

Research Note

A Newly Discovered Habitat of *Oncomelania* Snails in the Obitsu River Basin of the Central Boso Peninsula, Japan

SOMEI KOJIMA, MUNETOSHI NIIMURA, MASASHI KOBAYASHI,
HIDEKAZU HATA, TAMOTSU KANAZAWA, YASUhide ORIDO
AND KEN TOKITA

(Received for publication; June 25, 1985)

Key words: schistosomiasis japonica, *Oncomelania* snails, new habitat

The Tone River basin of Chiba, Ibaragi and Saitama Prefectures has been known as one of the former endemic areas of schistosomiasis in Japan (Yokogawa, 1970). As far as Chiba Prefecture is concerned, reports on the occurrence of patients or detection of *Oncomelania hupensis nosophora* snails have been limited in areas of the Tone River basin such as Abiko, Kashiwa, Sakura and Shimofusa.

It was in 1970 that an outbreak of schistosomiasis japonica was found among dairy cattle pastured on riverbeds of the Tone River running along Narita City and its neighbouring towns (Nakano, 1970; Yokogawa *et al.*, 1971). Human infections were also demonstrated in those areas by mass-examinations carried out with immunological methods as well as parasitological ones (Yokogawa *et al.*, 1973). There was no report on the occurrence of the disease in any place of Chiba Prefecture other than the areas mentioned above.

Quite recently, however, information on detection of schistosome eggs from autopsy or biopsy materials was brought to one of the authors (S.K.) from the National Chiba Hospital (Drs. H. Takazawa and H. Musha) and from the Kimitsu Central Hospital (Drs. H. Koen and H. Mori) independently but

one after the other. All of the patients were found to be living or to have been living at least for some years in Kisarazu district. It was disclosed by an interview with four patients at the Kimitsu Central Hospital that they had worked in rice fields along both sides of the Obitsu River, the source of irrigation water.

The Obitsu River issues from mountainous areas of the Central Boso Peninsula and it irrigates areas of about 200 km² of the northern part of Kimitsu district and Kisarazu City. It should be noted that the River has no relation with the Tone River (Fig. 1).

This communication is to describe the fact that we have found a new habitat of *Oncomelania* snails in rice fields and irrigation ditches in the west side of the Obitsu River at Ushibukuro and Takayanagi areas (Figs. 2 and 3). The snails were quite similar in size and shape to those obtained from Yamashi Prefecture (Fig. 4). More than 2,519 snails were found along one of the ditches with 30 cm in width within a distance of 525 cm from the edge. Among 3,685 snails collected on 7th and 13th June 1985 in total, 1,055 were crushed and examined for the presence of cercariae of *Schistosoma japonicum*. However, none of them were found to be infected.

It is necessary to know as to whether new cases of schistosomiasis exist in these areas, and whether reservoir animals are found with

Department of Parasitology, Chiba University,
School of Medicine, Chiba 280, Japan.

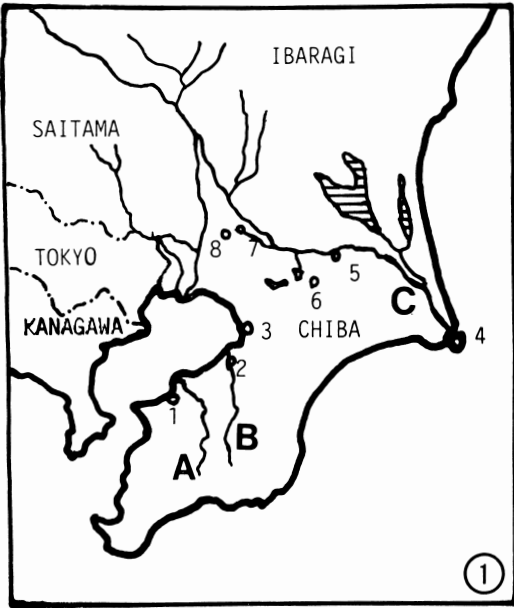


Fig. 1 Map of Chiba Prefecture showing no relation between the Tone River and the Obitsu River.

A: The Obitsu River, B: The Yoro River, C: The Tone River. 1: Kisarazu City, 2: Ichihara City, 3: Chiba City, 4: Choshi City, 5: Shimofusa-machi, 6: Narita City, 7: Abiko-machi, 8: Kashiwa City.

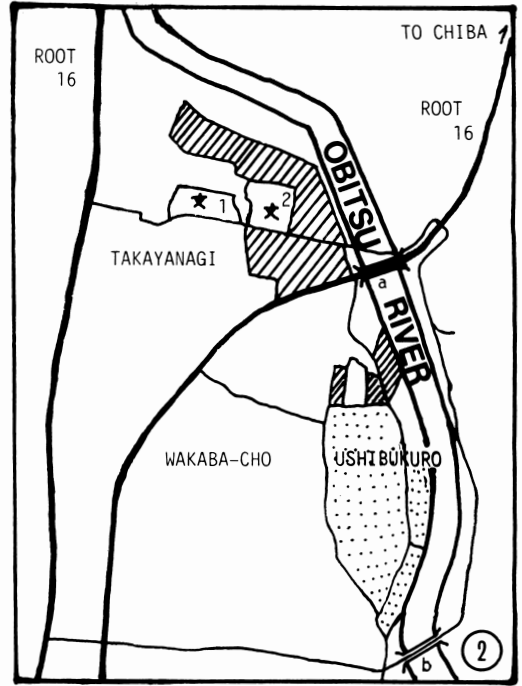


Fig. 2 Sites where *Oncomelania* snails were found (▨) and not found (⊠) in the west side of the Obitsu River.

文1: Iwane Junior High School, 文2: Takayanagi Primary School, a: Obitsu-gawa Bridge, b: Nakasato-ohashi Bridge.

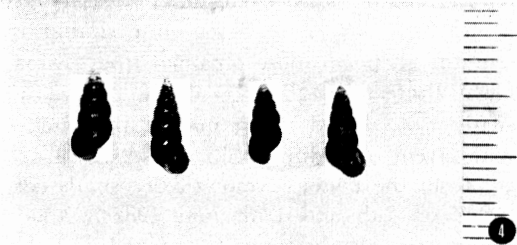
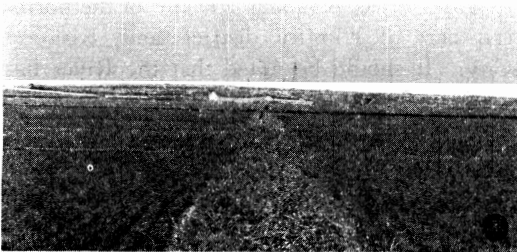


Fig. 3 Rice fields and irrigation ditches in front of Takayanagi Primary School.

Fig. 4 Comparison of *Oncomelania* snails found in the Obitsu River basin with those obtained from Yamanashi Prefecture.

Left: Snails collected in Yamanashi Prefecture. Right: Snails collected in the Obitsu River basin.

infecction of *S. japonicum*. It is also important to know a precise distribution of the snails for prevention of the disease. Epidemiological surveys are now under way from these points of view in collaboration with the government office of Chiba Prefecture. Clinical or pathological reports on patients mentioned above will be made separately from the respective hospitals. Thus, this is the first report on a new habitat of *Oncomelania* snails discovered in areas other than the previously known endemic areas of shistosomiasis in Japan.

The authors wish to thank Drs. H. Takazawa and H. Musha of the National Chiba Hospital, Drs. Y. Kanda, H. Mori and H. Koen of the Kimitsu Central Hospital, for their kind demonstration of their cases, and Professor Emeritus M. Yokogawa for his valuable advice. Supported by grants from the Ministry of Health and Welfare and from the US-Japan Cooperative Medical Sci-

ences Program.

References

- 1) Nakano, M. (1970): An occurrence of schistosomiasis-like disease in cows. A peculiar disease of the rectal wall of cows pastured in a river bed. *Kachiku Shinryo*, 86, 23-29. (in Japanese).
- 2) Yokogawa, M. (1970): Schistosomiasis in Japan. In *Recent Advances in Researches on Filariasis and Schistosomiasis in Japan*, ed. by Manabu Sasa, University of Tokyo Press, Tokyo, 231-255.
- 3) Yokogawa, M., Sano, M., Kojima, S., Araki, K., Ogawa, K., Yamada, T., Shimotokube, A., Iijima, T., Higuchi, K. and Hayasaka, S. (1971): An outbreak of *Schistosoma* infection among dairy-cows in the Tone River basin in Chiba Prefecture (I). *Jpn. J. Parasitol.*, 20, 507-511. (in Japanese).
- 4) Yokogawa, M., Sano, M., Kojima, S., Araki, K., Tokita, K., Nagai, K., Maruyama, M. and Aizawa, T. (1973): Epidemiological survey for schistosomiasis among the inhabitants in Tone River basin, Chiba Prefecture and snail control by burning. *Jpn. J. Parasitol.*, 22, 116-125. (in Japanese).

短 報

千葉県小櫃川流域に発見された宮入貝の新しい棲息地について

小島莊明 新村宗敏 小林 仁 畑 英一

金沢 保 織戸康秀 時田 賢

(千葉大学医学部寄生虫学教室)

千葉県木更津市または袖ヶ浦町に在住ないし過去において在住したことのある患者の剖検あるいは生検材料より、日本住血吸虫卵と思われる虫卵が見出されたとの情報が寄せられたので、一部の患者と面接したところ、小櫃川より灌漑用水を引いている水田との関係が推測された。そこで、宮入貝棲息の有無について調査を行ったところ、小櫃川西岸の木更津市牛袋地区および高柳地区に

おいて水田並びに灌漑用水路に棲息している多数の宮入貝を発見した。採集した3,685コのうち、1,055コの宮入貝を圧潰して検査したが、日本住血吸虫のセルカリアは見出されなかった。現在、対岸の地域も含めて宮入貝の分布状況、感染貝の有無等について、関係機関とも連絡を取りながら調査を続行中である。