

## 7. REFERENCES

Anon., 1987. *Seaweed Research and Utilization in India*, Bull. Cent. Mar. Fish. Res. Inst., No 41, CMFRI Cochin, p.115.

Angelin, T.S., Baluswami, M., Parthasarathy, M.D.V. and Krishnamurthy, V. 2004. Physico-chemical properties of carrageenans extracted from *Sarconema filiforme* and *Hypnea valentiae*. *Seaweed Res. Utiln.*, **26**: 197-207.

APHA. 1998. *Standard Methods for the Examination of water and wastewater*. American Public Health Association. 19<sup>th</sup> edition, Washington. pp1132.

Armisen, R. and Galatas, F. 1987. Production and utilization of products from commercial seaweeds. *FAO Fish. Tech. Paper*, 288: 1-57.

Atkins, W.R.G. 1923. Phosphate content of freshand salt waters in its relationship to algal plankton. *J.Mar. Biol. Ass. U.K.*, **13**: 119-150.

Balachandran, V.K., Gopinathan, C.P., Pillai, V.K., Nandakumar, A. and Valsala, K.K. 1997. Chlorophyll profile of the euphotic zone in the Lakshadweep Sea during the southwest monsoon season. *Indain J. Fish.*, **41**( 1): 29 - 43.

Balakrishnan Nair, N., Sobha, V. and Arunachalam, M. 1982. Algae from southern Kerala coast. *Indian J. Mar. Sci.*, **11**: 266-269.

Balakrishnan Nair, N., Sobha, V., Chandran, R., Rathiammal, M., Miranda,P.I., Maya, S. and Suryanarayanan, H. 1986 . Algal resources of Kerala coast II. An up-to-date list of Indian marine algae. *Aquatic Biology* , **6**:25-52.

Balakrishnan Nair, N., Sobha, V., Chandran, R., Paul, P.A., Miranda,P.I., and Suryanarayanan, H. 1986 a. Nature and distribution of the Inoral algae and seagrasses of the southeast coast of India. *Proc. Indian natl sci Acad B* **52**: 733-744.

Balakrishnan Nair, N., Sobha, V., Chandran, R., Rathiammal, M., Miranda, P.I., Maya, S. and Suryanarayanan, H. 1990. Algal resources of Kerala coast IX. Occurrence and relative abundance of Chlorophyceae along southeast coast of India. *Seaweed Res. Utiln.*, **12** (1&2): 125-135.

Balakrishnan Nair, N., Sobha, V., Chandran, R., Rathiammal, M., Maya, S. and Suryanarayanan, H. 1993. Algal resources of Kerala coast. VIII. Occurrence and relative abundance of Rhodophyta. *Seaweed Res. Utiln.*, **16** (1&2): 183-197.

Balakrishnan, C.P., Venkataraman, K., Mohan, V.R., Jesudas, L.L. and Athiperumalsami, T. 2009. A general survey of the common agarophytes in the Gulf of Mannar in relation to agar ecology. *Seaweed Research and Utilisation*, **31** (1&2): 33-46.

Balakrishnan, C.P., Venkataraman, K., Mohan, V.R., Jesudas, L.L. and Athiperumalsami, T. 2009a. A general survey of the common carrageenophytes in the Gulf of Mannar in relation to carrageenan ecology. *Seaweed Research and Utilisation*, **31** (1&2): 47 - 54.

Balakrishnan, C.P., Venkataraman, K., Mohan, V.R., Jesudas, L.L. and Athiperumalsami, T. 2009b. A general survey of the common alginophytes in the Gulf of Mannar in relation to algin ecology. *Seaweed Research and Utilisation*, **31** (1&2) : 55 - 65.

Bird, K.T. 1988. Agar production and quality from *Gracilaria* sp. strain G-16: effects of environmental factors. *Bot. Mar.* **31**: 33-39.

Booth, B. 1969. The manufacture and properties of liquid seaweed extracts. *Proc. Intl. Seaweed Symp.*, 655-662.

Calumpong, H.P. Maypa, A., Magbanua, M. and Suarez, P. 1999. Biomass and agar assessment of three species of *Gracilaria* from Negros Island, Central Philippines. *Hydrobiologia*, **398/ 399**: 173-182.

Cameron, M.C., Ross, A.G., and Percival, E.G.V. 1948. Methods of the routine estimation of mannitol, alginic acid and combined fucose in seaweeds. *J.Soc. Chem. Ind.* London. **67**: 161-164.

Chacko, P. I. and Malu Pillai, C. 1958. Studies on utilization of the seaweed resources of Madras State. *Contr. Marine fish. biol. St., Krusadadi Island, Gulf of Mannar*, No.6, pp. 12.

Chapman, V.J., 1970. Seaweeds and their Uses. 2nd Edn., Metheun, London, pp304.

Chauhan, V.D. 1970. Variation in alginic acid content with growth stages in two species of *Sargassum*. *Bot. Mar.* **13**(1): 57-58.

Chennubhotla, V.S.K. 1977. Food from the sea: Food from the seaweeds. *Seafood Export Journal*, **9** (3): 1-4.

Chennubhotla, V. S. K. 1992. *The Survey of Seaweed Resources of Andaman - Nicobar Islands, Visakhapatnam - Chilka Lake*. Final report of the ICAR ad-hoc scheme, pp226.

Chennubhotla, V.S. K. 1996. Seaweeds and their importance. *CMFRI Bulletin-Artificial reefs and Seafarming technologies*, 48 . pp. 108-109.

Chennubhotla, V.S. K., Najmuddin, M. and Nayak, B. 1977. A comparative study of the yield and physical properties of agar-agar from different blends of seaweeds. *Seaweed Res. Utiln.*, **2**: 87-90.

Chennubhotla, V. S. K., Kalimuthu, S., Kaliaperumal, N. and Ramalingam, J. R. 1977a. Studies on the growth variation, Alginic acid and Mannitol content in *Padina gymnospora* (Kuetzing) Vickers. *Seaweed Res. Utiln.*, **2** (1): 91-94.

Chennubhotla, V. S. K. Kaliaperumal, N., Kalimuthu, S., Selvaraj, M., Ramalingam, J. R. and Najmuddin, M. 1982. Seasonal changes in growth & alginic acid and mannitol contents in *Sargassum ilicifolium* (Turner) J. agardh & *S. myriocystum*, J. Agardh. *Indian J. Mar., Sci.*, **11**: 195-196.

Chennubhotla, V. S. K., Kalimuthu, S., Najmuddin, M., Panigrahy, R. and Selvaraj, M. 1986. Changes in growth and phycocolloid content of *Gelidiella acerosa* and *Gracilaria edulis*. *Seaweed Res. Utiln.*, **9** (1 & 2): 45-48.

- Chennubhotla, V.S.K., Kaliaperumal, N., Kalimuthu, S. and Nair, P.V.R. 1987. Biology of the economically important Indian seaweeds- a review. *Seaweed Res. Utiln.*, **10**(1): 21- 32.
- Chennubhotla, V S K., Ramachandrudu, B. S., Kaladharan, P. and Dharmaraja, S. K. 1988. Seaweed resources of Kerala Coast. *Bulletin of the Department of Aquatic Biology and Fisheries*, **7**: 69-74.
- Chennubhotla, V. S. K., Mathew Susan and Imelda Joseph. 1990. A note on the occurrence of *Porphyra kanyakumarjensis* (Bangiales: Rhodophyta) along the Kerala coast. *Seaweed Res. Utiln.*, **13** (1):1-4.
- Chennubhotla, V. S. K., Najmuddin, M., Ramalingam, J.R. and Kaliaperumal, N. 1990 a. Biochemical composition of some marine algae from Mandapam coast, Tamil Nadu. CMFRI Bulletin-National symposium on research and development in marine fisheries Sessions III & IV 1987, **44** (2): 442-446.
- Chennubhotla, V.S.K., Kaladharan, P., Kaliaperumal, N. and Rajagopalan, M. S., 1992. Seasonal variations in production of cultured seaweed *Gracilaria edulis* (Gmelin) Silva in Minicoy Lagoon (Lakshadweep). *Seaweed Res. Utiln.*, **14** (2): 109-113.
- Chennubhotla, V. S. K., Nasser, A. K. V., Kunhikoya, K. K., Anasu Koya, A. and Rajagopalan, M. S. 1994. Observations on the grazing phenomenon of the cultured seaweed, *Gracilaria edulis* by fish in Minicoy lagoon (Lakshadweep). *Mar. Fish. Infor.Serv., T & E Ser.*, **127**: 11-12.
- Chidambaram, K. 1950. Studies on the length frequency of the oilsardine, *Sardinella longisepts*, Cuv. & Val. and on certain factors influencing on the Calicut coast of Madras Presidency. *Proc. Indian Acad. Sci.*, **31** B (5): 252-286.
- Christabell, J., Lipton, A. P., Aishwarya, M. S., Sarika, A. R. and Udayakumar, A. 2011. Antibacterial activity of aqueous extract from selected macroalgae of southwest coast of India. *Seaweed Res. Utiln.*, **33** (1 & 2): pp. 67-75.

Coppen, J.J.W. 1991. Agar and alginate production from seaweed in India. BOPP/WP/69: 1-27.

Craigie, J.S. and Leigh, C. 1978. Carrageenans and Agar. In: *Handbook of Phycological and Biochemical Methods*. (Eds.) J.A.Hellebest and J.S.Craigie, Cambridge University Press, Cambridge, 109-131.

Critchley A.T. 1997. Introduction: seaweed resources. In: *Seaweed cultivation and marine ranching*. Ohno, M. & Critchley, A. T. (Eds). Japanese International Collaboration Agency (JICA), Yokosuka. 1-7.

De Boer, J.A. 1979. Nutrients. In: *The Biology of seaweeds*, Lobban, C.S. and Wyne, M.J. (Eds.). Blackwell Scientific Publications, Oxford, 359-391.

Deve., M.J., Garg, S.K. and Iyengar, E.R.R. 1977. Assessment of the possibility of seaweeds to be utilized as supplementary animal feed. *Salt Res. Ind.*, **13**: (1&2): 33-40.

Devaraj, M. Pillai, V. K., Appukuttan, K. K. Suseelan, C. Murty, V. S.R., Kaladharan, P., Rao, G.S., Pillai, N. G. K., Pillai, N. N., Balan, K., Chandrika, V., George, K. C. and Sobhana, K. S. 1999. Packages of Practices for Sustainable; Ecofriendly Mariculture (Land-based Saline Aquaculture and Seafarming). In: *Aquaculture and the Environment*. Mohan Joseph, M,(ed.) Asian Fisheries Society, Mangalore, 33-70.

Doshi, Y.A., Parekh, R.G., Abidi, S.H.R. and Chauhan, V.D. 1990. Studies on phycocolloid from marine alga *Solieria robusta* (Grev.)Kyllin. *Phykos*, **29**(1 &2): 23-29.

Duckworth, M. and Yaphe, W. 1971. The structure of agar Part I: Fractionation of a complex mixture of polysaccharides. *Carbohydr. Res.*, **16**:189-197.

Durairatnam, M. 1987. Studies of the yield of agar, gel strength and quality of agar of *Gracilaria edulis* (Gmel. ) Silva from Brazil. *Hydrobiologia*, **151/152**: 509-512.

Down to Earth, 2012. Curious case of seaweed In: *Down to Earth*, 15th October 2012:23-24.

Erulan, V., Soundarapandian, P., G. Thirumaran, G. and Ananthan, G. 2009. Studies on the effect of *Sargassum polycystum* (C.Agardh, 1824) extract on the growth and biochemical composition of *Cajanus cajan* (L.) Mill. *American-Eurasian J. Agric. & Environ. Sci.*, **6** (4): 392-399.

FAO., 2011. World Aquaculture 2010. FAO Fisheries and Aquaculture Technical Paper No. **500/1**. Food and Agriculture Organization, Rome, 3-10.

Fereile -Pelegrin, Y., Robledo, D. and Zaragoza, E. 1999. *Gelidium robustum* agar: Quality characteristics from exploited beds and seasonality from an unexploited bed at Southern Baja California, Mexico. *Hydrobiol.*, **398/399**: 501-507.

George, P.C. 1953. The marine plankton of the coastal waters off Calicut with observation on the hydrobiological conditions. *J. Zool. Soc. India*, **5**: 76- 107.

Gulshad, M., Nasser, A. K. V. and Koya, C. N. H. 1999. Domestic waste and its impact on production of *Caulerpa racemosa* (Forssk.) Weber v. Bosse at Minicoy Island, Lakshadweep. *Seaweed Res. Utiln.*, **21** (1 & 2): 73-77.

Hoyle, M.D. 1978. Agar studies in two *Gracilaria* spp. from Hawaii II. Seasonal aspects. *Bot. Mar.*, **21**:347-352.

Hurtado-Ponce, AQ, 1996. Economics of cultivating *Kappaphycus alvarezii* using fixed-bottom line and hanging-long line methods in Panagatan Cays, Caluya, Antique, Philippines. *J. Appl. Phycol.*, **105**:105-109

Hurtado, P.A.Q. and Agbayani, R.F. 2000. The farming of seaweed *Kappaphycus*. *Aquaculture Extension Manual No. 32*. Aquaculture Dept. southeast Asian Fisheries Development Centre, Philippines, pp25.

Istini, S., Ohno, M. and Kusunose, H. 1994. Methods of analysis for Agar, Carrageenan and Alginate in seaweed. *Bull. Mar. Sci. Fish., Kochi Univ.*, **14**: 49-55.

Jayaraman, R. and Seshappa, G. 1957. Phosphorous cycle in the sea with particular reference to tropical inshore waters. *Proc. Indian Acad. Sci.*, **46**: 11-125.

Ji Minghou, 1990. laboratory methods for qualification of red seaweeds and their polysaccharides. *Biopolymer Res. Unit. Thailand*, 27-50.

Johnson, B. and Gopakumar, G. 2011. Farming of the seaweed *Kappaphycus alvarezii* in Tamil Nadu coast - status and constraints. *Marine Fisheries Information Service, T & E Ser.*, **208**: 1-5.

Joseph, S. and Lipton, A. P. 2004. Biopotentials of *Ulva fasciata* and *Hypnea musciformis* collected from the peninsular coast of India. *Journal of Marine Science and Technology*, **12** (1): 1-6.

Jothinayagi, N. and Anbazhagan, C. 2009. Effect of seaweed liquid fertilizer of *Sargassum wightii* on the growth and biochemical characteristics of *Abelmoschus esculentus* (L.) medikus. *Recent Research in Science and Technology*, **1**(4): 155–158.

Kaladharan, P. 2000. Artificial seawater for seaweed culture. *Indian J. Fish.*, **47** (3): 257-260.

Kaladharan, P. 2001. Seaweed resource potential of Lakshadweep. *Geological Survey of India Special Publication* , **56**:121-124.

Kaladharan, P. 2005. *Gracilariopsis lemaneiformis* (Bory) Dawson - a red alga reported from certain backwaters of Kerala. *J. Bom. Nat.Hist. Soc.*, **102** (3): 378-379.

Kaladharan, P. and Chennubhotla, V. S. K., 1993. Introduction and growth of *Gracilaria edulis* in Minicoy lagoon (Lakshadweep). *Fishing Chimes*, **13**(7): p 55.

Kaladharan, P. and Kandan, S. 1997. Primary productivity of seaweeds in the lagoon of Minicoy atoll of Laccadive archipelago. *Seaweed Res. Utiln*, **19** (1 & 2): 25-28.

Kaladharan, P. and Sridhar, N. 1999. Cytokinins from Marine green alga, *Caulerpa racemosa* (Kuetz) Taylor. *Fish. Technol.*, **36**(2): 87-89.

Kaladharan, P. and Kaliaperumal, N. 1999. Seaweed Industry in India. *NAGA, ICLARM Qtrly.*, **22** (1): 11-14.

Kaladharan, P. and Reeta, J. 2003. Seaweeds. In: *Status of exploited marine fishery resources of India* (Eds.) M.Mohan Joseph and A. A.Jayaprakash. CMFRI., Cochin. 228-234.

Kaladharan, P. and Velayudhan, T. S. 2005. GABA from *Hypnea valentiae* (Turn.) Mont. and its effect on larval settlement of *Perna viridis* Linnaeus. *Seaweed Res. Utiln.*, **27** (1 & 2): 35-37.

Kaladharan, P., Vijayakumaran, K. and Chennubhotla, V.S.K. 1996. Optimization of certain physical parameters for the mariculture of *Gracilaria edulis* (Gmelin) Silva in Minicoy lagoon (Laccadive Archipelago). *Aquaculture*, **139** (3-4): 265-270.

Kaladharan, P., Kaliaperumal, N. and Ramalingam, J.R. 1998. Seaweed - products, processing and utilization. *Mar. Fish. Infor. Ser., T. & E. Ser.*, **157**: 1-9.

Kaladharan, P., Gireesh, R. and Smitha, K. S. 2002. Cost effective medium for the laboratory culture of live feed micro algae. *Seaweed Res. Utiln.*, **24** (1): 35-40.

Kaliaperumal, N. 1989. Effects of environmental factors on diurnal periodicity of tetraspore output in some red algae of Visakhapatnam coast. *Seaweed Res. Utiln.*, **12** (1&2): 87-95.

Kaliaperumal, N. 1990. Influence of low and high temperature on diurnal periodicity of tetraspore shedding in some red algae. *J. Mar.Biol. Assn. India*, **32** (1 & 2): 259- 263.

Kalaiaperumal, N. 1993. Seaweed culture. In: *Handbook on Aquafarming- Seaweed, Seurchin and Seacucumber*, MPEDA, Cochin. 1-22.



Kaliaperumal, N. and Kalimuthu, S. 1976. Changes in growth, reproduction, alginic acid and Mannitol contents of *Turbinoria decurrens*. *Bot. Mar.*, **19** (3). pp. 161-178.

Kaliaperumal, N. and Umamaheswara Rao, M. 1981. Studies on the standing crop and phycocolloid of *Gelidium pusillum* and *Pterocladia heteroplatos*. *Indian J. Bot.*, **4** (2): 91-95.

Kaliaperumal, N. and Umamaheswara Rao, M. 1982. Seasonal growth and reproduction of *Gelidiopsis variabilis* (Greville) Schmitz. *J. Expl. Mar.Biol.Ecol.*, **61**: 265-270.

Kaliaperumal, N and Umamaheswara Rao, M. 1987. Effect of thermal stress on spore shedding in some red algae of Visakhapatnam coast. *Indian J. Mar. Sci.*, **16**: 201-202.

Kaliaperumal, N. and Chennubhotla, V. S. K. 1997. Seaweed distribution and resources in Kerala coast. *Seaweed Research and Utilisation* , **19** (1&2): 29-32.

Kaliaperumal, N., Kalimuthu, S., Ramalingam, J. R. and Selvaraj, M. 1986. Experimental field cultivation of *Acanthophora spicifera* in the near shore area of Gulf of Mannar. *Indian Journal of Fisheries*, **33** (4):476-478.

Kaliaperumal, N., Kalimuthu, S. and Ramalingam, J. R. 1989. Agar, algin and mannitol from some seaweeds of Lakshadweep. *J. Mar. Biol.Assn. India*, **31** (1&2):303-305.

Kaliaperumal, N., Kalimuthu, S. and Ramalingam, J. R. 1990. Effect of repeated harvesting on the growth of commercially important seaweeds in Mandapam area.

*CMFRI Newsletter*, **49** : p 4.

Kaliaperumal, N. Kalimuthu, S. and Ramalingam, J. R. 1992. Studies on phycocolloid contents from seaweeds of south Tamilnadu coast. *Seaweed Res.Utiln.*, **12** (1 & 2): 115-119.

Kaliaperumal, N., Chennubhotla, V. S. K., Kalimuthu, S., Ramalingam, J. R. and Muniyandi, K. 1993. Growth of *Gracilaria edulis* in relation to environmental factors in field cultivation. *Seaweed Res. Utiln.*, **16** (1 & 2): 167-176.

- Kaliaperumal, N., Kalimuthu, S. and Ramalingam, J. R. 1996. Effect of repeated harvesting on the growth of *Sargassum* spp and *Turbinaria ornata* occurring in Mandapam area. *Seaweed Res. Utiln*, **18** (1 & 2): 123-126.
- Kaliaperumal, N., Ezhilvalavan, R. and Ramalingam, J. R. 2001. Studies on salinity tolerance and acclimatization of some commercially important seaweeds. *Seaweed Res. Utiln*, **23** (1 & 2): 47-53.
- Kaliaperumal, N., Ramalingam, J. R., Kalimuthu, S. and Ezhilvalavan, R. 2002. Seasonal changes in growth, biochemical constituents and phycocolloid of some marine algae of Mandapam coast. *Seaweed Res. Utiln*, **24** (1): 73-77.
- Kaliaperumal, N., Kalimuthu, S. and Ramalingam, J. R. 2004. Present scenario of seaweed exploitation and industry in India. *Seaweed Res. Utiln*, **26** (1 & 2): 47-53.
- Kalimuthu, S., Chennubhotla, V. S. K., Selvaraj, M., Najmuddin, M. and Panigrahy, R. 1980. Alginic acid and mannitol contents in relation to Growth in *Stoechospermum marginatum* (C. Agardh) Kuetzing. *Indian Journal of Fisheries*, **27** (1&2): 267-268.
- Kalimuthu, S. and Kaliaperumal, N. 1991. Unusual landings of agar yielding seaweed *Gracilaria edulis* in Kottaipattanam-Chinnamanai area. *Mar. Fish. Infor. Serv., T. & E. Ser.*, **108** :10-11.
- Kalimuthu, S., Kaliaperumal, N. and Ramalingam, J. R. 1991. Standing crop, algin and mannitol of some alginophytes of Mandapam coast. *J. Mar. Biol. Assn. India*, **33** (1&2): 170-174.
- Kalimuthu, S., Kaliaperumal, N. and Ramalingam, J. R. 1992. Distribution and seasonal changes of marine algal flora from seven localities around Mandapam. *Seaweed Res. Utiln*, **15** (1 & 2):119-126.
- Kalimuthu, S., Kaliaperumal, N. and Ramalingam, J. R. 1993. Effect of repeated harvesting on the growth of *Gelidiella acerosa* and *Gracilaria corticata* var *corticata* occurring at Mandapam coast. *Seaweed Res. Utiln*, **16** (1 & 2): 155-160.
- Kappanna, A.N., Rao, A.V. and Modi, I.C. 1962. Alginic acid content of some of the brown seaweeds of Sourashtra coast. *Curr. Sci.*, **31**: 463-464.

Karthikeyan, K. and Eswaran, K. 2011. Studies on monthly variations in yield and properties of agar from *Gracilaria edulis*. *Seaweed Res. Utiln.*, **33** (1&2): 61-67.

Kasturirangan, L.R. 1957. A study of the seasonal changes in the dissolved oxygen of the surface waters of the sea on the Malabar coast. *Indian J. Fish.*, **4** (1): 134- 149.

Koshy, T. K. and John, C. C. 1948. Survey of *Gracilaria* resources of Travancore. *Dept. Res. Univ. Travancore, Rep. for Septen.* **1939-46**: 53-55.

Kunda, S. K. and Kaladharan, P. 2003. Agar factory discharge as fuel and manure. *Seaweed Res. Utiln.*, **25** (1 & 2): 165-168.

Lakshmi, S. and Sundaramoorthy, P. 2010. Response of *Vigna unguiculata* on liquid seaweed fertilizer. *International Journal of Current Research*, **2**: 39 - 42.

Liu, S., Jie, Z. and Zeng, S. 1997. The commercial cultivation of *Gracilaria* and its polyculture with prawn in China. *J. Zhanjiang Ocean Univ.*, **2**: 27-30.

Luhan, M.R. 1992. Agar yield and gel strength of *Gracilaria heteroclada* collected from Iloilo, Central Philippines. *Bot Mar.*, **35**: 169-172.

Mairh, O.P., S.T. Zodape, S.T., Tewari, A. and Rajaguru, M.R. 1995. Culture of marine red alga *Kappaphycus striatum* (Schmitz) Doty on the Saurashtra region, West Coast of India. *Indian J. Mar. Sci.*, **24**: 24-31.

Miller, I.J., Falshaw, R. and Furneaux, R.H. 1996. A polysaccharide fraction from the red seaweed *Champia novae-zealandiae* (Rhodomeniales, Rhodophyta). *Hydrobiol.*, **326/327**: 505-509.

Mishra, P.C., Reeta, J. and Seema, C. 2006. Yield and quality of carrageenan from *Kappaphycus alvarezii* subjected to different physical and chemical treatments. *Seaweed Research and Utilisation*, **28** (1): 113-117.

Morris, E.P. and Riley, J.P. 1963. The determination of nitrate in seawater. *Anal. Chim. Acta.*, **29**: 272- 279.

Murphy, J. and Riley, J.P. 1962. A modified single solution method for the determination of phosphate in natural waters. *Anal. Chim. Acta.*, **27**: 31-36.

Naidu, K.A. Tewari, A., Joshi, H.V., Viswanath, S., Ramesh, H.P. and Rao, S.V. 1993. Evaluation of nutritional quality and food safety of seaweeds of India. *Journal of Food Safety*, **13** (2): 77- 90.

Nettar, S. P. 2009. Phaeophyceae of South India-V. Hecatonema Sauvageau (Chordariales, Phaeophyceae). *Seaweed Research and Utilisation*, **31** (1&2): 25-28.

Nelson, S.G., Glenn, E.P., Conn, J., Moore, D., Walsh, T. and Akutagawa, M. 2001. Cultivation of *Gracilaria pervispora* (Rhodophyta) in shrimp farm effluent ditches and floating cages in Hawaii: A two phase polyculture system. *Aquaculture*, **193** (3- 4): 239-248.

Nettar, S. P. and Panikkar, M.V.N. 2009. Two new brown algal species from the Family Ralfsiaceae (Ectocarpales, Phaeophyceae) from Kerala, India. *Seaweed Research and Utilisation*, **31** (1&2): 7-10.

Nettar, S. P. and Panikkar, M.V.N. 2009 **a**. Species of *Feldmannia* Hamel (Ectocarpales, Phaeophyceae) from Kerala, India. *Seaweed Research and Utilisation*, **31** (1&2): 11-16.

Nettar, S. P. and Panikkar, M.V.N. 2009 **b**. Species diversity of *Hinckesia* Gray (Ectocarpales, Phaeophyceae) from the Kerala coast of India. *Seaweed Research and Utilisation*, **31** (1&2): 17- 32..

Oza, R.M. and Zaidi, S.H. 2001. *A Revised Checklist of Indian Marine Algae*. Central Salt and Marine Chemicals Research Institute, Bhavnagar, Gujarat. pp296.

Oyieke, H. A. 1993. The yield, physical and chemical properties of agar gel from *Gracilaria* species (Gracilariales, Phodophyta) of the Kenya coast. *Hydrobiologia* **260/261**: 613–620.

Palanisamy, M. 2009. *Avrainvillea amadelpha* (Montagne) A.Gepp & E.Gepp - A new addition to Andaman and Nicobar Islands, India. *Seaweed Research and Utilisation*, **31** (1&2): 29 – 31.

Parsons, T.R., Yoshiaki, M. and Carol, L. 1984. *A Manual of Chemical and Biological Methods for Seawater Analysis*. 101-104.

Pillai, V.N. 1991. Salinity and thermal characteristics of the coastal waters off South West Coast of India and their relation to major pelagic fisheries of the region. *J. Mar. Biol. Assn. India*, **33**(1&2): 115-133.

Pillai, V.N. 1993. Variations in dissolved oxygen content of coastal waters along south west coast of India in space and time. *Indian J. Mar.Sci.*, **22** : 279- 282.

Prasad, K., Siddhanta, A.K., Ganesan, M., Ramavat B.K., Jha, B. and Gosh, P.K. 2007. Agars of *Gelidiella acerosa* of west and southeast coasts of India. *Bioresource technology*, **98** (10): 1907-1915.

Rajasulochana, N. 2005. Seasonal variation in yield and chemical composition of carrageenan from *Grateloupia lithophila*, Boergesen. *Seaweed Res. Utilin.*, **27** (1&2): 57-60.

Rao, A. C. and Kaladharan, P. 2003. *Improvement of yield and quality of agar from Gracilaria edulis* (Gmelin) Silva. *Seaweed Res. Utilin.*, **25** (1 & 2): 131-138.

Reeta, J. 1993. On the yield and quality of sodium alginate from *Sargassum wightii* (Greville) by pre-treatment with Chemicals. *Seaweed Res. Utilin.*, **16** (1&2): 63-66.

Reeta, J. 1993a. Seasonal variation in biochemical constituents of *Sargassum wightii* (grevillie) with reference to yield in alginic acid content. *Seaweed Research and Utilisation*, **16** (1 & 2). pp. 13-16.

Reeta, J. and Kaliaperumal, N. 1991. Experimental culture of *Gracilaria edulis* by spore shedding method. *Seaweed Research and Utilisation*, **14** (1). pp. 21-23.

Reeta, J. and Ramamoorthy, N. 1999. Seasonal variation in the growth of *Gracilaria edulis* (Gmelin) Silva cultured from spores. *Indian J.f Fish.*, **46** (2). pp. 185-190.

Sankaranarayanan, V.N. and Qasim, S.Z. 1969. The influence of some hydrographical features on the fisheries of the Cochin area. *Bull. Nat. Inst. Sci. India*, **38**:846-853.

SEAFDEC., 2000. *Seaweed culture, 2000*, a 3-fold flyer downloadable from the SEAFDEC/AQD website : [www.seafdec.org.ph/publications\\_downloadable.html](http://www.seafdec.org.ph/publications_downloadable.html)

Selvin, J. and Lipton, A. P. 2004. Biopotentials of *Ulva fasciata* and *Hypnea musciformis* collected from the peninsular coast of India. *J. Mar. Sci. Technol.*, **12** (1): 1-6.

Seshappa, G. and Jayaraman, R. 1956. Observations on the composition of the bottom mud in relation to the phosphate cycle in the inshore waters of the Malabar coast. *Proc. Indian Acad. Sci.*, **43** B: 288 - 301.

Sewel, R. B.S. 1929. Geographic and oceanographic research in Indian waters. *Mem. Asia. Soc. Bengal*, **9**(5): 207- 356.

Sobha, V. and Nair, N.B. 1983. Marine algae of Kerala 11- Report on a collection from Varkala, Kovalam, Poovar and Cape Comorin *Mahasagar* **16** (4): 469-471.

Sobha, V. and Nair, N.B. 1985. Marine algae of southwest coast of India. In: *Marine Plants*, V. Krishnamurthy and A.G. Unlawale(Eds.) Seaweed Research and Utilisation Association, Madras, 17-24.

Sobha, V., Santhosh, S., Chitra, G., Hashim, K.A. and Valsalkumar, E. 2009. Alginic acid in different parts of *Sargassum wightii* and *Padina tetrastratica*. *SB Academic Review*, **16** (1&2): 107-115.

Solimabi, W. and Naqvi, S.W.A. 1975. Alginic acid content of some brown seaweeds of Goa. *Mahasagar*, **8**(1&2): 97-99.

Siddhanta, A.K. 2005. Chemical investigations and value addition of seaweeds. *Indian Hydrobiology*, **7**:29-34.

Sridhar, S. and Rengasamy, R. 2010. Significance of seaweed liquid fertilizers for minimizing chemical fertilizers and improving yield of *Arachis hypogea* under field trial. *Recent Research in Science and Technology*, **2**(5): 73-80.

Sridhar, S. and Rengasamy, R. 2012. The effects of Seaweed Liquid Fertilizer of *Ulva lactuca* on *Capsicum annum*. *Algological Studies*, **138** (1):75-88.

Stanley, N. 1987. Production, properties and uses of carrageenan. In: *Production and utilization of products from commercial seaweed*, edited by D.J. McHugh, *FAO Fish Tech. Paper* 288: pp118-123.

Thirumaran, G., Arumugam, M., Arumugam, R. and Anantharaman, P. 2009. Effect of seaweed liquid fertilizer on growth and pigment concentration of *Abelmoschus esculentus* (l) medikus. *American-Eurasian Journal of Agronomy*, **2** (2): 57-66.

Thivy, F. 1951. Investigation of seaweed products in India with a note on some properties of various Indian agars. *Proc. Indo-Pac. fish. Coun.*, Sec. II.

Thivy, F. 1960. Seaweed utilization in India. *Proc. Symposium on Algology*, ICAR., New Delhi, 345-364.

Thomas, P.C. and Krishnamurthy, V. 1976. Agar from cultured *Gracilaria edulis* (Gmel.) Silva. *Bot. Mar.*, **19**: 115-117.

Ugarte, R.A., Sharp, G. and Moore, B. 2006. Changes in the brown seaweed *Ascophyllum nodosum* (L.) Le Jol. Plant morphology and biomass produced by cutter rake harvests in southern New Brunswick, Canada. *J Appl Phycol* **18**: 351–359.

Umamaheswara Rao, M. 1969. Seasonal variations in growth, alginic acid and mannitol contents of *Sargassum wightii* and *Turbinaria conoides* from the Gulf of Mannar, India. In: *Proceedings of International Seaweed Symposium*, **6** : 579-584.

Umamaheswara Rao M. 1970. Additions to the algal flora of the Gulf of Mannar and Palk Bay from Mandapam area. *J. Mar. Biol. Ass. India*, **10**: 366-369.

Umamaheswara Rao M. 1972. On the Gracilariaceae of the seas around India. *J. Mar. Biol. Ass. India*, **14** (2): 671-696.

Umamaheswara Rao, M. 1987. Key for identification of economically important seaweeds. *Bull. Cent. Mar. Fish. Res. Inst.*, No **41**: 19-25.

Umamaheswara Rao, M. 2011. Diversity and commercial feasibility of marine macroalgae of India. *Seaweed Res. Utiln.*, **33** (1&2):1-13.

Umamaheswara Rao, M. and Kalimuthu, S. 1972. Changes in mannitol and alginic acid contents of *Turbinaria ornata* (Turner) J. Agardh. in relation to growth and fruiting. *Bot. Ma.*, **15** (1): 57-59.

Umamaheswara Rao, M. and Kaliaperumal, N. 1983. Effects of environmental factors on the liberation of spores from some red algae of Visakhapatnam coast. *J. Expl. Mar. Biol. Ecol.*, **70** :45-53.

Umamaheswara Rao, M., Jiakumar, M., Subramanian, B.R. and Raman, A.V. 2009. Taxonomic studies on *Gracilaria* species (Gracilariales, Rhodophyta) of Chilka lake, a brackish water lagoon, India. *Seaweed Res. Utiln.*, **33** (1&2):1-6.

Ushakiran, B.M.S. and Kaladharan, P. 2011. Impact of successive harvest on *Gracilaria corticata* var. *corticata* beds along the Thikkodi coast, Kerala, *Book of Abstracts*, EH-P-11, 9<sup>th</sup> IFF, Chennai, 263-264.

Varrier, N.S. and Pillai, K.S. 1951. Studies on marine products. Part II, Optimum conditions for the large scale extraction of alginic acid from Sargassum, seaweeds of Cape Comorin. *Bull. Cent. Res. Inst. Univ. Travencore*, **2**: 23-62.

Varma, R .P. and Rao, K. K. 1962. Algal resources of Pamban area. *Indian J. Fish.*, **9A** (1): 205-211.



Veeragurunathan, V. and Ananad, A.K. 2012. Environmental factors on the growth of *Gracilaria edulis* from Rameswaram coast, Tamilnadu. *Seaweed Res. Utiln.*, **34** (1&2): pp. 27-34

Vinoj Kumar, V. and Kaladharan, P. 2006. Biosorption of metals from contaminated water using seaweed. *Current Science*, **90**(9): 1263-1267.

Vinoj Kumar, V. and Kaladharan, P. 2007. Amino acids in the seaweeds as an alternate source of protein for animal feed. *J. Mar. Biol. Assn. India.*, **49** (1): 35-40.

Wilma, J.S. 1990. Alginates. In: *Food gel*, edited by P.Haris, Elsevier Applied Sciences Publisher Ltd. Essex, England pp54.

Winkler, L.W. 1888. Die Bestimmung des im Wasser gelösten Sauerstoffes. *Ber. Dtsch. Chem. Ges.*, **21**: 2843 -2855.

Yaphe, W. 1984. Chemistry of agars and carrageenans. *Hydrobiologia*, **116/ 117**: 171-186.