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Two Species of *Euchone* (Polychaeta, Sabellidae) from the Yellow Sea and Kwang-yang Bay, Korea

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ABSTRACT

Specimens of the sabellid polychaetes are examined. They were collected in the Yellow Sea from Sept. 17 to Oct. 2, 1992 within the framework of Korea-China Yellow Sea Research Joint Program. Additional materials were also provided from the benthic samples collected from the subtidal shallow waters of the Kwang-yang Bay, Korea. Two species of the genus *Euchone* (Polychaeta, Sabellidae), *Euchone hancocki* Banse and *Euchone incolor* Hartman are described and illustrated. This paper reports the first record of these two sabellids in Korean waters.

Key words: Systematics, Polychaeta, Sabellidae, *Euchone*, Yellow Sea, Kwang-yang Bay, Korea

INTRODUCTION

A detailed survey of the benthic macro-invertebrates of the Yellow Sea was conducted by means of the van Veen grab between Sept. 17 and October 2, 1992 within the framework of Korea - China Yellow Sea Research Program. This operation has produced a wealth of benthic samples and information including many faunistic records of macro-invertebrates new to the Korean fauna. Therefore, numerous collections of polychaetes were made from the Yellow Sea.

Ten species of sabellid polychaetes were recorded in Korean waters so far (Paik, 1989). However, the examination of the Yellow Sea collections together with the other polychaetous annelids from Kwang-yang Bay in the southern coast of Korea, has resulted in the finding of two unrecorded sabellid polychaetes in Korean waters, *Euchone hancocki* Banse and *Euchone incolor* Hartman.

Sabellids are tubicolous polychaetes with the prostomium and peristomium modified into tentacular

crown. The length of the species *Euchone* ranges from a few millimeters to a few centimeters. *Euchone* has postsetal girdle of glands on second thoracic setiger, and anal depression with lateral wings formed by variable number of caudal segments (Banse, 1972).

MATERIALS AND METHODS

The present study was based on the specimens collected in the Yellow Sea between Sept. 17 and Oct. 2, 1992. Additional materials were also provided from the benthic samples collected from the subtidal sand bottom of Kwang-yang Bay in the southern coast of Korea (Fig. 1).

Benthic samples were collected with a van Veen grab of 0.1m^2 capacity. They are sieved through 1.0 mm mesh screen and preserved in 10% formalin. The specimens examined have been deposited in the Benthic Ecology Laboratory, Department of Oceanography, Inha University, Korea.

SYSTEMATIC ACCOUNT

Class Polychaeta Grube, 1950 다모 강
Family Sabellidae Malmgren, 1867 꽃갯지렁이 과
Subfamily Fabricinae Rioja, 1923 홈꽃갯지렁이 아과
Genus *Euchone* Malmgren, 1866 홈꽃갯지렁이 속

***Euchone hancocki* Banes, 1970** 핸콕홈꽃갯지렁이(신칭) **(Fig. 2)**

Euchone hancocki Banse, 1970, 399-401, fig. 4 a-f.

Materials examined. Kwang-yang Bay, 10 m deep (34°54′00″ N, 127°47′30″ E): 56 specimens, Feb. 2, 1993; 1 specimen, Nov. 13, 1993; 296 specimens, Feb. 1, 1994; 41 specimens, Apr. 28, 1994.

Description. Largest specimen 4.0 mm long and 0.2 mm wide, branchial crowns almost 1.0 mm in length. All specimens with eight thoracic and eight abdominal setigers; last three abdominal setigers comprising the anal depression (Fig. 2. a c). Second thoracic and first abdominal setigers bearing a postsetal girdle of glands (Fig. 2. a. b. c). Ventral shields absent.

Branchial crowns long, about 1/4 length of the body, composed of four pairs of radioles; all radioles with pinnules for about two-thirds of their length.

The collar of equal height dorsally and ventrally, slightly lower in laterally, narrowly divided dorsally without ventral notch (Fig. 2. a. b. c).

First thoracic setiger bearing only notosetae; fascicle consisting of 8 - 9 limbate setae(Fig. 2. d). The remaining thoracic setigers with subspatulate setae and capillary setae (Fig. 2. e. f). Thoracic neuropodia with 5 - 12 acicular uncini provided with large tooth and four smaller ones (Fig. 2. g). Abdominal notopodia with 6 - 12 pectinate uncini (Fig. 2. h). Abdominal neuropodia with long, narrowly limbated setae.

Remarks. *Euchone hancocki* is close to the *E. quadrisegmenta* Zhao *et al.*, 1993 from which it is

distinguished by the number of abdominal setiger preceding the anal depression and ventral notch.

Distribution. Kwang-yang Bay, Korea at a depth of 10 m in sand bottoms; southern California, 122 m, shelly sand rock.

***Euchone incolor* Hartman, 1965** 무색홈꽃갯지렁이(신칭) **(Fig. 3)**

Euchone incolar Hartman, 1965, 231-232, pl. 51 a-d; Hartman, 1966, 203; Banse, 1970, 393-397, fig. 2 a-f.

Euchone trisegmentata Reish, 1965, 150, fig. 3a-e.

Materials examined. 28 specimens, Yellow Sea C10 (35°00′00″ N, 121°30′00″ E), 38 m deep, Sept. 28, 1992.

Description. Largest specimen 4 mm long and 0.2 mm wide; branchial crowns about 1.4 mm in length. All specimens with eight thoracic and nine abdominal setigers; last 3 abdominal setigers comprising the anal depression. Second thoracic setiger with postsetal girdle of gland. Presetal girdle of gland present on third abdominal setiger. Ventral shields absent (Fig. 3. a. b).

Branchial crowns long, about one-third of the body length, consisting of four pairs of radioles; all radioles with pinnules.

Collar higher ventrally than laterally, with slight ventral notch and deep dorsal incision (Fig. 3. a).

First thoracic setiger with 4 - 6 limbate setae in notopodia (Fig. 3. c); no neurosetae. Notosetae on the following setigers consisting of capillary setae, subspatulate setae, and spatulate setae; all terminate long, slender tip (Fig. 3. d. e. f). Thoracic neuropodia with 4 - 6 acicular uncini (Fig. 3. g). Abdominal notopodia 6 - 10 pectinate uncini (Fig. 3. h). Abdominal neuropodia with 4 - 6 limbate setae.

Remarks. The number of abdominal setigers preceding the anal depression and girdle of gland on abdominal setiger are considered as important specific characters to distinguish smaller species with not more than 20 abdomial setigers in the genus *Euchone*. *E. incolor* is well distinguished by the presence of the presetal girdle of gland on third abdominal setiger. Table 1 presents the variations in the number of abdominal setigers from different species of the genus *Euchone*.

Distribution. Yellow Sea at a depth of 38 m in muddy sands; Bristol Bay of Bering Sea, mud, 67 m; Gulf of California; Continental shelf off New England, 97 - 2500 m; Hecate Strait, British Columbia; off Bermuda, 1700 m; off Brazil, 770 - 805 m.

Table 1. Variations in the number of abdominal setigers of *Euchone*

Species	Number of abdominal setigers preceding anal depression	Number of anal depression setigers
E. rosea Langerhans, 1884(see Banse,1970)	10 - 12	6 - 7
E. arenae Hartman, 1966	6 - 9	6
E. limnicola Reish, 1960	8	10
E. southerni Banse, 1970	8	4 - 5
E. southerni incisa Banse, 1970	8	5
E. incolor Hartman, 1965	6	3
E. hancocki Banse, 1970	5	3
E. quadrisegmenta Zhao et al., 1993	4	3
E. trilobata Banse, 1957	2	4

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황해와 광양만에서 채집된 홈꽃갯지렁이 속 *Euchone* (Polychaeta, Sabellidae)의 두 미기록종

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요 약

본 연구는 한 · 중 황해 국제 공동연구 사업의 일환으로 1992년 9월 17일부터 10월 2일 사이에 황해의 49개 정점에서 채집된 저서다모류와 남해에 위치한 광양만에서 채집된 시료를 대상으로 하였다. 본 연구에서는 꽃갯지렁이 과(Sabellidae)에 속하는 홈꽃갯지렁이 속(*Euchone*)의 두 종, 핸콕홈꽃갯지렁이(*Euchone hancocki* Banse, 1970)와 무색홈꽃갯지렁이(*Euchone incolor* Hartman, 1965)를 우리나라에서 처음으로 보고한다.

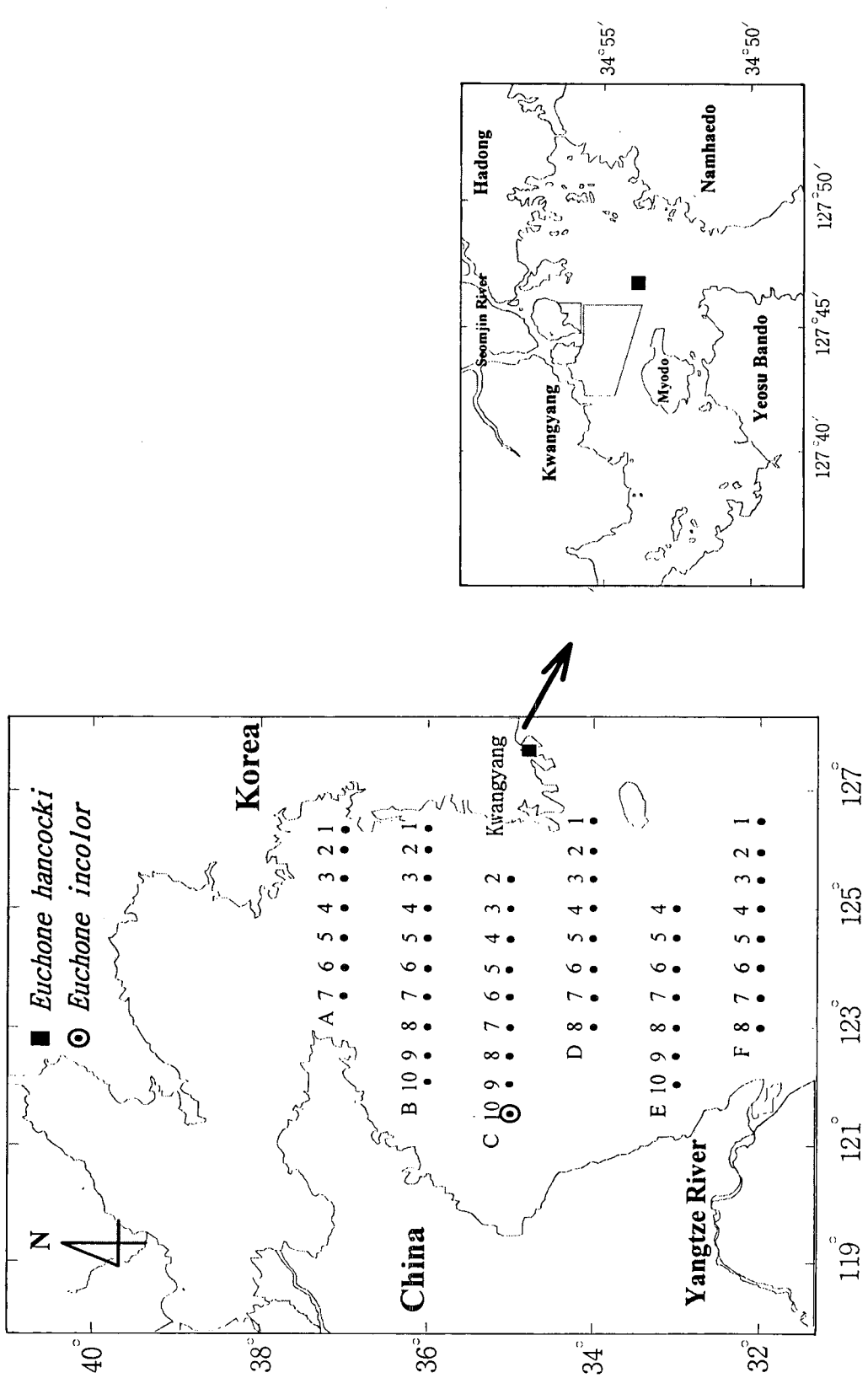

Fig. 1. Distribution of species of *Euchone* in Korean waters.

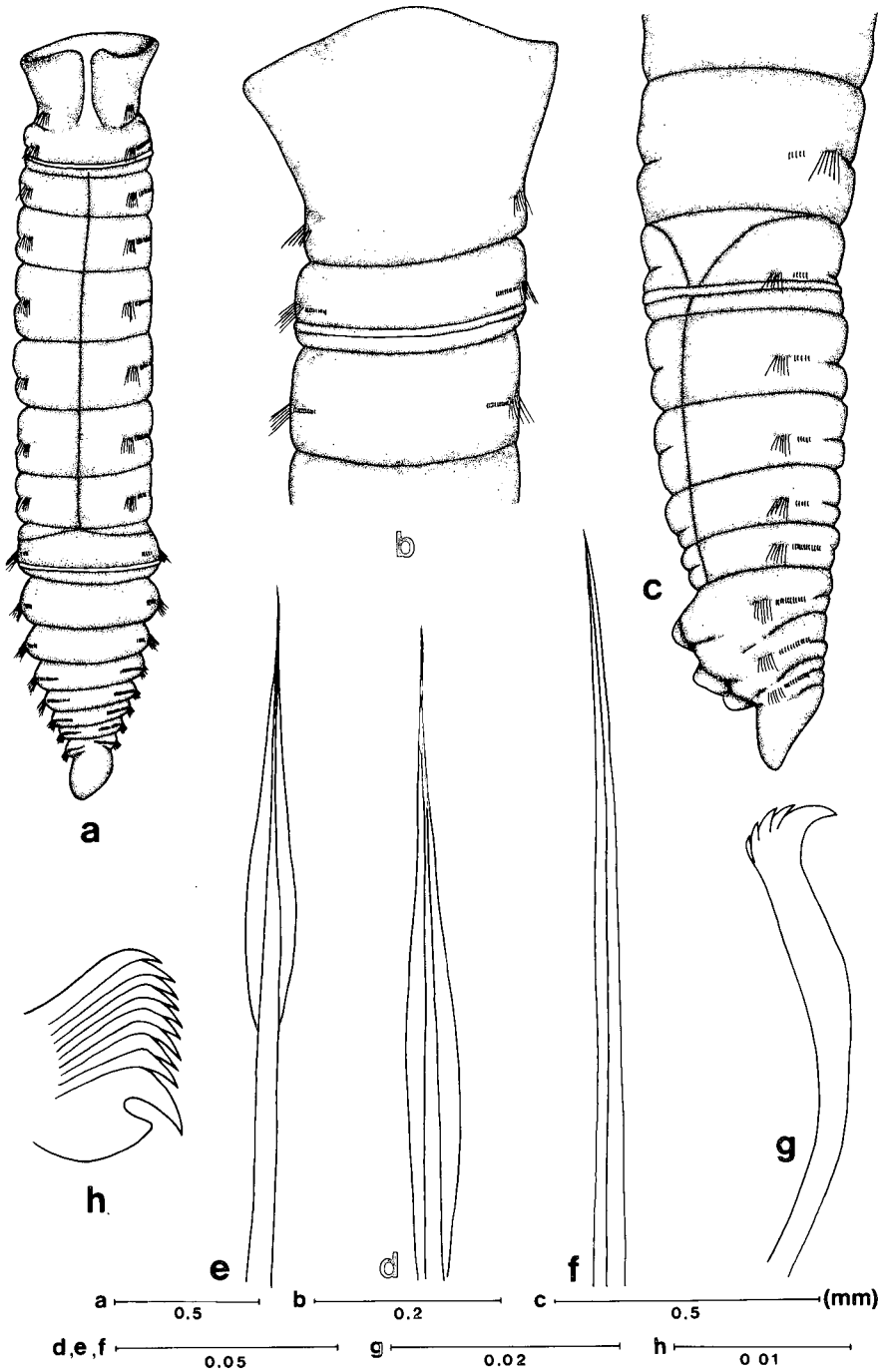

Fig. 2. *Euchone hancocki* Banse, a, complete specimen, dorsal view; b, anterior end, ventral view; c, posterior end, lateral view; d, limbate setae in thoracic notopodia; e, subspatulate setae in thoracic notopodia; f, capillary setae in thoracic notopodia; g, acicular uncini in thoracic neuropodia; h, pectinate uncini in abdominal notopodia.

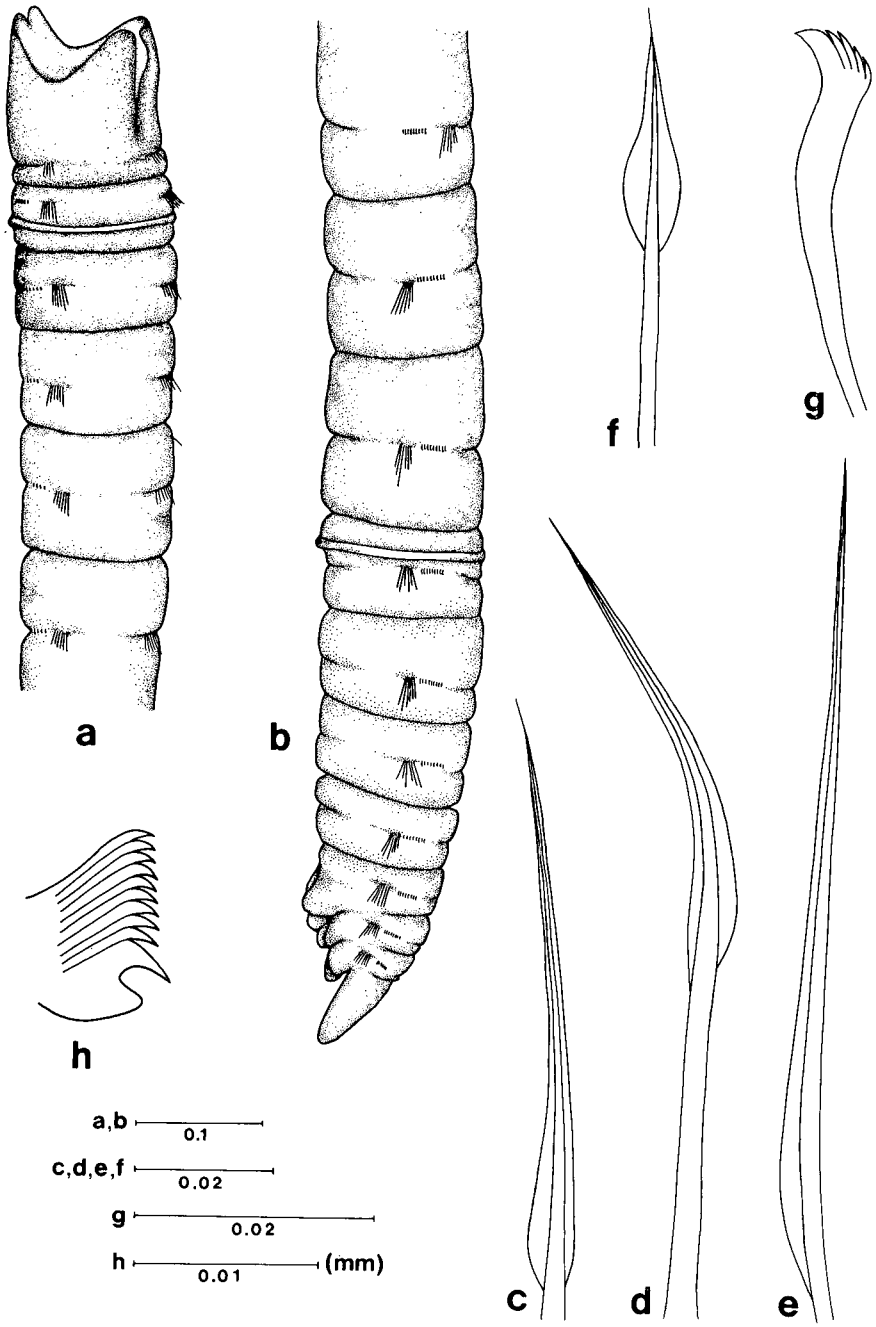

Fig. 3. *Euchone incolor* Hartman, a, anterior end, dorso-lateral view; b, posterior end, lateral view; c, limbate setae in first thoracic notopodia; d, subspatulate setae in thoracic notopodia; e, capillary setae in thoracic notopodia; f, spatulate setae in thoracic notopodia; g, acicular uncini in thoracic neuropodia; h, pectinate uncini in abdominal notopodia.