

## アサヒガニの核学的研究

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Short Paper

**Karyological Study on Red Frog Crab**  
*Ranina ranina*

Makoto Murofushi\*1 and Yoshiaki Deguchi\*2

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The red frog crab *Ranina ranina* (the asahi-gani in Japanese) is widely distributed in the area of warm currents in the Pacific Ocean and off the east coast of Africa. This species forms a large part of the local marine harvest in some parts of Kyushu, and in central and west Honshu in Japan.

A cytogenetical study on this species was done by Niiyama<sup>1)</sup> using the classical gonadal sectioning method. The haploid and diploid chromosome numbers in his report, were 53(*n*) and 106(2*n*), respectively. The chromosomes of spermatogonium (2*n*) were classified in 24 V-shaped and 82 rod-shaped chromosomes. In this study, the karyotype of the same species was examined by the use of our routine air-drying technique for crabs and shrimps.<sup>2)</sup>

9 specimens (7 males and 2 females) of the red frog crab *Ranina ranina* were used in this study. These specimens were collected from off the south coast of the Izu Peninsula, Shizuoka Prefecture, Japan, in June, 1986. The body weight of the specimens used ranged from 28.5 to 95.0 g.

One-hundred and thirty-seven mitotic metaphases were obtained from the antennal grands of 9 specimens and chromosome spreads of 37 spermatogonia and 10

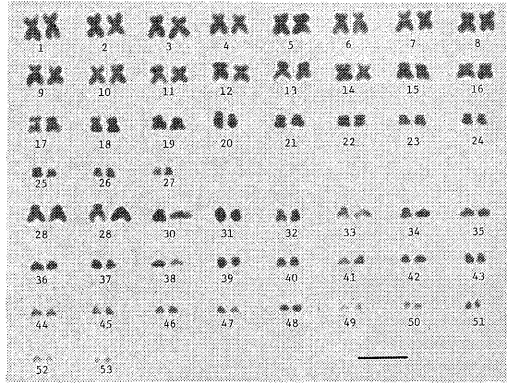


Fig. 2. Karyotype of *Ranina ranina*, 54M, SM+52ST, A, 2*n*=106 (Scale 5 μm).

spermatocytes from 7 testis were also used for chromosome analysis. The diploid chromosome number in male and female specimens was one hundred and six (2*n*=106, Fig. 1). These included, ranging from large to small in size, twenty-seven meta-(nos. 1, 2, 5, 7~14, 16~19, 21~23, 25~27) and submetacentric (nos. 3, 4, 6, 15, 20, 24), and twenty-six subtelo-(nos. 28~30, 32, 33, 37, 38, 40~42, 44) and acrocentric (nos. 31, 34~36, 39, 42, 45~53) pairs (Fig. 2). The size of the chromosomes were about 0.6 to 3.1 μm. The chromosome number of 10 primary spermatocytes was also counted. The haploid chromosome number was fifty-three (*n*=53). Any difference in karyotypes between male and female specimens could not be found.

The haploid and diploid chromosome numbers of *R. ranina* in this study agreed with the results of Niiyama. The karyotype of this species, however, was different from Niiyama's classification. Most chromosomes of meta- and submetacentric pairs were slightly large, and the chromosomes of subtelo- and acrocentric pairs were small except in a few pairs (nos. 28~30).

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References

- 1) H. Niiyama: *Zool. Mag.*, **54**, 302-306 (1942).
- 2) M. Murofushi and Y. Deguchi: *Rep. Mishima Res. Inst. Sci. Liv., Nihon Univ.*, **6**, 31-34 (1983).

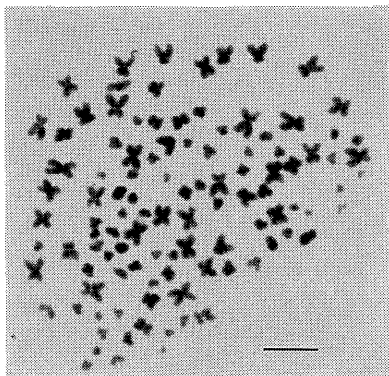


Fig. 1. Mitotic metaphase chromosomes from antennal grand of red frog crab *Ranina ranina*, 2*n*=106 (Scale 5 μm).

\*1 Junior College at Mishima, Nihon University, Mishima 411, Japan (室伏 誠: 日本大学短期大学部, 三島).

\*2 Department of Fisheries, Nihon University, Setagaya, Tokyo 154, Japan (出口吉昭: 日本大学農獣医学部水産学科).