이지 않는다. 주대골편으로는 양첨체, 준아령침상체, 유극침상체를 갖고 미소골편에는 등조상체를 갖는다. *S. borealis*는 직경 13㎜ 높이 18㎜의 둥근 모양의 윗부분과 직경 1.8㎜ 길이 60㎜의 자루부분으로 이루어져 있다. 직경 0.1 - 0.2㎜의 작은 대공이 둥근모양의 위쪽에 1개가 있으며 살아 있을 때는 연보라색이다. 주대골편인 간상체는 3그룹으로 나뉘고 미소골편은 미소간상체만을 갖는다.

A708 New Records of Two Dictyoceratid Sponges (Porifera: Demospongiae) in Korea

Kyung Jin Lee* and Chung Ja Sim
Department of Biology, Hannam University

Some marine Dictyoceratid sponges belonging to the family Spongiidae and Thorectidae were collected by SCUBA diving from Jejudo Island, Dokdo Island and Ulleungdo Island during the period from 1999 to 2001. Among them, two species, *Hippospongia anomala* Polejaeff, 1884 and *Cacospongia scalaris* Schmidt, 1862, are new to the Korean fauna. *H. anomala* is massively erecting with irregular lobes. The cluster of oscules is situated at the top of the lobe. It has a special dermal membrane and extremely cavernous canal system in choanosome. The reduced primary fibres are cored with small sands and spicules, which occur only superficially. The secondary fibres are not cored. The primary fibres of *C. scalaris* are simple and cored. The secondary fibres are not cored and regularly spaced. The family Thorectidae is first recorded in Korean fauna.

A709 Taxonomy of Symbiotic Dinoflagellates from Korean Anthozoans

Jun-Im Song* and Hyo Suk Lim
Department of Biological Science,College of Natural Science, Ewha Womans University

Six host species from Korea, *Alveopora japonica, Anthopleura japonica, Anthopleura kurogane, Anthopleura midori, Parasicyonis actinostoloides* and *Parasicyonis* sp., form endosymbiotic relationships with three species of symbiotic dinoflagellates, zooxanthellae. Three unrecorded endosymbionts species are *Symbiodinium kawagutii, Symbiodinium microadriaticum,* and *Symbiodinium* sp.. *Symbiodinium kawagutii* is associated with *Alveopora japonica, Anthopleura japonica* and *Parasicyonis actinostoloides.* Also, *Symbiodinium microadiraticum* is found in *Anthopleura kurogane* and *Parasicyonis* sp.. Lastly, *Symbiodinium* sp. differed from the former two symbionts, lives in *Anthopleura midori.*

A710 한국산 들명나방아과(나비목, 포충나방과)의 미기록 4종 보고

김종희, 김용기,백문기, [1)]배양섭
인천대학교 생물학과, 국립공원관리공단[1)]

명나방상과(Pyraloidea)는 오랫동안 단독의 과로 분류하여 왔으나(Speidel, 1996; Heppner, 1998), 최근 Minet (1991), Solis & Mitter (1992) 등이 제안한 명나방과(Pyralidea)와 포충나방과(Crambidae)의 2개 과로 분류하여 취급하는 경향이 있다. 한국산 들명나방아과에 대한 최초보고는 Leech (1889)에 의하여 이루어졌고, 그 후 Okamoto (1924), Shibuya (1928), Maruda (1924), Nagayama & Okamoto (1940), Park (1976, 1983, 1990), Bae (2001) 등에 의해서 이루어졌으며, 최근 배(2001), 배 & 김(2001)에 의해 12 미기록종을 포함하여 62속 151종으로 정리되었다. 본 연구에서는 그 동안 성충의 외형이 아주 유사하여 동정이 힘들었던 *Haritarodes derogata*를 암수 생식기 비교 해부를 통하여 조사한 결과 일본, 중국, 러시아에 분포하는 *H. basipunctata* 와 혼재되어 있음을 확인하였다. 또한 *Notarcha quaternalis, Herpetogramma ochimaculalis, Metasia coniotalis* 도 한국 미기록종으로 추가 확인되어 보고한다.

A711 Genetic Diversity of Mitochondrial DNA among Six Subspecies of Red Squirrel, Sciurus vulgaris L., from Europe and Asia

Hung Sun Koh, Dong Seon Sin*, Ji Hye Kim, and Bae Kun Lee
*Dept. of Biology, Chungbuk University, Cheongju 361-763

We analyzed partial sequences of mtDNA control region and cytochrome b gene of the Korean red squirrel (*Sciurus vulgaris coreae* from Korea, and these sequences were compared with those of six subspecies, including coreae, in Eurasia obtaind from GenBank. In the mitochondrial control region sequences of the Korean red squirrel, seven haplotypes with 0.97 to 6.14% distances were revealed, and three subspecies from Europe and subspecies coreae from Korea were not different. In the cytochrome b gene analyses, four haplotypes with 0.14 to 0.43% distances were revealed, and two subspecies from Japan and Transbaikalia were different from subspecies coreae. Therefore, it is concluded that cytochrome b gene might be a good genetic marker to recognize subspecies, and that two subspecies system by Corbet (1978) is not proper to classify subspecies in red squirrel.And it is confirmed that *manchuricus* (=coreae), *fusconigricans*, *orientis*, and leucourus are valid subspecies. *leucorus*

A712 Four Species of the Shallow-water Comantulids from Geomundo Island, New Records in Korea (Echinodermata: Crinoidea)

Sook Shin
Department of Biology, Sahmyook University, Seoul 139-742

A collection of crinoids at a 20 m depth of the sea in Geomundo Island is examined. Four species belonging to the family Comasteridae, order Comantulida turned out to be new to the Korean fauna. They are *Comantheria intermedia* A.H. Clark, 1916, *Coanthus japonicus* (Muller, 1841), *Comanthus solaster* A.H. Clark, 1907, and *Comanthus parvicirrus* (Muller, 1841) which are redescribed on the morphological characteristic with illustrations. The class Crinoidea including species recorded here is first reported in Korean fauna.

A713 Four New Earthworms of the Genus Amynthas Kinberg, 1867 (Oligochaeta: Megascolecidae) from Mt. Palgong

Yong Hong[1*], Won-Koo Lee[2] and Tae-Heung Kim[1]
1Faculty of Biological Resources Sciences, Jeonbuk National University; 2Faculty of Biological Sciences, Jeonbuk National University

Most Korean earthworm species within the Megascolecidae belong to the genus *Amynthas*. This group is diverse and abundant in litter layers and soils in forests. Various locations of the Korean Peninsula have been studied with regard to the taxonomy of Megascolecidae (Kobayashi, 1934, 1936, 1937, 1938; Song & Paik, 1969, 1970a, 1970b, 1971, 1973; Hong & James, 2001; Hong & Lee, 2001). Four new species of Korean *Amynthas* are described from Mt. Palgong, Korea: *A. palgongensis* sp. nov., *A. minjae* sp. nov., *A. pagyeiensis* sp. nov., and *A. paiki* sp. nov. The first 3 species have 3 pairs of spermathecae, and the last has 2 pairs of spermathecae. Descriptions of the new species are provided, including illustrations of the ventral view, male pore region, and spermathecae.

A714 A new species of Tanylarsus and an unrecorded species of Chironomus in Korea (Diptera: Chironomidae)

Han Il Ree[1*] and Jin Young Kim[2]
[1]Department of Parasitology, Yonsei University; [2]Misung Ltd.

In ecological studies of chironomid midges occurring in the reclaimed rice fields (101,210,000㎡) in Seosan, Chungcheongnam-do in 1997-1999, several