

飼育下におけるナンキョクオキアミ *Euphausia superba* の継代繁殖

松田乾¹、平野保男¹、伊藤美穂¹
¹名古屋港水族館

Reproduction of Antarctic krill *Euphausia superba* in captivity

Tsuyoshi Matsuda¹, Yasuo Hirano¹ and Miho Itoh¹
¹Port of Nagoya Public Aquarium

Antarctic krill is known as the keystone species of the Antarctic marine ecosystem, and provides an important food source for whales, seals, penguins, and many other marine animals. Establishment of techniques to induce reproduction in captive krill will be necessary to allow extensive understanding of this crustacean. We established a technique to maintain krill in large number using recycling filtration system. By using this system, adjusting photoperiod and enriched diet, we have succeeded to breed captive krill since 2000.

The breeding method of Antarctic krill in the Port of Nagoya Public Aquarium has been adopted in the foreign institute, which has been conducting various studies for an extensive understanding of krill. The krill breed in Port of Nagoya Public Aquarium has also contributed to the study in various fields as specimens.

ナンキョクオキアミはクジラやペンギン、アザラシなどの南極海の主要な大型生物の餌料生物で、南極海生態系の鍵種として極めて重要な存在である。この甲殻類に対する理解を深めるためには、飼育下でオキアミを繁殖させる技術の確立が必要とされていた。名古屋港水族館はオキアミの飼育に適した水槽設備、光周期の調整、餌料といった条件を整え2000年に世界で初めて飼育下でのオキアミの繁殖に成功し、以後継代繁殖させている。名古屋港水族館が確立したナンキョクオキアミの飼育技術は海外の研究機関に採用され、オキアミの広範な理解のために様々な研究に貢献している。また、名古屋港水族館で繁殖したオキアミも検体として様々な分野の研究に貢献している。

Table 1. Summary data of reproduction of Antarctic krill

Season	Filial generation	Number of spawned female	Number of fertilized eggs	Number of hatched eggs	Hatching rate
2000-2001	F1	19	25532	4942	19.4%
2001-2002	F1	9	14336	4095	28.6%
2003-2004	F2	15	5721	2471	43.2%
2004-2005	F2	11	5068	2416	47.7%
	F3	18	15961	8324	52.2%
2006-2007	F4	18	18434	8965	48.6%
2007-2008	F4	5	7494	3993	53.3%
2008-2009	F5	64	50571	14548	28.8%
2009-2010	F5	10	21461	4541	28.6%
2010-2011	F5	2	2738	1108	40.5%
2011-2012	F6	6	4163	2834	68.1%
2012-2013	F6	16	15459	7913	51.2%
2013-2014	unknown	20	15653	2901	18.5%
2014-2015					
2015-2016	F7	15	8746	1861	21.3%

References

- Yasuo Hirano, Tsuyoshi Matsuda, Antarctic krill breeding facilities at Port of Nagoya Public Aquarium. *Marine and Freshwater Behaviour and Physiology*, 36(4) : 249–258, 2003
- Yasuo Hirano, Tsuyoshi Matsuda, So Kawaguchi, Breeding of Antarctic Krill in captivity. *Marine and Freshwater Behaviour and Physiology*, 36(4) : 259–269, 2003