lischkei). These sequences were then analyzed together with the published sequences of other 17 prosobranchian gastropods including five vetigastropods. Phylogenetic trees were constructed by neighbor-joining, maximum likelihood, and maximum parsimony methods. The 18S rDNA sequence data provide supports for (1) the monophyly of Vetigastropoda (2) monophylies of three vetigastropod clades, Trochoidea, Fissurelloidea, and Pleurotomarioidea (3) the basal position of the Pleurotomarioidea within the vetigastropod clade (4) the branching order of (Pleurotomarioidea (Fissurelloidea (Haliotoidea, Trochoidea))).

A709

A New Species of the Genus *Chelomalpheus* (Crustacea: Decapoda: Alpheidae) from Korea

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A new snapping shrimp of the genus *Chelomalpheus* Kim, 1998 is described with illustrations. It was found in the burrows of the mud shrimp, *Upogebia major* (De Haan) inhabiting the mud flat of Namyang Bay in Yellow Sea. Two closely related species, *C. koreanus* Kim and *C. yamashitai* (Hayashi) previously reported as the genus *Carvipelta*, have been known to occur in the burrows of thalassinids. The present species is the third report in this genus and characterized by having the following characteristics: the presence of triangular rostrum projected dorsally in lateral view; dorsal margin behind rostrum flattend posteriorly with longitudinal ridge laterally; major chela with palm having a heavy immovable spine on on inferior margin medially and with entirely reduced immovable finger; the presence of a long flap comprised of 11 or 12 joints on the uropodal exopod distally. The relationship among the 3 species are discussed and the biology of the new species is briefly presented.

A710

Identification of Anopheles Species Using ITS2 and mtCOI Gene Sequences

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We determined nucleotide sequences of internal transcribed spacer 2 (ITS2) and/or mitochondrial cytochrome c oxidase I (mtCOI) gene from 7 *Anopheles* mosquito species;*An. sinensis, An. pullus* (= *An. yatsushiroensis*), *An. anthropophagus, An. lindesayi japonicus, An. sineroides, An. koreicus,* and *Anopheles* sp. From the most variable regions found in a sequence alignment of ITS2, species-specific primers were designed for identifying the *Anopheles* species. The specific primers designed worked successfully and can be utilized as a useful tool for identifying *Anopheles* species including sibling species. In addition, we found that *An. yatsushiroensis* is a synonym of *An. pullus* based on the ITS2 and mtCOI gene sequences. Through the individual rearing experiment of *An. pullus*, it was reconfirmed that their F1 progenies were typical *An. yatsushiroensis* in morphology. How can we account for their morphological differences and dominant occurrence of *An. pullus* in winter? Further detailed studies are necessary to give answers to these questions. Besides, phylogenetic relationships among 7 *Anopheles* mosquito species were briefly discussed on the basis of ITS2 and mtCOI gene sequence data.

A711

Two Cyclorhagid Kinorhynchs from Korea

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Two kinorhynch species, *Echinoderes* n. sp. and *Campyloderes macquariae* Johnston, 1938 are reported from the coasts of Seogwipo, Tongyoung, and Kangreung, on the basis of the specimens obtained by rinsing the subtidal sandy mud and macroalgae. *Echinoderes* n. sp. closely resembles *E. horni* Higgins, 1983 in sharing the character combination: (1) the entirely lacking of middorsal spines, (2) the complete set of the lateral spines (L-4, 7, 10), (3) the presence of lateral accessory spine on segment 10, but clearly distinguished by the shape of tergal extention. The genus *Campyloderes* Zelinka comprises only four species and is poorly known in the Pacific. This record of *C. macquariae* from Korea is the second one in the Pacific since the record from New Caledonia in 1967. Illustrations and Differential Interference Contrast microscope or SEM photographs of the two kinorhynch species will be supplied.

A712

Two New Species of *Canthocamptus mirabilis* Group (Copepoda, Harpacticoida, Canthocamptidae) from South Korea

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Two harpacticoid species are described from South Korea as the members of *Canthocamptus mirabilis* species group, which is supposed to be a monophyletic group of closely related and largely allopatric species in East Asia, and exhibits some intermediate features between the genera *Canthocamptus* and Attheyella. Both of two new species share the apomorphic characters of the triangular hyaline membrane on anal operculum and the reversed caudal rami in female resembling male's. *C. odaiensis* n. sp. is shown to be a relict species as *C. resupinatus* Ishida in Japan, and characterized by the well-developed triangular hyaline membrane on anal operculum and the normal ornamentation of the outerodistal seta of last exopodal segment of male leg 4, the reversed caudal rami of female resembling male's, and the relatively short female leg 5 exopod. *C. incurvisetosus* n. sp. is most widely distributed and frequently occurred from mountain waters in South Korea, and closely resembles *C. resupinatus* Ishida at the hyaline membrane on anal operculum and the ornamentation of the outerodistal seta of last exopodal segment of male leg 4 with the inward curvature of outer caudal setae, but discernible from it in having the smooth medial face of male caudal rami and the different spinular arrangement on female caudal rami as well as in bearing the terminal seta on exopod of female leg 5 shorter than the ramus itself.

A713

Two New Species of the Genus *Filippinodillo* Schmalfuss, 1987 (Crustacea, Isopoda, Armadillidae) from Philippines

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The genus *Filippinodillo* was instituted by Schmalfuss (1987) to accomodate a new species, *F. maculatus* collected in Philippines. Recently, Lewis (1998) described the second species of the genus, *F. kimberleyensis* from

Australia. We collected nine species considered as new species of the genus *Filippinodillo* from Philippines. Among them two new species are described with illustrations of diagnostic characters. The new species are distinguished from previously described species of the genus in the shape of cephalon, locking structures and appendages.

A714

Six New Species of the Genus *Spherillo* Dana, 1852 (Crustacea, Isopoda, Armadillidae) from Philippines

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The genus *Spherillo* had been a problematic genus due to the absence of type designation and the tradition of isopod taxonomists to neglect the rules of nomenclatures. The problem was recently solved by Lehtinen, Taiti and Ferrara (1998) to choose *S. vitiensis* Dana, 1853 as the type species. At present, the genus *Spherillo* comprises only three species including the type species with numerous junior synonyms. Among the specimens which we collected in Philippines, we found six new species of the genus *Spherillo*. They are described with illustrations of diagnostic characters. Each of them has unique color pattern and morphology.

A715

Systematic Study of Roe Deer (*Capreolus pygragus tianschanicus*) Based on Sequence Analyses of Mitochondrial DNA Control Region and Cytochrome b Genes with Specimens from Far East Asia

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We carried out the analysis of partial sequence of mtDNA control region and cytochrome b gene with roe deers from Cheju (Korea), Chenyang (China), and Vladivostok (Russia). The sequence analyses of mtDNA control region of roe deers from Eurasia were also conducted.In the sequence analysis of mtDNA control region, Korean roe deer (*Capreolus p.tianschanicus*), Kurgan roe deer (*C. p. pygargus*), and Amur roe deer (*C. p. pygargus*) appeared to be distinct with one another, but Korean roe deer was more closely related to roe deer from Kurgan region than roe deer from Amur region. In the sequence analysis of mtDNA cytochrome b genes with roe deers of *C. p. tianschanicus* from Cheju, Chenyang, and Vladivostok, Korean samples were different from Chinese and Russian samples. Therefore, it is confirmed that 1) Korean roe deer from Cheju island is a distinct subspecies of *C. c. ochracea*, as described by Barclay (1935), and 2) far east Asian roe deer from north east China, neasby Russia, and Amur region is classified into *C. p. bedfordi*, as noted by Sokolov & Gromov (1990).

A716

Sequence Analysis of Mitochondria DNA Control Region and Cytochrome b Gene with Korean Raccoon Dog (Nyctereutes procyonoides koreensis) from Goesan

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We obtained partial sequences of