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Milkfish fry occurrence pattern in two localities along the Western Coast of Panay Island

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Fry occurrence pattern or fry collecting season of milkfish, *Chanos chanos* has been discussed in many reports since it is directly connected with milkfish spawning season. But actually only a few accurate studies on fry occurrence have been done (Kuronuma and Yamashita, 1962; Thiemmedh, 1954). Such a study has not been done in the Philippines.

Daily one hour (9:00 to 10:00) fry collections by the traditional method of using a seine (3m x 1m) operated by two men were conducted during 1976 and 1977. There were two stations established; one at Magaba, Pandan (11°45'N, 122°05'E) and at Tubog, Hamtik (10°41'N, 121°57'E). All the fry collected by the gear were counted and recorded. Water temperature and weather conditions were also recorded everyday.

The fry appeared in the middle of March and could be collected until the middle of December in the waters of Hamtik, while the first fry appearance at Pandan was at the end of March and fry disappeared early December. During these fry seasons, it was observed that there were two peaks of fry occurrence in Hamtik, one for the month of May and the other for the month of October, while there was only one peak of fry occurrence in Pandan and this occurred in the month of May (Table 1).

Table 1. Monthly catch of milkfish fry at Magaba, Pandan and Tubog, Hamtik in 1976 and 1977.

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pandan	1976	0	0	4	81	287	260	198	117	126	53	78	1
	1977	0	0	0	75	1,143	260	199	151	203	60	64	14
Hamtik	1976	0	0	206	985	2,343	923	624	594	805	1,219	898	15
	1977	1	0	187	543	1,496	886	865	565	132	914	549	532

Kuronuma and Yamashita (1962) also found two peaks of fry occurrence at Ca Na, Vietnam but only one peak at Nha Trang, Vietnam. The distance between these two stations are similar to those between Pandan and Hamtik. In Thailand, two peaks were also recorded at Klong Wan (11° 45'N) situated on the western side of the Thai Gulf about 308 km south of Bangkok (Thiemmedh, 1954). According to Tampi (1973) two peaks were also found at Adyar (approximately 13°N), India. But in all other areas in India there was only one peak season reported.

The presence of two fry seasons a year may be attributed to the "current system" along the coast which could have stimulated spawning (Kuronuma and Yamashita, 1962). Thiemmedh (1954) thought that current and monsoon are the factors that influence fry occurrence. Tampi (1957) suggested that the two fry peak seasons in India could be attributed to the existence of different populations. It was also observed that there are two fry peak seasons in Indonesia, which is located in the southern hemisphere. However, the second peak in the later part of the year is always higher than the first fry peak (Delsman, 1926; Schuster, 1952; Djajadiredja and Purnomo, 1972).

Basing on the fact that in the northern hemisphere the first peak is always higher than the second, while the reverse is true in the southern hemisphere, and on account of the difference of the current and monsoon system in both hemispheres, one can say that perhaps light intensity is the important factor that stimulates gonadal maturation of milkfish. The maximum light intensity of the sun can be expected twice a year, March and September, at places where the two peak fry seasons were observed. These fry peak seasons occur more than one month after the strongest sun light falls in the area. This might suggest that the change of light intensity stimulates gonadal maturation and the spawned eggs hatch and grow to fry size (12 to 15 mm TL, preserved in formalin) within one month period.

References

- Delsman, H. C., 1926. Fish eggs and larvae from the Java Sea. *Treubia*, 8: 400-412.
- Djajadiredja, R. and A. Purnomo, 1972. Review of coastal water resources in relation to coastal aquaculture. Proc., IPFC 15th Session, New Zealand, October, 1972.
- Kurouma, K. and M. Yamashita, 1962. Milkfish fry in the eastern coast of Vietnam. *J. Oceanogr. Soc. Japan*, 20th Anniversary Volume, pp. 679-686.
- Schuster, W. H., 1952. Fish culture in brackishwater ponds of Java. Special Publication No. 1. Indo-Pacific Fisheries Council, 151 pp.
- Tampi, P. R. S., 1957. Some observations on the reproduction of milkfish, *Chanos chanos* Forskal. *Proc. Ind. Acad. Sci.*, 46:254-273.
- _____ 1973. Culturable marine fish fry resources from brackishwater environments. *Proc. Symposium on Living Resources of the Seas around India*, pp. 391-399.
- Thiemmedh, J., 1954. Note on the occurrence of *Chanos* fry in Thailand. Proc., IPFC 5th Meeting, Bangkok, Thailand. 1954.