J. NARA 31, (1984) 123-125

Note on the Occurrence of *ARTEMIA* in Sri Lanka

By

R. I. M. SUNDERAM* AND JOSEPH P. ROYAN**

In view of the high nutritive value of the freshly hatched nauplii and the advantage of using the dry cysts as a source of live feed, brine shrimp, *Artemia* cysts are used very extensively throughout the world in most of the hatcheries of both fresh water and marine fishes and crustaceans. Even today ornamental fish breeders depend mostly on brine shrimp nauplii to feed their fry.

Till very recently the entire world demand of brine shrimp cysts was met by a few commercial companies from San Francisco, Utah and Canada. Because of the heavy demand, the price of *Artemia* cysts went up and it seems likely that the shortage of *Artemia* cysts might become a major constraint on the growth and development of aquaculture in future. Hence, many aquaculturists and aquarium fish breeders started either looking for natural *Artemia* grounds or to easily available cheaper feeds like *Tubifex, Daphnia* etc., As a result of this, during the last decade nearly fifty or more new geographical strains of *Artemia* have been located throughout the world (Sorgeloos *et al*., 1976). In recent years, *Artemia* has been successfully cultured in countries like Brazil (Persoone and Sorgeloos, 1980), Philippines (Delos Santos *et al*, 1980 and Vos, 1981), Thailand (Tunsutapanich, 1980), India (Royan, 1981) and Indonesia (Sorgeloos, 1982).

Sri Lanka, with the assistance from Asian Development Bank, is stepping up her activities on aquaculture - both inland and brackish water with emphasis on prawn culture. Realizing the importance of *Artemia* as a live feed in aquaculture, the National Aquatic Resources Agency (NARA) has initiated a project on *Artemia* culture. As a pre-requisite an initial survey was conducted along the southern, western and northern coast of Sri Lanka which resulted in locating new *Artemia* grounds at Palavi (western region) and at Hambantota and Bundala (southern region) (Fig. 1). A few years back, *Artemia* (strain unknown) was located in the salt pans around Elephant Pass (Costa, Personal communication). However, in this present survey, no trace of *Artemia* was found at Elephant Pass and Kurunchativu (northern region). In Asia, the presence of *Artemia* have been reported from China, India, Iraq, Iran, Israel, Japan and Turkey (Persoone and Sorgeloos, 1980), but so far the presence of *Artemia* in Sri Lanka has not been reported and hence this is the first report on the occurrence of *Artemia* in Sri Lanka.

Tuticorin (southern India) which is very close to Sri Lanka has a very potential *Artemia* population (Royan *et al*., 1970). Since both Tuticorin and Sri Lanka *Artemia* are pathenogenetic in nature (Vanhaecke, Personnel communication) suggest that *Artemia* could have been introduced in Sri Lanka from Tuticorin through the migratory aquatic birds. In fact *Artemia* needs active or passive dispersion vectors for its cysts, such as wind, waterbirds or man (Sorgeloos, 1983). Dispersion of *Artemia* to different environments through aquatic birds have already been mentioned (Royan, *et al*., 1970).

---

* Research Officer, National Aquatic Resources Agency (NARA), Crow Island, Colombo 15.

** Expert (ITEC), National Aquatic Resources Agency, (NARA), Crow Island, Colombo 15.

NARA is currently studying the Sri Lankan strain for the various features, viz. the volume of cysts harvested from natural habitats, survival of young nauplii at different temperature and salinity combinations, ecological characteristics of the population run on nutritional value of decapsulated cysts and different instar nauplii as a food source for fishes, crustacean larvae and ornamental fishes.

A sample of Sri Lanka *Artemia* strain has been sent to the *Artemia* Reference Centre at Belgium for further analyses and identification of the strain.

ACKNOWLEDGEMENT

We are indebted to Dr. H. W. Jayewardene, Chairman and Dr. S. K. Onil Perera, Director General of the National Aquatic Resources Agency for their keen interest in this work. We also wish to thank Mr. L. B. Werapitiya, Chairman, National Salt Corporation and his regional staff for all their co-operation in the survey work. Thanks are also due to Prof. H. H. Costa for his valuable comments. The help rendered by Mr. W. K. T. Perera, Research Assistant during the fields trips is also acknowledged.

REFERENCES

De los Santos, C. jr., P. Sorgeloos, E. Lavina and A. Bernardino. 1980. Successful inoculation of *Artemia* and production of cysts in man-made Salterns in the Philippines. p. 159–163. *In*: The brine shrimp *Artemia* Vol. 3. Ecology, Culturing, Use in Aquaculture. Persoone, G., P. Sorgeloos, O. Roels, and E. Jaspers (Eds.) Universa Press, Wetteren, Belgium. 456 p.

Persoone, G. and P. Sorgeloos. 1980. General aspects of the ecology and biogeography of *Artemia* p. 3 - 24. *In*: The brine shrimp *Artemia*. Vol. 3. Ecology, Culturing, Use is Aquaculture. Persoone, G., P. Sorgeloos, O. Roels, and E. Jaspers (Eds). Universa Press, Wetteren, Belgium. 456 p.

Royan, J. P. 1981. Brine shrimp culture. *In:* Status Report on Coastal Aquaculture in India, pp. 46-60. National Institute of Oceanography, Goa, India.

Royan, J. P., Navaneethakrishnan, P., and Selvaraj, A.M. 1970. Occurence of *Artemia salina* in southern India. Current Science, 39 : 14.

Sorgeloos, P. 1982. Live animal food for larval rearing in aquaculture. The brine shrimp *Artemia*. *In :* Realism in aquaculture - achievements, constraints, perspectives. Bilio, M., Rosenthal, H. and Sindermann, C. J. (Eds) (In press).

Sorgeloos, P. 1983. Brine shrimp *Artemia* in coastl saltworks: Inexpensive source of food for vertically integrated aquaculture. Paper presented at the World Mariculture Society Meeting "Washington Aquaculture 1983", Washington DC (USA), January 9 - 13, 1983.

Sorgeloos, P., Baeza-Mesa, M., Benijts, F. and Personne, G. 1976. Current research on the culturing of the brine shrimp *Artemia salina* L. at the State University of Ghent, Belgium. *In :* Persoone, G. and Jospers, E. (Ed) Proc. 10th European Symposium on Marine Biology, Vol. 1, pp. 473-495.

Tunsutapanich, A. 1980. Cyst production of *Artemia* in Thai salt ponds. *In :* IFS Provisional Report No: 9, pp. 133-147. International Foundation for Science.

Vos, J. 1981. Report on *Artemia* production in salt ponds in the Philippines. FAO/UNDP Consultancy Report PHI/75/005/8, pp. 1-28.

Fig. 1. Locations of *Artemia* in Sri Lanka.