

## くさや汁からのラセン菌の新しい分離法

誌名	日本水産學會誌
ISSN	00215392
著者	藤井, 建夫 林, 正明 奥積, 昌世
巻/号	56巻1号
掲載ページ	p. 161-161
発行年月	1990年1月

## Short Paper

## New Device for Isolation of Spiral Bacteria from "Kusaya" Gravy

Tateo Fujii,\* Masaaki Hayashi,\*  
and Masayo Okuzumi\*

(Received May 1, 1989)

A large number of spiral bacteria besides rods and cocci has been observed as indigenous microorganisms in *kusaya* gravy, suggesting some important roles in the gravy. So we intended to investigate the characteristics of those bacteria and tried to isolate them by ordinary pour or spread plate methods. As the media for isolation, 2.5% NaCl-containing BPG<sup>1)</sup> medium, BP<sub>10</sub>G medium (concentration of peptone in BPG medium is fortified to 20 fold), ABCM (Eiken), *kusaya* gravy medium (filtrated *kusaya* gravy added 0.5% yeast extract, 0.5% bonito extract, and 1.5% agar), bonito extract medium (0.5% bonito extract, 2.5% NaCl, 1.5% agar, and distilled water) etc. were employed, and appropriate volume of decimal dilution of *kusaya* gravy was planted for plating. After 3 days' incubation at 20°C under aerobic and microaerobic conditions, our attempts to isolate spiral bacteria, however, were unsuccessful, because of following reasons; all colonies developed on the agar plate where the highest decimal dilution was planted were different from our objective one, and most part of the surface of plate on which lower dilution was inoculated was occupied by the colonies of swarmed bacteria before spiral bacteria would grow. On account of these difficulties, we thought it desirable to cultivate the spiral bacteria without other obstructive co-existing bacteria in *kusaya* gravy. So we devised the new instrument which was composed of two small glass tubes connected with a glass tube having small barriers (①~④) in it (Figs. 1 and 2).

This new method was designed based upon the following principles; (1) spiral bacteria grow well in broth or semi-solid medium (pH 7.0, and even 8.5-9.0), (2) they are superior in speed of motility to any other co-existing microorganisms, and (3) horizontal movement in the tube of both floating and sedimented non-motile bacteria which make it difficult to isolate the spiral bacteria are hindered by barriers attached inside the tube.

For isolation of spiral bacteria, a loopful of *kusaya*

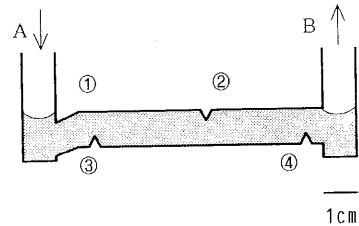


Fig. 1. Design of the instrument for isolation of spiral bacteria. A: inlet tube, B: outlet tube, ①~④: barriers.

▨: broth or semi-solid medium.

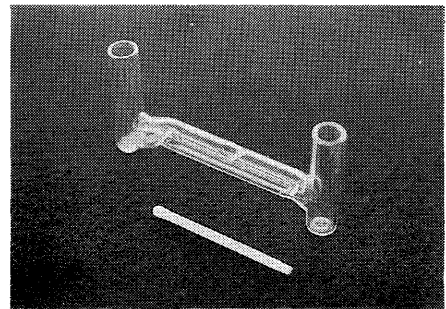


Fig. 2. Photograph of the instrument for isolation of spiral bacteria.

gravy was inoculated into inlet tube (A) of the instrument which was infused sterilized broth or semi-solid medium (0.5% yeast extract, 2.5% NaCl, and distilled water, pH 8.5-9.0) as shown in the figure, and after appropriate time (about 40 min at 20°C in case of broth) the objective microorganisms could be isolated on the agar plate by fishing from outlet tube (B). If other troublesome bacteria against isolation of spiral bacteria appeared in outlet tube, we could get pure culture of objective microorganisms by repeating the inoculation from culture of outlet tube into another instrument.

Further studies on the ecological aspect and the characteristics of isolated microorganisms are now in progress.

## Reference

- 1) T. Fujii: *Nippon Suisan Gakkaishi*, **43**, 517-521 (1977).

\* Department of Food Science and Technology, Tokyo University of Fisheries, Konan, Minato, Tokyo 108, Japan (藤井建夫, 林 正明, 奥積昌世: 東京水産大学食品生産学科).