine vasotocin from fetal seal neurohypophyses); Wada 1971 (Food; food & feeding habits; Sanriku, Japan), 1979 (Food; feeding habits; Sanriku, Japan); Wagemann & Muir 1984 (Toxic compounds; heavy metals & organochlorine concentrations); Waldorf & Vedros 1979 (Lipid; fatty acid content in depot fat); Warn 1965 (Endocrinology; reproduction; histology of reproduction & estrus cycle in maturing females); Wilber 1952 (Special topic; lipid; blubber); Wilke 1958 (Milk & lactation; lipid; fat content of milk); Wilke & Kenyon 1952 (Food; notes on food), 1954 (Food; migration & food habits), 1957 (Food; E. Bering Sea); York 1983 (Reproduction; average age at first reproduction).

Otarioidea; Otariidae; Otariinae

Eumetopias jubata (Schreber, 1776) (Steller's sea lion; northern sea lion)

Andreev 1978 (Special topic; structural & functional properties of the eye); Arvy 1973 (Endocrinology; adrenal gland; biochemistry); Bailey 1952 (Lipid; marine oils; Canada); Belopolskii 1935a (Lipid; oils); Brocklesby 1941 (Lipid; product; chemistry & technology of oils); Feltz & Fay 1966 (Thermoregulation; thermal requirements *in vitro* of epidermal cells); Fiscus 1962 (Food; stomach contents; variety); Fiscus & Baines 1966 (Food; feeding behaviour); Franzmann et al. 1981 (Haematology; μ -endorphin levels in blood); Garibaldi et al. 1979 (Special topic; beachings); Gentry 1981 (Protein; water; sea water drinking; nitrogen excretion in fasting animals); Gentry & Johnson 1981 (Food; eat neonates of Callorhinus ursinus; Alaska); Geraci 1981a (Nutrition; Care; dietary disorders); Hamanaka et al. 1982 (Toxic compounds; age related change & distribution of Cd & Zn concentrations in liver & kidney; Hokkaido, Japan); Hayaishi et al. 1968 (Endocrinology; product; vasodi-

lating peptide); Jones 1981 (Food; food habits in N. California, U.S.A.); Kretschmer & Sunshine 1967 (Carbohydrate & energetics; enzyme; intestinal disaccharidase deficiency); Krogh & Iversen 1968a (Thermoregulation; comparative study of temperature gradients in limbs & blubber of Arctic marine mammals), 1968b (Carbohydrate & energetics; thermoregulation; metabolism in Arctic mammals); Kyte 1956 (Product; proximate composition; water, oil, protein, ash & glycogen; technological studies on processing); Lenfant & Johansen 1968 (Haematology; morphological & chemical properties of blood); Lidicker et al. 1981 (Taxonomy & evolution; biochemical variations tissues; 32 loci by electrophoresis; Alaska); Malvin et al. 1978 (Endocrinology; mineral; renin & aldosterone levels; regulation of salt balance); Mathisen et al. 1962 (Food; nutrition; reproduction; stomach contents; breeding habits & growth); Minato & Ikeda 1949 (Lipid; constituents of bile from Eumetopia tubata; 3,7,12-triketocholanic acid); Nesterov 1971 (Anaesthesia; use of curare-like drug for immobilization); Norris et al. 1974 (Special topic; new tagging & tracking methods for study biology and migration); Osborne 1983 (Reproduction; breeding; parturition; California); Panina 1966b (Food; Kurile I.), 1966c (Food; Kurile I.); Pully & Wolfe 1957 (Taxonomy & evolution; haematology; serological relationship among Carnivora); Perlov 1975 (Food; feeding in Kurile I.); Pinney et al. 1965 (Care; raising of pups); Pitcher 1981 (Food; eat fish & octopus; Gulf of Alaska); Pitcher & Calkins 1975 (Toxic compounds; distribution in relation to petrochemical development; Prince William Sound & Gulf of Mexico); Poulter et al. 1965 (Care; rearing); Puppione 1969 (Haematology; lipid; protein; physical & chemical characterization of serum lipoproteins); Puppione & Coggiola 1966 (Haematology; lipid; protein; serum lipoprotein distribution); Rakestraw & Swain 1923 (Haematology; protein; uric acid content in blood); Shimao 1964 (Lipid; bile salts; μ -phocaecholic & dehydrochenodeoxycholic acids); Sokolov 1966 (Haematology; ecolo-functional & age peculiarities of red blood), 1967 (Haematology; blood properties; N. Pacific); Spalding 1964 (Food; comparative feeding habits, British Columbia); Stroud & Roffe 1979 (Special topic; causes of death in stranded, Oregon); Sunshine & Kretschmer 1964 (Carbohydrate & energetics; enzyme; absence of intestinal disaccharidases); Svizhenko 1983 (Biological sonar; analysis of spectral characteristics of sound signals); Urmanov 1971 (Special topic; angioarchitectonics of the liver with reference to gall-excretion system); Versaggi 1975 (Haematology; mineral; intraosseous architecture; relation to acid-base homeostasis); Zoological Society of London 1978 (Care; captivity).

Neophoca cinerea (Peron, 1816) (Australian sea lion)

Cargill et al. 1979 (Care; haematology; blood plasma constituents (17) change with age & sex); Cleland & Southcott 1969 (Product; vitamin; illness from eating liver); Guiler 1978 (Special topic; strandings); Needham 1980 (Special topic; care; restraint & capture cage); Needham et al.

1980 (Haematology; erythrocyte & leukocyte counts; neutrophil-lymphocytes ratio; eosinophil); Southcott 1982 (Vitamin; vitamin A content in liver).

Neophoca hookeri Gray, 1844 (New Zealand or Hooker's sea lion)

Fall 1975 (Food; food cycle; eat spider crab).

Otaria byronia (Blainville, 1820) (southern sea lion; South American sea lion)

Bartlett 1865 (Food; food habits); Geraci 1968 (Nutrition; vitamin; captivity; thiamine deficiency); Gulliver 1874 (Haematology; measurement of blood red corpuscles); Hahn 1884 (Food; stomach contents, eat galets); Martinez 1980 (Haematology; hematological & serological studies); Zoological Society of London 1978 (Reproduction; care; captivity).

Zalophus californianus (Lesson, 1828) (Californian sea lion)

Ainley et al. 1982 (Food; eat Pacific whiting; central California); Anas 1971 (Toxic compounds; organochlorines); Andreev 1978 (Special topic; structural & functional properties of eye); Antonelis et al. 1981 (Food; late spring & summer prey; San Miguel I.); Arvy 1973 (Endocrinology; adrenal gland; biochemistry); Auriolles et al. 1983 (Special topic; winter migration of subadult male, S. Baja California); Bailey & Ainley 1982 (Food; eat Merluccius productus); Ben Shaul 1962 (Milk & lactation; proximate composition; milk); Berkower et al. 1981 (Myoglobin); Bern & de Roos 1960 (Endocrinology; corticosteroids adrenals incubated *in vitro*); Bernstein et al. 1981 (Enzyme; carbohydrates & energetics; disaccharidase deficiency; ultrastructure of intestinal brush borders membranes); Bigg 1973 (Special topic; census S. Vancouver I.); Bowes et al. 1973 (Toxic compounds; DDE & PCB in liver & blubber; elevated levels in embryonic death); Braham 1973 (Toxic compounds; Pb), 1974 (Food; islands off coast of San Luis Obispo County, California); Briggs & Davis 1972 (Food; eat salmon; Monterey Bay, California); Brookes et al. 1969 (Care; *in vitro* chlorpromazine metabolism in hepatic microsomes); Brown et al. 1980 (Special topic; metastatic adenocarcinoma); Brown & Mayhill 1977 (Enzyme; protein; urea formation in liver; ornithine carbamyl transferase activity; urea synthesis); Brownell & Le Boeuf 1971 (Special topic; mortality natural or artifact); Buhler et al. 1975 (Toxic compounds; Hg, Cd, PCB & DDE in liver & kidney fat); Buhler & Mate 1975 (Toxic compounds; 14 CH₃, Hg & HgCl₂); Cargill et al. 1979 (Haematology; care; blood plasma constituents change with age & sex); Castellini et al. 1981 (Carbohydrate & energetics; enzyme; glycolytic enzyme activities in tissues); Cavagnolo 1979 (Haematology; immunology); De Long et al. 1973 (Reproduction; toxic compounds; premature births; PCB, DDT & metabolites in brain, liver & blubber of females & pups); De Master et al. 1982 (Food; eat salmon, herring, squid & shark; fishery interaction); De Roos & Bern 1961 (Endocrinology; corticoids in

adrenals; cortisol, corticosterone, 11-dehydrocorticosterone, cortisone & aldosterone); Diamond et al. 1980 (Special topic; edema disease); Dormer et al. 1977 (Haematology; diving; cerebral blood flow during voluntary dives); Druze et al. 1975 (Carbohydrate & energetics; metabolism during swimming); Dyche 1903 (Food; food habits); Ehresmann & Schaffer 1977 (Nucleic acid; RNA synthesized by calicivirus-infected cells), 1979 (Nucleic acid; special topic; calicivirus intracellular RNA); Everitt et al. 1981 (Food; prey items; Puget Sound, Washington); Fiscus & Baines 1966 (Food; food & feeding behaviour); Garibaldi et al. 1979 (Special topic; beachings); Gentry 1981 (Protein; water; sea water drinking; nitrogen excretion in fasting animals); Geraci 1972b (Endocrinology; mineral; hyponatremia, NaCl requirement; ACTH indicates low Na intake), 1974 (Nutrition; vitamin; thiamine deficiency; high blood cell transketolase); Geraci 1981a (Nutrition; care; dietary disorders); Geraci & St. Aubin 1979a (Special topic; stress & disease in marine environment; strandings); Gilmarten et al. 1975 (Toxic compounds; effects of environmental pollutants); Hall 1977 (Food; special topic; non-lethal lavage device for sampling stomach contents); Haslewood 1961 (Lipid; bile salts; allocholic, 3 α ,7 α ,12 α ,23-tetrahydroxycholic & α -phocaecholic acids); Hemmingsen 1965 (Myoglobin; oxygen transfer); Hochachka et al. 1975 (Carbohydrate & energetics; diving; end-products of anaerobiosis; carbohydrates to pyruvate & lactate; amino acids to succinate); Holden 1978a (Toxic compounds; pollutants); Holmquist et al. 1976 (Haematology; evolution of globulin family; maximum parsimony genetic distances from alpha-hemoglobins & myoglobin phylogenies); Horvath et al. 1968 (Taxonomy & evolution; haematology; respiratory & electrophoretic characteristics of hemoglobin; comparison to other mammals); Johnson 1975 (Bibliography; milk & lactation; carbohydrate & energetics; enzyme; comparative aspects of lactose digestion & synthesis; lactose-metabolizing enzymes in milk & mammary gland; α -lactalbumin; disaccharides; lactose metabolism); Johnson et al. 1972 (Carbohydrate & energetics; enzyme; milk & lactation; nucleic acid; lactose synthetase, galactokinase, uridyl transferase & galactosyl transferase in lactating mammary gland; no lactose; galactose-1-P₄); Jones 1981 (Food; food habits in N. California); Kelly & Jensen 1960 (Special topic; disease; chronic aortitis); Kooymann & Sinnott 1982 (Diving; pulmonary shunts during simulated dives to depth); Kretchmer & Sunshine 1967 (Carbohydrate & energetics; enzyme; intestinal disaccharidase deficiency); Kruse 1975 (Carbohydrates & energetics; metabolism during swimming); Kruse et al. 1975 (Carbohydrates & energetics; metabolism during swimming); Le Boeuf & Bonnell 1971 (Toxic compounds; DDT in blubber; pathology); Lee et al. 1977a (Mineral; protein; toxic compounds; metallothionein & subcellular localization of Hg & Cd; in nuclear fraction of kidney & liver); Lincoln et al. 1973 (Haematology; taxonomy & evolution; hemoglobin electrophoresis); Lluch Belda 1970 (Nutrition; growth & mortality); Luecke et al. 1975 (Thermoregula-

tion; mathematical biothermal model); Lyall-Watson 1962 (Care; milk & lactation; nutrition; milk analysis & hand-rearing techniques); Martin et al. 1976 (Toxic compounds; minerals; Hg-Se-Br imbalance in premature parturients; Hg, Se, Br, Cd, Ag, Cu, Fe, Zn, Mn, K, Na, Ca & Mg in premature & normal females & pups); Mate et al. 1981 (Anaesthesia; electroimmobilization); Mathai et al. 1966 (Carbohydrate & energetics; enzymes; galactose metabolism; galactose kinase & galactose-1-phosphate transferase); Matsuura 1972 (Thermoregulation); Matsuura & Whittow 1973 (Carbohydrate & energetics; thermoregulation; oxygen uptake during exposure to heat), 1975 (Thermoregulation; thermal insulation during exposure to heat); Medway & Geraci 1978 (Haematology; pathology); Nash & Mach 1971 (Protein; immunoglobulin classes (IgG; IgM; IgA), characterization by serologic cross-reactivity; molecular size & binding by human free secretory component); Needham 1980 (Care; special topic; restraint & capture cage); Ohata & Whittow 1974 (Thermoregulation; conductive heat loss to sand); Otten & Andrews 1976 (Nutrition; care; captivity); Otten et al. 1977 (Care; hand-rearing); Palumbo et al. 1971 (Haematology; special topic; blood collection); Patten & Saruba 1979 (Special topic; strandings in Los Angeles & Orange counties); Pauly & Wolfe 1957 (Taxonomy & evolution; haematology; serological relationships among Carnivora); Pilson 1967 (Milk & lactation; milk biochemistry), 1970a (Water; water balance); Pilson & Kelly 1961 (Milk & lactation; carbohydrate & energetics; lipid; protein; composition of milk; glucose, fat, protein, ash & no lactose); Ponganis & Pierce 1978 (Carbohydrate & energetics; enzyme; muscle metabolic profile & fiber-type composition; intermediary glycolysis and oxidation in muscle); Poulter 1965b (Anaesthesia; tranquilizing & anaesthetizing experiments with 500 pound bull); Prato et al. 1974 (Special topic; serological evidence for calicivirus transmission between terrestrial & marine mammals); Puppione 1969 (Haematology; lipid; protein; physical & chemical characterization of serum lipoproteins); Puppione & Nichols 1970 (Haematology; lipid; protein; characterization of chemical & physical properties of serum lipoproteins); Repenning 1976 (Taxonomy & evolution; adaptive evolution), Ridgway & Simpson 1969 (Special topic; anaesthesia; anaesthesia & restraint); Rigdon & Drager 1955 (Nutrition; vitamin; thiamine deficiency); Rathgeb & Gurd 1978 (Haematology; physical methods for study of myoglobin); Sarich 1969a (Taxonomy & evolution; haematology; pinniped origins & rate of evolution); Scheffer & Neff 1948 (Food); Schusterman & Gentry 1971 (Special topic; lipid; development of fatted male phenomena); Shire et al. 1975 (Myoglobin; electrostatic effects in myoglobin); Simon et al. 1974 (Diving; carbohydrate & energetics; biochemical basis for differences in diving times); Smith et al. 1976 (Haematology; special topic; 4 serotypes of San Miguel sea lion virus serum), 1979a (Haematology; erythrocyte deformability); South et al. 1976 (Thermoregulation; air temperature & direct partitioned calorimetry); Stone et al. 1973 (Special topic; haematology; diving; renal blood flow in a diving

trained seal); Straughan 1972 (Toxic compounds; biological effects of oil pollution; Santa Barbara channel); Stromberg et al. 1980 (Nutrition; nucleic acid; growth potential of cells; SV 40 early region DNA); Stroud & Roffe 1979 (Special topic; causes of death in stranded, Oregon); Stroud & Stevens 1980 (Special topic; lymphosarcoma); Sunshine & Kretschmer 1964 (Carbohydrate & energetics; enzyme; absence of intestinal disaccharidases); Sweeney 1977 (Care; intratracheal injection of antibiotics; Cephaloridine); Thompson 1978 (Special topic; California marine mammals center); Trillmich & Wiesner 1979 (Anaesthesia; immobilization); Van Forest 1978 (Care; reproduction; experiences & problems); Versaggi 1975 (Haematology; mineral; relation to acid-base homeostasis; intraosseous architecture); Vigna et al. 1974 (Myoglobin; structure of polypeptide chain); Whittow et al. 1972 (Thermoregulation), 1975 (Thermoregulation; physiological & behavioural temperature regulation); Wilke & Kenyon 1952 (Food; notes on food); Woodhouse et al. 1979 (Special topic; strandings; Santa Barbara channel region); Zoological Society of London 1978 (Care; reproduction; captivity).

Phocoidea; Phocidae; Cystophorinae

Cystophora cristata (Erleben, 1777) (hooded seal; bladdernose seal)

Addison et al. 1972 (Toxic compounds; DDT, PCB & dieldrin in oils); Anonymous 1982 (Special topic; report on meeting of ad hoc working group; N.W. Atlantic); Arnason 1981 (Taxonomy & evolution; localization of nucleolar organizing regions on karyotypes); Belov 1969 (Milk & lactation; microstructure of lactating gland); Ben Shaul 1962 (Milk & lactation; proximate composition; milk); Birchard et al. 1978 (Toxic compounds; effects of an oil spill); Blix & From 1971 (Carbohydrate & energetics; diving; isozymes of lactate dehydrogenase in brain, heart & skeletal muscle of diving); Blix et al. 1973a (Care; food; nutrition; feeding & health); Blix & Steen 1979 (Thermoregulation; newborn; review); Borisov 1969b (Taxonomy & evolution; haematology; protein; antigenic properties of serum proteins); Born 1982 (Reproduction; reproduction in females; S. Greenland); Burns & Gavin 1980 (Special topic; recent records; W. Beaufort Sea); Clausen 1975 (Toxic compounds; polychlorinated hydrocarbons in Arctic ecosystems); Clausen & Ersland 1969 (Haematology; carbohydrate & energetics; respiratory properties of blood); Fairley 1972 (Bibliography; Ireland); Haigh & Stewart 1979 (Anaesthesia; narcotics; preliminary report); Heu 1977 (Reproduction; nutrition; taxonomy & evolution); Holden 1972 (Toxic compounds; monitoring organochlorine contamination); Homestead et al. 1971 (Special topic; portable instantaneous branding device for permanent identification); Jakobsen 1979 (Special topic; production); Jangaard & Ke 1968 (Lipid; milk & lactation; principal fatty acids in milk & depot fats); Johansen et al. 1980 (Toxic compounds; heavy metals & organochlorine compounds, Greenland); Kapel 1972 (Special topic; age analysis), 1974 (Special topic; age

composition & hunting), 1975 (Special topic; research in hunting); Khuzin & Iablokov 1963 (Milk & lactation; digestive tract functioning during feeding on milk); Koeman et al. 1973a (Toxic compounds; correlation between Hg & Se in the tissues); Mansfield 1967 (Food; Arctic & E. Canada); Moller et al. 1966 (Haematology; taxonomy & evolution; population studies; blood analyses); Morshtyn 1967 (Lipid; proximate composition; technological characteristics); Naevdal 1966 (Haematology; protein; taxonomy & evolution; hemoglobin & serum protein electrophoresis); Oritsland 1975 (Reproduction; sexual maturity & reproduction of exercising bears); Pearce et al. 1973 (Toxic compounds; toxic chemicals; Gulf of St. Lawrence); Petrov & Federov 1967 (Toxic compounds; Sr-90 content in bone); Popov 1960 (Reproduction; sexual maturity); Rodahl 1949b (Vitamin; vitamin A sources in Arctic); Rodahl & Davies 1949 (Vitamin; liver vitamin A content); Scholander 1964 (Diving; handbook on physiology); Scholander et al. 1950 (Thermoregulation; carbohydrate & energetics; adaptation to cold in relation to body temperature; insulation & basal metabolic rate), 1942b (Diving; carbohydrate & energetics; thermoregulation; temperature & metabolism during diving); Sergeant 1976 (Special topic; food; history & present status of populations), 1980 (Toxic compounds; Hg & organochlorine residues in tissues; St. Lawrence estuary); Sergeant & Armstrong 1973 (Toxic compounds; Hg; E. Canada); Sergeant & Hoek 1974 (Special topic; tagging & branding); Shepleva 1963a (Enzyme; secretory function of stomach); Simonsen et al. 1982a (Enzyme; taxonomy & evolution; polymorphism of enzymes in liver & muscle); Sokolov 1967 (Haematology; blood properties; N. Pacific); Wagemann & Muir 1984 (Toxic compounds; heavy metals & organochlorine concentrations).

Mirounga angustirostris (Gill, 1866) (northern elephant seal)

Adams & Osburn 1973 (Haematology; protein; serum proteins of pups & adult females, electrophoresis); Briggs et al. 1975 (Anaesthesia; ketamine immobilization); Cargill et al. 1979 (Care; haematology; plasma biochemical values of clinically normal; varies with age & sex; 17 blood constituents); Costa & Ortiz 1982 (Enzyme; lipid; nutrition; mineral; haematology; carbohydrate & energetics; protein; blood chemistry hemostasis during prolonged fasting; serum glucose, urea, creatinine, uric acid, total protein, albumin, globulin, triglyceride, cholesterol, bilirubin, alkaline phosphatase, lactate dehydrogenase & electrolytes); Garibaldi et al. 1979 (Special topic; beachings); Glass & Jenness 1971 (Lipid; milk & lactation; nutrition; constituent of fatty acids of milk fats); Hamilton 1949 (Special topic; weight); Heath et al. 1977 (Thermoregulation; comparison of suckling weaned pups); Homestead et al. 1971 (Special topic; portable instantaneous branding device for permanent identification); Hunter & Madin 1976 (Haematology; lipid; protein; chemical blood values; serum cholesterol, globulin, total protein, BUN & bilirubin); Jennings 1966 (Special topic; tagging program); Jones 1981 (Food; food

habits in N. California); Keith et al. 1979 (Carbohydrate & energetics; nutrition; metabolism & regulation (recycling) of glucose), 1980 (Carbohydrate & energetics; intermediary metabolism & bioenergetics), 1981 (Carbohydrates & metabolism; nutrition; kinetic model of fasting metabolism); Kooyman et al. 1972 (Diving; haematology; blood nitrogen tensions during simulated deep dives); Laws 1981 (Reproduction; special topic; biology; Antarctic); Le Boeuf 1971 (Toxic compounds; oil contamination during mortality; Santa Barbara channel oil spill, 1969-1970); Le Boeuf & Ortiz 1977 (Milk & lactation; nutrition; proximate composition); Lincoln et al. 1973 (Haematology; taxonomy & evolution; hemoglobin electrophoresis); Lyaill-Watson 1962 (Care; nutrition; milk & lactation; milk analysis; hand-rearing techniques); MacDonald 1981 (Enzymes; increased enzyme activity in rapidly growing pups); Mate et al. 1981 (Anaesthesia; electro immobilization); McGinnis & Southworth 1967 (Thermoregulation; body temperature fluctuations), 1968 (Thermoregulation; body temperature regulations), 1971 (Thermoregulation); McGinnis et al. 1975 (Thermoregulation; nursing & weaned pups); Medway & Geraci 1978 (Haematology; pathology); Nelson 1970 (Haematology; lipid; neutral lipid & phospholipid composition of red blood cells & blood plasma); Ortiz et al. 1978 (Carbohydrate & energetics; water; water & energy flux in pup fasting under natural conditions), 1981 (Milk & lactation; nutrition; milk intake index of parental investment); Patten & Saruba 1979 (Special topic; strandings in Los Angeles & Orange counties); Pernia et al. 1979 (Nutrition; protein; catabolism of protein during fasting), 1980 (Protein; nutrition; urea turnover during prolonged fasting), 1981 (Mineral; nutrition; glomerular filtration rate in fasting weaned pups); Puppiione 1978 (Haematology; lipid; protein; serum lipoproteins during alimentary lipemia; electrophoresis of LDL, VLDL, HDL & chylomicrons); Puppiione & Coggiola 1966 (Haematology; lipid; protein; serum lipoproteins distribution); Reiter et al. 1978 (Nutrition; transition from weaning to nutritional independence), 1981 (Reproduction; female competition & reproductive successes); Riedman & Ortiz 1979 (Carbohydrate & energetics; milk & lactation; lipid; protein; changes in milk composition during lactation; water, protein, fat, fatty acid composition & reducing sugars); Russell 1969 (Toxic compounds; offshore oil leak); Ryding 1982 (Anaesthesia; ketamine immobilization by remote injection method); Simpson et al. 1970 (Haematology; blood volume & other hematologic values in the young); Straughan 1972 (Toxic compounds; oil pollution in the Santa Barbara channel; biological effect); Stroud & Roffe 1979 (Special topic; strandings, causes of death; Oregon); Thompson 1978 (Special topic; California marine mammal center); Tomilin 1977 (Thermoregulation; peri-, semi- & aquatic mammals); Tsunoo et al. 1967 (Protein; histidine compounds in musculature & brain); Tsuyuki 1957 (Lipid; oils of various blubbers), 1958 (Lipid; component fatty acids of oil); Versaggi 1975 (Mineral; haematology, intrasosseous architecture; relation to acid-base homeostasis); White

& Odell 1971 (Thermoregulation; thermoregulatory behavior); Winter & Nunn 1953b (Lipid; component fatty acids in oil; variations & relationships of blubber fat to other seals); Woodhouse et al. 1979 (Special topic; strandings); Zoological Society of London 1978 (Care; reproduction; captivity).

Mirounga leonina (Linnaeus, 1758) (southern elephant seal)

Ananthakrishnan & McDerimid 1971 (Haematology; enzyme; 2 possible genetic variants of red cell acid phosphatase); Arvy 1973 (Endocrinology; adrenal glands; biochemistry); Augusteyn et al. 1972 (Protein; carbohydrate & energetics; preliminary structure of cytochrome C); Beck 1956 (Mineral; copper content in liver & blood); Bricteaux-Gregoire et al. 1974 (Enzyme; N-terminal amino acid sequence of trypsinogen); Bryden 1964 (Lipid; thermoregulation; insulating capacity of subcutaneous fat), 1967 (Nutrition; biology; development & growth), 1968a (Nutrition; growth & development), 1968b (Milk & lactation; nutrition; lactation & suckling in relation to early growth), 1968c (Lipid; nutrition; thermoregulation; growth & function of subcutaneous fat), 1969a (Nutrition; regulation of relative growth by functional demand; animal production), 1969b (Nutrition; relative growth of major body components), 1969c (Nutrition; growth), 1970 (Product; utilization of meat), 1971 (Nutrition; special topic; size & growth of viscera), 1972 (Special topic; body size & composition; absolute measurements & estimate from bone dimensions); Bryden & Lim 1969 (Diving; haematology; blood parameters in relation to diving); Bryden & Stokes 1968 (Lipid; fatty acid metabolism in blubber of nursing & fasting cows & pups; lipid transfer from cows depot via milk intact to pups); Bullier 1954 (Care; feeding & acclimation in captivity); Carrick et al. 1962 (Special topic; reproduction; annual cycle in relation to age & sex); Cline et al. 1969 (Anaesthesia; haematology; special topic; immobilization & collecting blood); Condy 1981a (Nutrition; molting; milk & lactation; postnatal development & growth; Marion I., Antarctica); Eadie & Kirk 1952 (Haematology; mineral; Na & K concentration in blood cells & plasma); Erickson & Hofman 1974 (Bibliography; special topic; distribution & behaviour); Gibbney 1953 (Reproduction; delayed implantation); Griffiths et al. 1979 (Endocrinology; summer & winter cycles in plasma melatonin levels; pineal cycles; immature males have marked circadian cycles in winter which changed during the summer); Guiler 1978 (Special topic; strandings; Tasmania); Kerry & Messer 1968 (Enzyme; carbohydrate & energetics; milk & lactation; nucleic acid; haematology; intestinal glycosidases; pancreatic amylase; intestinal lactase; sucrase; trihalase; uridyl transferase; UDP-glucose pyrophosphatase; milk lactase; erythrocyte hexose-1-PO₄); Kloes 1979 (Care; hand rearing; Germany); Kloes & Rahn 1975 (Care; reproduction; care & partially successful breeding; Germany); Lane et al. 1972 (Haematology; haematological study); Laws 1953 (Nutrition; special topic; growth & age), 1953a (Special topic; new method of age determina-

tion), 1981 (Reproduction; special topic; biology; Antarctic); Ling 1965a (Molting; hair growth & molting), 1965b (Molting; integument & molting process), 1965c (Special topic; molting; functional significance of sweat glands & sebaceous glands), 1966 (Special topic; molting; skin & hair; facial vibrissae), 1968 (Special topic; molting; skin & hair; morphology of adult integument); Ling & Nicholls 1963 (Anaesthesia; immobilization with succinylcholine chloride); Ling et al. 1967 (Anaesthesia; immobilization with succinylcholine chloride); Ling & Thomas 1967 (Molting; reproduction; nutrition; prenatal & early postnatal development & molting); Lythgoe & Dartnall 1970 (Vitamin; deep sea rhodopsin); McCann 1983 (Nutrition; activity budgets during breeding season); McDerimid et al. 1972 (Haematology; nucleic acid; enzyme; protein; carbohydrate & energetics; electrophoresis of plasma & red cell proteins & enzymes; McQuarie I.; phosphoglucomutase, acid phosphatase, phosphohexose isomerase, lactate dehydrogenase, 6-phosphogluconate dehydrogenase, adenylyl kinase, peptidases, diaphorase esterases, alkaline phosphatase, prealbumin, albumin, hemoglobin, ceruloplasmin, haptoglobins & transferrin); Mori et al. 1966g (Lipid; fatty acid composition of blubber oil); Neugebauer 1967 (Reproduction; breeding, Stuttgart Zoo); Seal et al. 1971a (Taxonomy & evolution; haematology; protein; blood chemistry & protein polymorphisms); Shaughnessy 1974a (Haematology; milk & lactation; nutrition; protein; electrophoretic study of blood & milk proteins); Spearman 1968 (Special topic; molting; histological examination of epidermis during telogen stage of hair growth); Tsuyuki & Itoh 1966 (Lipid; oils in blubbers); Tsuyuki & Shingo 1967 (Lipid; studies of oil in blubber); Winter & Nunn 1950a (Lipid; component fatty acids of blubber oil), 1950b (Lipid; component fatty acids in blubber oil; distribution in bodies of mature males and females, nonpregnant females & female pups); Zoological Society of London 1978 (Reproduction; care; captivity).

Mirounga sp.

Guy et al. 1976 (Enzyme; protein; activation peptide of trypsinogen); Smith et al. 1979a (Haematology; erythrocyte deformability).

Phocoidea; Phocidae; Monachinae

Hydrurga leptonyx (Blainville, 1820) (leopard seal)

Andreev 1978 (Special topic; structural & functional properties of the eye); Bechervaise 1962 (Special topic; not for branding); Cleland & Southcott 1969 (Product; vitamin; illness from eating liver; Australian waters); Erickson & Hofman 1974 (Bibliography; special topic; distribution & behaviour); George & Frear 1966 (Toxic compounds; pesticides; Antarctica); Guiler 1978 (Special topic; strandings); Haslewood 1961 (Lipid; bile salts; ω -phocaecholic acid, allocholic acid & 3 α ,7 α ,12 α ,23-tetrahydroxycholic acid); Kandinski 1974 (Haematology; viscosity, specific weight & hematocrit of blood; Antarctic); Kooyman 1981 (Care; nutrition; reproduction; taxonomy & evolution; hand

book); Laws 1981 (Reproduction; special topic; biology; Antarctic); Oritsland 1977a (Food; food consumption, Antarctic); Reid 1976 (Special topic; care; handling in captivity); Risebrough et al. 1976 (Toxic compounds; food; transfer of PCB to Antarctic; eat penguins containing p,p'-DDE, p,p'-DDT & PCB); Sinha 1976 (Reproduction; regression of Leydig cells & testosterone levels during the nonbreeding season); Siniff et al. 1981 (Special topic; aspects, Antarctic Peninsula); Stone & Siniff 1981 (Food); Winter & Nunn 1950c (Lipid; composition of blubber fat), 1953b (Lipid; component fatty acids of oil; variations & relationship of blubber fat to other seals); Wagemann & Muir 1984 (Toxic compounds; organochlorine & heavy metal concentrations).

Leptonychotes weddelli (Lesson, 1826) (Weddell seal)

Bertram 1940 (Special topic; biology comparative behavior); Blix & Steen 1979 (Thermoregulation; newborn; review); Borrueil et al. 1973 (Endocrinology; taxonomy & evolution; biosynthesis of estrogens by suprarenal gland; evolutionary & ecological corticosteroids; pregnenolone, progesterone, corticosterone & 18-hydroxycorticosterone in adrenal cortical slices); Brewerton 1969 (Toxic compounds; DDT in fats); Calhaem & Christoffel 1969 (Food; feeding habits; eat Dissostichus mawsoni; McMurdo Sound, Antarctica); Cannata & Tramezzani 1971 (Endocrinology; neurohypophysis; electron microscope study); Castellini 1979 (Diving; enzyme; enzymatic profile); Castellini et al. 1981 (Carbohydrate & energetics; enzyme; glycolytic enzyme activities; lactate dehydrogenase & pyruvate kinase); Clarke & MacLeod 1982 (Food; stomach contents; eat cephalopods, fish, krill, amphipods & algae); Cline et al. 1969 (Anaesthesia; special topic; haematology; immobilizing & collecting blood); Croxall & Hiby 1983 (Food; special topic; Signy I. & South Orkney I.; Antarctic; fecundity & survival); Davis et al. 1983 (Mineral; diving; renal filtration rate & hepatic blood flow in voluntary diving); Dearborn 1965 (Food; McMurdo Sound, Antarctica); De Master 1978 (Special topic; estimation & analysis of factors that control populations in McMurdo Sound, Antarctica); Domasco et al. 1975 (Endocrinology; steroids in suprarenal cortex); Elsnor et al. 1970 (Diving; cerebral tolerance of hypoxemia in asphyxiated), 1977a (Thermoregulation; temperature regulation in newborn); Erickson & Hofman 1974 (Bibliography; special topic; distribution & behaviour); Flyger et al. 1965 (Anaesthesia; effects of 3 immobilizing drugs); Fried et al. 1965 (Enzyme; shunt mechanism enzymes in tissues), 1967 (Enzyme; lipid; α -glycerophosphate dehydrogenase & α -glucose-6-phosphate dehydrogenase; neutral lipids in adipose assembled from exogenous sources); George & Frear 1966 (Toxic compounds; pesticides, Antarctica); Glass et al. 1967 (Nutrition; lipid; milk & lactation; constituent fatty acid of milk fats); Hammond et al. 1971 (Thermoregulation), 1972 (Thermoregulation; temperature regulation & related studies); Hammond & Elsnor 1971 (Special topic; transpor-

tation of seals from Antarctic to temperate climate); Hammond et al. 1970 (Thermoregulation; thermal regulation in newborn); Hidka & Tatsukawa 1981 (Toxic compounds; chlorinated hydrocarbons; Antarctic); Hockachka et al. 1977 (Carbohydrate & energetics; diving; pulmonary metabolism during diving; conditioning blood for brain), 1979 (Carbohydrate & energetics; haematology; nutrition; unusual maternal-fetal blood glucose concentration during resting & fasting); Hsu & Coe 1971 (Special topic; mummified; survival of biochemical constituents); Kandinski 1974 (Haematology; viscosity, specific weight & hematocrit of blood; Antarctic); Kerem et al. 1973 (Carbohydrate & energetics; diving; tissue glycogen levels; skeletal muscle, heart, brain & cortex of fetal, month-old & adult; possible adaptation to asphyxial hypoxia); Kooyman 1968 (Diving; analysis of behavioral & physiological characteristics related to diving); Kooyman et al. 1981 (Special topic; diving; late summer dives), 1981a (Diving; taxonomy & evolution; thermoregulation; reproduction; handbook); Kooyman & Drabek 1968 (Haematology; milk & lactation; mineral; milk, blood & urine constituents); Kooyman et al. 1971 (Diving; pulmonary function in free-diving), 1972 (Haematology; diving; blood nitrogen tensions during simulated deep dives), 1978 (Haematology; diving; blood chemistry of free-diving), 1980 (Diving; haematology; carbohydrate & energetics; aerobic & anaerobic metabolism during voluntary diving; preferred pathways from blood chemistry; hemoglobin concentration; lactic acid, glucose & gases), 1983 (Diving; carbohydrate & energetics; aerobic diving limits; lactic acid & O₂ stores; body size); Lantos & Bourrel 1973 (Endocrinology; lipid; biosynthesis of adrenal corticosteroids; endogenous pregnenolone, progesterone, corticosterone, 18-hydroxycorticosterone, aldosterone & cholesterol esters), 1974 (Endocrinology; radioactive corticosteroids); Lenfant et al. 1969 (Diving; haematology; respiratory function of blood of adult & unborn), 1970 (Diving; haematology; tolerance to sustained hypoxia); Liggins et al. 1979 (Endocrinology; high corticosteroid levels in plasma of adult & unborn; cortisol; corticoid-binding globulin; metabolic clearance rate), 1980 (Carbohydrate & energetics; diving; fetal cardiovascular & metabolic responses to simulated diving; maternal & fetal lactate); Lythgoe & Dartnall 1970 (Vitamin; deep sea rhodopsin); Mansfield 1958a (Reproduction; breeding behavior & reproductive cycle); Margni et al. 1971 (Haematology; protein; lipid; carbohydrate & energetics; seroproteins, glycoproteins, lipoproteins & immunoglobulins), 1972 (Haematology; protein; lipids; carbohydrate & energetics; serum proteins, glycoproteins & lipoproteins); Marini & Blair 1971 (Proximate composition; special topic; survival of histological structure & biochemical constituents of ancient Antarctic mummies); Murphy et al. 1982 (Diving; haematology; protein; free amino acids in the blood of unborn & mother during rest & diving), 1980 (Carbohydrate & energetics; diving; metabolic activities of heart, lung & brain during diving & recovery; lactate dehydrogenase, lactate & glucose); Murphy & Hochachka

1979 (Diving; metabolism studies of adult & unborn during diving), 1979a (Diving; carbohydrates & energetics; metabolic activity of heart, brain & lungs during simulated diving), 1981 (Enzyme; carbohydrate & energetics; activities of glycolytic & oxidative enzymes in heart, lung & brain of unborn), 1981a (Diving; haematology; protein; free amino acid profiles in blood during diving & recovery); Norris et al. 1974 (Special topic; new tagging & tracking methods); Oritsland 1977a (Food; food consumption in Antarctic ice pack); Parodi 1982 (Lipid; milk & lactation; positional distribution of fatty acids in milk triglycerides); Peak et al. 1971 (Carbohydrate & energetics; enzyme; lactate dehydrogenase isozymes); Pugh 1959 (Haematology; special topic; carbon monoxide content of blood); Puppione 1969 (Haematology; lipid; protein; physical & chemical characterization of serum lipoproteins); Qvist et al. 1981 (Haematology; oxygen equilibrium properties of blood & hemoglobin of unborn & adults); Racadot 1962 (Endocrinology; milk & lactation; reproduction; several cell types of the anterior lobe pituitary during gestation & lactation); Ray & Smith 1968 (Thermoregulation; of pups & adults); Robin et al. 1970 (Diving; haematology; biochemical adaptation to prolonged diving); Seal et al. 1971a (Taxonomy & evolution; protein; haematology; blood chemistry & protein polymorphisms); Shaughnessy 1969 (Taxonomy & evolution; protein; population studies; transferrin polymorphism & population structure); Simon et al. 1974 (Diving; carbohydrate & energetics; biochemical basis for differences in maximal diving time); Siniff et al. 1977 (Special topic; analysis of dynamics of a population); Smith & Hammill 1981 (Special topic; ecology on fast-ice breeding habitat); Stirling 1966a (Special topic; techniques for handling), 1966b (Special topic; seal marking in McMurdo Sound, Antarctica), 1967 (Special topic; population studies), 1969 (Special topic; ecology McMurdo Sound, Antarctica), 1971 (Special topic; population dynamics McMurdo Sound, Antarctica, 1966-1968), 1971a (Special topic; sex ratio of newborn during pupping season), 1977 (Special topic; adaptation to exploit polar fast-ice habitat in presence or absence of land predators); Stull et al. 1967 (Lipids); Tatton & Ruzicka 1967 (Toxic compounds; organochlorine pesticides in Antarctica); Tedman 1983 (Milk & lactation; lipid; ultrastructure morphology of mammary gland; sizes of fat droplets); Tedman & Bryden 1979 (Special topic; mother-pup behaviour, nursing; McMurdo Sound, Antarctica); Tedman et al. 1981 (Milk & lactation; estimate milk intake by tritiated water & Na-22 turnover); Testa et al. 1981 (Reproduction; special topic; population dynamics in E. McMurdo Sound, Antarctica); Thomas & DeMaster 1983 (Milk & lactation; special topic; nutrition; parameters affecting survival of pups to weaning); Thomas et al. 1980 (Special topic; satellite tracking & automatic position/activity monitoring techniques), 1983 (Biological sonar; special topic; analysis of vocalization using underwater playbacks); Van Den Heede et al. 1973 (Carbohydrate & energetics; heart mitochondrial oxidations); Wagemann & Muir 1984 (Toxic compounds; organochlorine &

heavy metal concentrations); Weber 1981 (Reproduction; haematology; functional & molecular aspects of hemoglobins from unborn & mother); Wells & Brennan 1979 (Haematology; oxygen equilibrium properties of isolated hemoglobins); Zapol et al. 1979 (Diving; regional blood flow during simulated diving in conscious seals).

Lobodon carcinophagus (Hombron & Jacquinot, 1842) (crabeater seal)

Bertram 1940 (Special topic; biology; comparative behaviour); Bryden & Erickson 1976 (Special topic; tissue & organ size); Cline et al. 1969 (Anaesthesia; haematology; special topic; immobilization & collecting blood); Guiler 1978 (Special topic; strandings); Erickson & Hofman 1974 (Bibliography; special topic; distribution & behavior); Hidka & Tatsukawa 1981 (Toxic compounds; chlorinated hydrocarbons; Antarctic); Kandinski 1974 (Haematology; viscosity, specific weight & hematocrit of blood; Antarctic); Kooymann 1981b (Haematology; taxonomy & evolution; reproduction; care; handbook); Laws 1981 (Reproduction; special topic; biology; Antarctic); Marini & Blair 1971 (Special topic; proximate composition; histological structure & biochemical constituents of Antarctic mummies); Naumov & Chekunova 1980 (Food; carbohydrate & energetics; energy requirements; annual consumption of crustaceans); Oritsland 1977a (Food; food consumption, Antarctic); Peel 1975 (Toxic compounds; special topic; organochlorine residues in Antarctic snow); Schneppenheim 1980 (Mineral; toxic compounds; fluoride concentrations in Antarctic); Seal et al. 1971a (Taxonomy & evolution; haematology; protein; blood chemistry & protein polymorphisms), 1971b (Haematology; taxonomy & evolution; enzyme; population studies; biochemical & population genetics; phylogenetic & cytological studies); Sinha 1976 (Reproduction; regression of Leydig cells & testosterone levels during non-breeding season); Sladin et al. 1966 (Toxic compounds; food; DDT residues & in their food; penguins); Tatton & Ruzicka 1967 (Toxic compounds; organochlorine pesticides, Antarctica); Tyler 1960 (Haematology; erythrocytes & hemoglobin); Winter & Nunn 1953a (Lipid; composition of blubber fat), 1953b (Lipid; component fatty acids in oil; variation & relationship of blubber fats to other seals).

Monachus monachus (Hermann, 1779) (Mediterranean monk seal)

Greenwood 1979 (Nutrition; care; rearing orphaned).

Monachus schauinslandi (Matschie, 1905) (Hawaiian monk or Laysan monk seal)

Arnason 1977 (Taxonomy & evolution; relationship between 4 principle karyotypes); Gilmartin & Morrow 1981 (Special topic; captive maintenance to define cause of mortality); Oritsland 1977a (Food; food consumption, Antarctic); Takei & Leong 1981 (Toxic compounds; p,p'-DDE, PCB & pentachlorophenol in blubber, lung & testes); Whittow 1978 (Thermoregulation); Wirtz 1968

(Reproduction; special topic; reproduction, growth & development & juvenile mortality).

Ommatophoca rossi Gray, 1844 (Ross seal; big-eyed seal)

Bryden & Erickson 1976 (Special topic; body size & composition); Erickson & Hofman 1974 (Bibliography; special topic; distribution & behaviour); Kandinski 1974 (Haematology; viscosity, specific weight & hematocrit of blood; Antarctic); Laws 1981 (Reproduction; special topic; biology; Antarctic); Sinha 1976 (Reproduction; regression of Leydig cells & testosterone levels in non-breeding season).

Phocoidea; Phocidae; Phocinae

Erignathus barbatus (Erleben, 1777) (bearded seal)

Anbinder 1975 (Taxonomy & evolution; karyotypes; taxonomy); Beck & Smith (Special topic; seal finger; unsolved medical problem); Belopolskii 1935a (Lipid; oil); Blix & Steen 1979 (Thermoregulation; newborns; review); Blood 1977 (Toxic compounds; oil spills; Beaufort Sea); Bowes & Jonkel 1975 (Toxic compounds; PCB; food chains; Arctic & subarctic); Bowes & Lewis 1974 (Toxic compounds; PCB, DDT & DDE in liver fat; extraction of pesticides); Burns 1967 (Special topic; general), 1981a (Nutrition; molting; reproduction); Burns & Frost 1979 (Special topic; natural history & ecology); Chapskii 1938 (Food; Kara & Barents seas); Clausen 1975 (Toxic compounds; PCB content in Arctic ecosystems); Clausen et al. 1974 (Toxic compounds; lindane, heptachlor epoxide, aldrin, PCB & DDE in adipose); Cleland & Southcott 1969 (Product; vitamin; illness from eating liver); Dolbich 1955 (Vitamin; vitamin A content in liver); Dunbar 1941 (Food; Canadian E. Arctic); Fedoseev 1973 (Special topic; biological description; basis for kill limits; Sea of Okhotsk); Feltz & Fay 1966 (Thermoregulation; thermal requirements in vitro of epidermal cells); Fetcher 1939 (Nutrition; water; water balance); Finley & Evans 1983 (Food; summer diet; Canadian high Arctic; eel-pout, Arctic cod, polar cod, clams, cephalopods, anemones, sea cucumber & polychaetes; benthic feeders; weight of food consumed; regional differences in feeding); Freeman & Horne 1972 (Toxic compounds; Hg; Canada); Frost et al. 1979 (Toxic compounds; feeding patterns, trophic relationships & possible effects of offshore petroleum development; Alaskan Beaufort Sea); Gavrilenko 1952 (Vitamin; vitamin A content in liver); Hall 1977 (Special topic; food; non-lethal lavage device for sampling stomach contents); Heu 1977 (Nutrition; reproduction; taxonomy & evolution); Johnson et al. 1966 (Food); Kizevetter 1950 (Proximate composition; product; technical & chemical characteristics); Kosygin 1966 (Special topic; size & weight; Bering Sea), 1971 (Food; feeding in Bering Sea during spring-summer period; E.b. nauticus); Lewis & Lentfer 1967 (Vitamin; vitamin A content of liver); Lowry et al. 1977 (Food; special topic; trophic relationships among ice-inhabiting phocids;

Beaufort sea), 1979 (Food; carrying capacity for feeding in Bering & Chukchi seas), 1980a (Food; eat crustaceans & molluscs; Bering & Chukchi seas; trophic interaction with walrus); Matsko & Vitali 1930 (Vitamin; vitamin D in oil); McLaren 1958b (Nutrition; reproduction; growth & reproduction); Moller et al. 1966 (Haematology; taxonomy & evolution; population studies; blood analysis of populations); Naevdal 1966 (Haematology; protein; taxonomy & evolution; hemoglobin & serum protein electrophoresis); Osipova 1976 (Endocrinology; age related histological changes in ovaries; corticosteroids; 17-ketosteroids); Pikharev 1941 (Food; feeding data; Far East); Potelov 1975 (Reproduction; Barents Sea); Ray et al. 1982 (Special topic; past & present distribution, N. Atlantic); Rodahl & Moore 1943 (Vitamin; vitamin A content & toxicity of liver); Smith 1980 (Special topic; eaten by polar bear); Smith & Armstrong 1975 (Toxic compounds; Hg, Inuit food; Holman, N.W.T.), 1978 (Toxic compounds; Hg, Se & CH₃Hg in tissues, liver; change with age); Sokolov 1966 (Haematology; ecolo-functional & age peculiarities of red blood); Stromberg et al. 1980 (Nucleic acid; nutrition; growth potential of cells; SV 40 early region DNA); Svizhenko 1983 (Biological sonar; analysis of spectral characteristics of sound signals); Urmanov 1971 (Special topic; angioarchitectonics in the liver with reference to gall-excretion system); Versaggi 1975 (Haematology; mineral; intraosseous architecture; relationship to acid-base homeostasis); Vibe 1950 (Food; Thule district, Greenland); Wagemann & Muir 1984 (Toxic compounds; heavy metals & organochlorine concentrations); West et al. 1979a (Lipid; fatty acid composition of blubber; Bering Sea).

Halichoerus grypus (Fabricius, 1791) (gray or Atlantic seal)

Ackman 1966 (Lipid; iodine No. & polyunsaturated fatty acid content); Ackman & Burgher 1963 (Lipid; milk & lactation; component fatty acids of milk); Ackman et al. 1977 (Nutrition; lipid; dam-pup transfer of fatty acids), 1979 (Lipid; nutrition; long-term dietary exposure to docosenoic acids on heart, muscle & blubber; no myocardial lesions); Ackman & Hooper 1968 (Lipid; milk & lactation; isoprenoid fatty acids; 4,8,12-trimethyltridecanoic acid; LDD & DDD diastereomers of pristanic acid and phytanic acid), 1974 (Lipid; long-chain monoethylenic & other fatty acids of heart, liver & blubber lipids); Ackman & Jangaard 1965 (Lipid; milk & lactation; fatty acid composition of blubber of lactating female); Addison 1973 (Toxic compounds; DDT, PCB & dieldrin in blubber; Canadian Arctic); Addison & Brodie 1977 (Milk & lactation; toxic compounds; DDT & PCB in maternal blubber, milk & pup blubber; Sable I., N.S.); Alzieu & Dugny 1978 (Toxic compounds; organochlorine compounds, France); Amoroso et al. 1951b (Milk & lactation; nutrition; lactation); Amoroso & Matthews 1951 (Milk & lactation; nutrition; growth from birth to weaning), 1952a (Milk & lactation; reproduction), 1952b (Milk & lactation; reproduction); Anderson et al. 1979 (Special topic; pup mortality & causes); Back-

- house & Hewer 1956 (Endocrinology; reproduction; delayed implantation), 1957 (Nutrition; special topic; spring behavior); Bagge 1975 (Toxic compounds; pesticide residues; Baltic; review); Baker et al. 1980 (Care; special topic; pathology); Beare-Rogers 1969 (Lipid; lipoxidase on polyenoic acids in marine oils); Ben Shaul 1962 (Milk & lactation; proximate composition; milk composition); Blanchetot et al. 1983 (Taxonomy & evolution; myoglobin; myoglobin gene; unusually lone globin gene of hemoglobin); Blix et al. 1983 (Haematology; lipid; diving; cardiac output & its distribution through capillaries & at right-ventricular shunts in diving); Bock et al. 1968 (Milk & lactation; protein; amino acid composition of milk); Bonner 1972a (Special topic; European waters); Bonner & Fogden 1971 (Haematology; blood typing, electrophoresis); Bonner & Hickling 1971 (Special topic; Farne I., October 1969-1971); Boshier 1977 (Reproduction; corpus luteum; ovimplantation); Bowes & Jonkel 1975 (Toxic compounds; PCB, food chains of Arctic & subarctic); Boyd 1983 (Endocrinology; haematology; milk & lactation; luteal regression follicle growth & concentration of some plasma steroids during lactation; progesterone, estradiol-17 β & estrus); Brodie 1979 (Food; carbohydrates & energetics; density dependent feeding & energetics); Burke & Jaspersen 1944 (Lipid; component acids of oil); Burton et al. 1975 (Reproduction; special topic; prenatal activities); Caines 1978 (Toxic compounds; heavy metal residues; Farne I.); Cansdale 1970 (Care; hand-rearing at Skegness Natureland); Cardin & Meara 1953 (Lipids); Coulson & Hickling 1964 (Special topic; reproduction; breeding biology; Farne I., England); Davis & Anderson 1976 (Toxic compounds; reproduction; effects of oil pollution on breeding); Donkin et al. 1977 (Toxic compounds; PCB & total organochlorine compounds in blubber), 1981 (Toxic compounds; PCB, DDT, DDE & dieldrin in blubber of male, female & maternally fed seals; levels change with age; Farne I., England during breeding season); Eaton et al. 1977 (Nutrition; lipid; docosenoic acid; heart pathology); Engelhardt & Ferguson 1980 (Milk & lactation; lipid; mineral; endocrinology; thermoregulation; water; adaptive hormone changes during postnatal period; changes in plasma T₃, T₄, cortisol, aldosterone & Na; milk T₃ & T₄; salt & water balance; enhanced lipolysis); Fairley 1972 (Bibliography; Ireland); Farmer & Roberts 1971 (Special topic; strandings, Isle of Man); Fedak & Anderson 1981 (Carbohydrates & energetics; reproduction; energetics); Fogden 1971 (Reproduction; special topic; mother-young behavior at breeding beaches); Freeman & Horne 1972 (Toxic compounds; Hg; Canada); Freeman et al. 1975a (Toxic compounds; endocrinology; effect of contaminants on steroidogenesis); Geraci 1974 (Haematology; nutrition; vitamin; thiamine deficiency; measure by blood cell transketolase), 1981a (Nutrition; care; dietary disorders); Greenwood et al. 1971 (Haematology; blood values in young); Greenwood & Wild 1977 (Special topic; care; fiberoptic gastroscopy); Harms et al. 1977/1978 (Toxic compounds; Cu, Zn, Cd, Pb; Hg, PCB & DDT in blubber, muscle, liver & brain); Heath 1978 (Haematology; protein; serum protein analysis); Helle et al. 1976c (Toxic compounds; endocrinology; environmental poisons; Baltic Sea); Heppleston 1973 (Toxic compounds; PCB, DDT & dieldrin in blubber, liver & kidney of suckling pups & mothers; variation with age); Heppleston & French 1973a (Toxic compounds; Hg & other metals; U.K.); Heu 1977 (Nutrition; reproduction; taxonomy & evolution); Hewer 1964 (Reproduction; fetal seal growth rate; implantation & female cycle), 1964a (Special topic; reproduction; determination of age, sexual maturity & longevity; life table); Hewer & Backhouse 1968 (Reproduction; embryology & fetal growth); Hilditch & Pathak 1947 (Lipid; component fatty acids; low-temperature crystallization; free fatty acids; unsaponifiable matter & iodine No. of liver & blubber oil), 1949 (Lipid; component acids of blubber & liver fat); Holden 1969 (Toxic compounds; organochlorine residues), 1971a (Toxic compounds; organochlorine residues; North Sea), 1972 (Toxic compounds; monitoring organochlorine contamination), 1975 (Toxic compounds; accumulation of oceanic contaminants; DDT, PCB, dieldrin & Hg in blubber & other tissues), 1978 (Toxic compounds; organochlorine residues; Farne I.), 1978a (Toxic compounds; pollutants); Holden & Marsden 1967 (Toxic compounds; DDT & dieldrin in liver, brain & blubber); Janssen et al. 1979 (Toxic compounds; chlorinated terpenes & chlordanes compounds; Swedish waters); Jensen & Jansson 1976a (Toxic compounds; anthropogenic substances from the Baltic; sulfone metabolites of PCB's & DDE); Jensen et al. 1969 (Toxic compounds; DDT & PCB; Swedish waters); Jewell & Smith 1965 (Anaesthesia; immobilization); Koeman et al. 1973a (Toxic compounds; correlation between Hg & Se in tissues); Lapennas & Reeves 1982 (Carbohydrate & energetics; haematology; respiratory properties of the blood; anaerobic metabolism); Lavigne & Ronald 1975 (Vitamin; visual pigments); Lincoln et al. 1973 (Haematology; taxonomy & evolution; hemoglobin electrophoresis); Ling & Button 1975 (Molting; integument, fetal & neonatal molting; skin & pelage); Mansfield 1977 (Nutrition; special topic; growth & longevity; E. Canada); Mansfield & Beck 1977 (Special topic; E. Canada); Matthews 1950a (Milk & lactation; process of lactation during September & October), 1950b (Milk & lactation; special topic; natural history including lactation); Mawdesley-Thomas & Bonner 1970 (Special topic; uterine tumors); McDermid & Bonner 1975 (Carbohydrate & energetics; enzyme; haematology; nucleic acid; protein; red cell & serum protein system; hemopexin system; electrophoresis of enzymes and hemoglobin; peptidase C, phosphoglucomutase, nucleoside phosphorylase & adenylylate kinase); McKie et al. 1980 (Toxic compounds; heavy metals from E. coast of Scotland); Meara 1952 (Milk & lactation; lipid; component fatty acids of milk fat); Medway & Geraci 1978 (Haematology; pathology); Nelson 1971 (Lipid; haematology; lipid composition of blood; red blood cell & serum phospholipids (PC, PS, SPH) & glycosphingolipids); Ohata & Whittow 1974 (Thermoregulation; conductive heat loss to sand); Olafson & Thompson 1974 (Mineral; protein; toxic compounds; isolation of heavy metal binding

proteins; metallothionein of Cu & Cd); Olsson 1978 (Toxic compounds; reproduction; PCB in Baltic); Parry et al. 1981 (Anaesthesia; chemical immobilization by 8 drugs); Pearce et al. 1973 (Toxic compounds; toxic chemicals, Gulf of St. Lawrence); Rae 1963 (Food); Rappe et al. 1981 (Toxic compounds; polychlorinated dibenzofurans identified in environmental samples); Reichenow 1839 (Bibliography; captivity); Reijnders & Wolff 1981 (Special topic; life history; population dynamics & disease); Renberg et al. 1978 (Toxic compounds; polychlorinated terpenes; Sweden); Rezvov 1977 (Food; Baltic Sea); Rodahl & Davies 1949 (Vitamin; vitamin A content in liver); Sangalang & Freeman 1976 (Endocrinology; steroids in plasma of adults; cortisol, cortisone, corticosterone, aldosterone, testosterone & 11-deoxycorticosterone content); Scholander 1964 (Diving; handbook of physiology); Scholander et al. 1942b (Diving; thermoregulation; temperature & metabolism during diving); Sergeant & Armstrong 1973 (Toxic compounds; Hg; E. Canada); Siversten & Bjorge 1980 (Food; Helgeland, Norway); Smith 1966a (Food), 1966b (Special topic; mother-young relations), 1968 (Special topic; adaptive suckling); Spotte & Stake 1982 (Care; nutrition; hand-rearing from birth to weaning); Stake & Spotte 1982 (Carbohydrate & energetics; nutrition; estimate of maintenance energy requirements from birth to weaning); Stalling et al. 1982 (Toxic compounds; polychlorinated dibenzofurans, PCB, polychlorinated dibenzo-p-dioxans); St. Aubin & Geraci 1977 (Enzyme; protein; tissue distribution & plasma levels of liver enzymes; alanine aminotransferase, aspartate aminotransferase, ornithine carbonyl transferase & sorbitol dehydrogenase; species & tissue differences in activity), 1980 (Vitamin; vitamin C levels in epidermis, adrenals, liver & muscle); Thompson & Hickling 1973 (Bibliography; literature of the Farne I., England); van de Ven et al. 1979 (Toxic compounds; Hg, Se & CH₃Hg in liver, kidney, brain, blood & thyroid in captive & wild); Watt 1952 (Special topic; experiments in marking); Wagemann & Muir 1984 (Toxic compounds; heavy metals & organochlorine concentrations); Winter & Nunn 1953b (Lipid; component fatty acids in blubber oil; relationship & variations of blubber fats to other seals); Yoshida & Nakamura 1977 (Toxic compounds; PCB methylsulfones in blubber); Zoological Society of London 1978 (Reproduction; care; captivity).

Histiophoca fasciata (Zimmerman, 1783) (rib-bon, harnessed, saddled or banded seal)

Anbinder 1975a (Taxonomy & evolution; karyotypes); 1977 (Taxonomy & evolution; relationships between 4 principle karyotypes), Arnason 1981 (Taxonomy & evolution; localization of nucleolar organizing regions of karyotypes); Arseniev 1940 (Food; food habits); Borisov 1966a (Taxonomy & evolution; haematology; protein; antigenic properties of serum proteins); Burns 1981 (Taxonomy & evolution; reproduction; nutrition; molting; handbook); Frost & Lowry 1980 (Food; spring feeding; eat pollack, Arctic cod & eel; Bering Sea); Hall 1977 (Nutrition; special

topic; nonlethal lavage device for sampling & stomach contents); Hamanaka et al. 1977 (Toxic compounds; Cd; Zn; Okhotsk Sea); Heu 1977 (Taxonomy & evolution; nutrition; reproduction); Kizeveter 1950 (Proximate composition; product; technical & chemical characteristics); Krogh & Iversen 1968a (Thermoregulation; comparison of temperature gradients in limbs & blubber, Arctic), 1968b (Carbohydrate & energetics; thermoregulation; metabolism); Lenfant & Johansen 1968 (Haematology; morphological & chemical properties of blood); Lincoln et al. 1973 (Haematology; taxonomy & evolution; hemoglobin electrophoresis); Parchevskii et al. 1973 (Toxic compounds; logarithmically normal distribution of Sr-90 concentrations in bones & muscles; Sea of Okhotsk; Bering Sea); Shustov 1965 (Food; feeding habits in Bering Sea); Sokolov 1966 (Haematology; ecolo-functional & age peculiarities of red blood), 1967 (Haematology; blood properties; N. Pacific); Urmanov 1971 (Special topic; angioarchitectonics in liver with reference to gall-excretion system); Wagemann & Muir 1984 (Toxic compounds; heavy metals & organochlorine concentrations); West et al. 1979a (Lipid; fatty acid composition of blubber; Bering Sea).

Pagophilus groenlandicus (Erxleben, 1777) (harp or Greenland seal)

Ackman et al. 1963 (Lipid; systematic identification of fatty acids by GLC), 1979 (Lipid; nutrition; long-term dietary exposure of docosanoic on heart, muscle & blubber composition of dam-pup; no myocardial lesions), 1971c (Lipid; fatty acid composition of blubber fat); Ackman & Hooper 1968 (Lipid; milk & lactation; isoprenoid fatty acids; 4,8,12-trimethyltridecanoic acid; phytanic acid; LDD- & DDD-diastereomers of pristanic acid); Ackman et al. 1974 (Lipid; fatty acids of depot & other organ fats; can detect food-chain?); Ackman & Sipos 1965 (Lipid; saturated fatty acids with reference to normal odd-numbered fatty acids & branched-chain fatty acids); Addison 1973 (Toxic compounds; DDT, PCB & dieldrin in blubber; Canadian Arctic); Addison et al. 1973 (Toxic compounds; DDT & metabolites & PCB levels in blubber; vary with age), 1972 (Toxic compounds; DDT, PCB & dieldrin in oils); Allen 1975 (Special topic; life table; N.W. Atlantic); Anbinder 1975a (Taxonomy & evolution; karyotypes); Anders et al. 1967 (Food; E. coast, Baffin I.); Anonymous 1982 (Special topic; report on meeting of ad hoc working group; N.W. Atlantic); Austin 1976 (Haematology; enzymes; tissue distribution & plasma levels of 4 clinical enzymes); Austin & Geraci 1981 (Care; enzyme; haematology; plasma & tissue activities of enzymes; creatine kinase, aldolase, γ -glutamyltransferase & leucine amino peptidase; clinical applications); Bailey et al. 1980 (Carbohydrate & energetics; lipid; milk & lactation; neonatal changes in tissue levels of carbohydrate & lipid; triglyceride content in pup blubber during nursing & fasting), 1981 (Lipid; haematology; changes in fatty acid composition of plasma during post-weaning fast); Baker & Lauer 1971 (Carbohydrate & energetics; milk & lactation; carbohydrate (sialic acid; hexose;

- hexosamine) content of casein); Baker et al. 1970 (Toxic compounds; milk & lactation; Sr-90 & Cs-137 in milk; Alaska); Belov 1969 (Milk & lactation; reproduction; microstructure of lactating gland); Ben Shaul 1962 (Milk & lactation; proximate composition; milk); Blacker 1968 (Food; pelagic fishes; Arctic & adjacent waters); Blix et al. 1979 (Thermoregulation; temperature regulation in newborn & pups; thermogenic adipose), 1973a (Care; food; nutrition; feeding & health of young); Blix & Steen 1979 (Thermoregulation; newborn; review); Borisov 1966a (Haematology; protein; serological analysis); Botta et al. 1982 (Proximate composition; product; carcass meat; effect of sex and age), 1982a (Product; molting; proximate composition; meat), 1983 (Toxic compounds; total Hg in meat & liver; Newfoundland), 1980 (Product; sensory quality of frozen, stored, salted & smoked); Bowen 1982 (Special topic; age structure of catch, 1952-1980); Bowen et al. 1981 (Reproduction; temporal changes in reproduction; potential of females), 1983 (Special topic; age estimation using dentinal annuli); Bowen & Sergeant 1983 (Special topic; mark-recapture estimates of populations, N.W. 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Phoca vitulina Linnaeus, 1758 (harbour seal; spotted seal; common seal)

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Pusa hispida (Schreber, 1775) (ringed seal)

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URSIDAE

Ursus maritimus (polar bear)

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SUBJECT INDEX

ANAESTHESIA

Backhouse 1964 (Marine mammals; small); Beeman et al. 1974 (Ursus americanus; etorphine immobilization); Briggs et al. 1975 (Mirounga angustirostris; ketamine immobilization); Cline et al. 1969 (Lobodon carcinophagus; Leptonychotes weddelli; Mirounga leonina; immobilization & blood collecting); Engelhardt 1977b (Phoca groenlandica; immobilization; ketamine intravenous injection dose); Finer 1954 (Phoca vitulina); Flyger 1964 (Cetacea; succinylcholine chloride); Flyger et al. 1965 (Leptonychotes weddelli; effect of 3 immobilizing drugs), 1967 (Ursus maritimus; capturing & handling; ecological research); Gentry & Johanson 1978 (Callorhinus ursinus; physical restraint for immobilizing); Geraci 1973 (Pinnipedia; appraisal of ketamine); Geraci et al. 1981 (Pinnipedia; safe methods for repeatedly immobilizing); Haigh et al. 1983 (Ursus maritimus; carfentanil); Haigh & Stewart 1979 (Cystophora cristata; narcotics); Hebert et al. 1980 (Ursus arctos; etorphine·HCl); Jewell & Smith 1965 (Halichoerus grypus); Keyes 1966 (Callorhinus ursinus; drugs used); Lamson et al. 1951 (Marine mammals; modification of barbituate anaesthesia by glucose, intermediary metabolites & certain other substances); Larsen 1971 (Ursus maritimus); Lee et al. 1968 (Ursus maritimus; ketamine·HCl & xylazine·HCl); Leith & Brain 1968 (Pinnipedia); Lentfer 1968 (Ursus maritimus); Ling & Nicholls 1963 (Mirounga leonina; succinylcholine chloride); Ling et al. 1967 (Mirounga leonina; succinylcholine chloride); Marakov 1963 (Callorhinus ursinus; electric current); Mate et al. 1983 (Zalophus californianus; Mirounga angustirostris; electro-immobilization); McCormick 1969 (Cetacea; porpoise; relationship of sleep, respiration &

anaesthesia); McDonnell 1971 (Pinnipedia; physiological & pharmacological consideration), 1972 (Pagophilus groenlandicus); McGrath et al. 1981 (Zalophus californianus; upper airway); Medway et al. 1970b (Lagenorhynchus obliquidens; Tursiops truncatus; effect of prolonged nalothane anaesthesia protein; enzymes); Meshcherskii et al. 1978 (Cetacea; porpoise; anaesthesia without blocking respiratory capacity), 1980 (Pagophilus groenlandicus; newborn); Mortelsman 1971 (Marine mammals); Nagel et al. 1964 (Tursiops truncatus), 1965 (Tursiops truncatus); Nesterov 1965 (Callorhinus ursinus), 1966 (Callorhinus ursinus; experimental use of ditilline), 1971 (Eumetopias jubatus; curare-like drug), 1973 (Pagophilus groenlandicus; narcotic drugs & ditilline in harvesting), 1973a (Pagophilus groenlandicus; sleep inducing agents & ditilline in harvesting); Parry et al. 1981 (Halichoerus grypus; several drugs); Patenaude 1979 (Ursus maritimus; evaluation of drugs in captives); Peterson 1965 (Callorhinus ursinus); Poulter 1965b (Zalophus californianus); Ridgway & McCormick 1967a (Cetacea; major surgery of porpoises), 1967b (Cetacea; porpoise; major surgery), 1971 (Cetacea; porpoise); Ridgway & Simpson 1969 (Zalophus californianus); Rieu & Gautheron 1968 (Cetacea; method of introduction of tube for anaesthesia in small dolphins); Ryding 1982 (Mirounga angustirostris; ketamine); Schevill et al. 1967 (Marine mammals; immobilizing drugs lethal to swimmers); Seal & Erickson 1969 (Marine mammals; phencyclidine & promazine); Sinnett et al. 1981 (Phoca vitulina; cardiovascular depression & thermoregulatory disruption caused by pentothal/halothane); Thurman et al. 1982 (Arctocephalus pusillus; anaesthesia & treatment of a chronic eye infection & amputation of metatarsal bone); Trillmich 1983 (Pinnipedia; Galapagos sea lions & fur seals; ketamine-xylazine combination); Trillmich & Wiesner 1979 (Zalophus californianus).

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CARE IN CAPTIVITY

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DIVING

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FOOD

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brain inositol phosphatide & fatty acid composition).

MILK AND LACTATION

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Bay of Fundy & Gulf of Maine); Glass & Jenness 1971 (Mirounga angustirostris; Pagophilus groenlandicus; fatty acid composition of milk); Glass et al. 1967 (Leptonychotes weddelli; fatty acid composition of milk fats); Gregory et al. 1955 (Balaenoptera sibbaldi; B. musculus; lactose, ash, Cl, P, Na, K, Mg, fat content, casein, water-soluble protein, non-protein nitrogen, vitamin B_6 & B_{12} , thiamine, pantothenic acid, biotin, riboflavin & nicotinic acid); Jangaard & Ke 1968 (Pagophilus groenlandicus; Cystophora cristata; principal fatty acids of depot fat & milk fats); Jangaard et al. 1967 (Marine mammals; seasonal changes in fatty acid composition in milk lipids); Jenness 1974 (Marine mammals; composition of milk; lactation; a comprehensive treatise); Jenness & Odell 1978 (Kogia breviceps; composition of milk; citrate, lactose & fatty acids; casein electrophoresis; DDT, dieldrin & PCB 1203); Jenness & Sloan 1970 (Marine mammals; composition of milk; review); Jenness et al. 1972 (Ursus maritimus; 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Pilson & Kelly 1961 (Zalophus californianus; composition of milk; glucose, casein, no lactose, fat, protein, solids & ash); Pilson & Waller 1970 (Stenella plagiodon; spinner porpoise; composition of milk); Popov 1971 (Pinnipedia; causes & dimensions of natural mortality of young during lactation); Purdie 1885 (Cetacea; porpoise; chemical composition of milk); Racodot 1962 (Leptonychotes weddelli; several cell types of anterior lobe of pituitary during gestation & lactation); Ramaiah 1965 (Callorhinus ursinus; quality & fatty acid composition of milk fats); Riedman & Ortiz 1979 (Mirounga angustirostris; changes in milk composition during lactation; water, protein, fat & reducing sugar content; fatty acid composition); Schmidt-Nielsen & Frog 1933 (Balaenoptera borealis; B. musculus; B. physalus; composition of fat in milk); Schmidt et al. 1971 (Callorhinus ursinus; lactose synthetase activity in milk); Scow et al. 1973 (Marine mammals; incorporation of dietary fatty acids into milk triglycerides; mechanism & regulation); Shaughnessy 1974a (Mirounga leonina; electrophoresis of milk & blood proteins); Shaw 1971a (Tursiops truncatus; neutral carbohydrates in milk; lactose, D-glucose, myo-inositol & scyllo-inositol); Shergin et al. 1967 (Pinnipedia; chemical composition of hairless seal milk); Shun'ichi et al. 1983 (Callorhinus ursinus; composition of carbohydrate & protein); Siversten 1934 (Marine mammals; chemical composition); Stewart et al. 1983 (Pagophilus groenlandicus; determining lactose content); Takemura 1927a (Balaenoptera physalus; Balaenoptera borealis; protein content of milk; specific gravity; freezing point); Tedman 1983 (Leptonychotes weddelli; ultrastructure morpho

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TAXONOMY AND EVOLUTION

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TOXIC COMPOUNDS

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Gulf of Mexico); Cappon & Smith 1981 (Pinnipedia; Hg & Se content & chemical form in tissues); Clausen 1975 (*Erignathus barbatus*; *Pusa hispida*; *Cystophora cristata*; polychlorinated hydrocarbons in Arctic ecosystems); Clausen et al. 1974 (*Ursus maritimus*; *Erignathus barbatus*; *Pusa hispida*; *Phocoena phocoena*; lindane, heptachlor epoxide, aldrin, PCB & DDE in adipose tissue); Cook & Baker 1969 (*Pagophilus groenlandicus*; composition & pesticide residues content of milk); Corner 1975 (Pinnipedia; Cetacea; fossil fuel hydrocarbons; chemical & biochemical properties); Davis & Andersen 1976 (*Halichoerus grypus*; oil pollution & breeding); De Long et al. 1973 (*Zalophus californianus*; premature births associated with high DDT & metabolites & PCB in brain, liver & blubber in females & pups); Dobrowolski 1978 (*Pusa hispida*; DDT in organs & tissues); Donkin et al. 1977 (*Halichoerus grypus*; PCB & total organochlorine compounds in blubber), 1981 (*H. grypus*; PCB, DDT, DDE & dieldrin in blubber of male, female & maternal-fetal seals; change with age; Farne I., England); Dutt 1940 (*Ursus maritimus*; toxicity of liver); Drescher 1976 (*Phoca vitulina*; organochlorines & heavy metals; North Sea, Germany); Drescher et al. 1977 (*Phoca vitulina*; organochlorines (PCB, DDT, lindane & dieldrin) & heavy metals (Zn, Cu, Hg, Pb & Cd); vary with animal's age; North Sea, Germany); Duinker et al. 1979 (*Phoca vitulina*; Cu, Pb, Zn, Cd, PCB, DDT & metabolites in liver, brain, spleen & heart; Dutch Wadden Sea); Duinker & Hillebrand 1979 (*Phocoena phocoena*; transplacental transfer of PCB, DDT & dieldrin; mobilization of pesticides during pregnancy), 1979a (Pinnipedia; transplacental transfer of organochlorines from female tissue lipids to unborn), 1983 (Marine mammals; Cetacea; porpoise; composition of PCB mixtures in biotic & abiotic marine compartments, Dutch Wadden Sea); Eaton 1980 (*Pusa hispida*; Hg in liver); Eaton et al. 1980 (*Pagophilus groenlandicus*; Hg in liver; toxic potential to cats); Engelhardt 1982 (*Pusa hispida*; metabolism of naphthalene to water-soluble metabolites found in plasma & urine; hydrocarbon hydroxylase in liver & kidney; plasma levels of cortisol); Engelhardt 1978 (*Pusa hispida*; petroleum hydrocarbon absorption & clearing in blood, kidney, liver & urine; benzene-H-3 & naphthalene-C-14), 1983 (Marine mammals; Cetacea; Pinnipedia; *Ursus maritimus*; *Enhydra lutris*; review; oil spill on thermoregulation, dermal toxicity, neurotoxicity & hemotoxicity); Engelhardt et al. 1977 (*Pusa hispida*; uptake & clearance of petroleum hydrocarbons in blood, plasma, bile & urine; Norman Wells crude); Falconer et al. 1983 (*Phocoena phocoena*; Zn, Hg, Cd & Cu in liver & kidney); Flegal et al. 1981 (Pinnipedia; Hg in mussels, *Mytilus californianus*; Fordyce et al. 1979 (*Ziphius cavirostris*; heavy metals & atherosclerosis in stranded animals; New Brighton, New Zealand); Frank et al. 1973 (*Pagophilus groenlandicus*; organochlorine residues; E. 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VITAMINS

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WATER BALANCE

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