

The 66th Annual Meeting of the Korean Association of Biological Sciences

제66회 한국생물과학협회 정기학술대회

기간 2011. 8. 18 (THU) ~ 19 (FRI)

장소 한림대학교 율곡관

21세기, 생명과학을 말하다!

Innovation in Biology for the Next Generation!

〈회원 학회 심포지엄 및 학술발표〉

한국통합생물학회, 한국하천호수학회, 한국생태학회,
한국생물교육학회, 한국동물분류학회, 한국유전학회

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- 후원 | 한국과학기술단체총연합회,
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Genetic Distinctness of Striped Field Mouse from Taiwan Island (*Apodemus agrarius insulaemus*) and Korean Jeju Island (*A. a. chejuensis*), Revealed from Mitochondrial Cytochrome *b* Gene Sequences, and Their Conservation

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We obtained cytochrome *b* gene sequences of striped field mouse (*Apodemus agrarius*) from Korea and China, and their sequences were compared with the sequences from other populations in Eurasia. Three subgroups were revealed [subgroup I (five subspecies of *coreae*, *manchuricus*, *pallidior*, *ningpoensis*, and *agrarius*), subgroup II (subspecies *chejuensis*), and subgroup III (subspecies of *insulaemus*)]. The average distance between *A. a. coreae* from Korea and *A. a. chejuensis* from Jeju island was 1.54%, and the distance between *A. a. coreae* and *A. a. manchuricus* from northeast China was 1.07%, whereas the distance between *A. a. coreae* and *A. a. insulaemus* from Taiwan was 2.16%, indicating that each of *A. a. chejuensis* and *A. a. insulaemus* is ESUs, which need special protection for their conservation. The concordant distinctiveness of *A. a. chejuensis* from Jeju Island, Korea, in morphology by others and mtDNA sequences from this study, is considered as the evidence to prove its species status, and endemic subspecies of *A. a. insulaemus* from Taiwan, with genetic distinctness in this study, needs further analysis with morphological characters to clarify its taxonomic status.

Genetic Distinctness of Endemic Species of Korean Red Backed Vole (*Myodes regulus*) from Korean Peninsula, Revealed from Nuclear DNA *IRBP* and Mitochondrial DNA Cytochrome *b* and Control Region Sequences, and Its Conservation

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Nucleotide sequences of nuclear DNA *IRBP* gene from three species of *Myodes* from Korea and Northeast China were analyzed, and these sequences were compared to the sequences of *Myodes* from GenBank. The 18 alleles from three species of *Myodes* were divided into three groups (Gp 1, Gp 2 and Gp 3). Ten alleles from Korea belonged to Gp 1, and 5 alleles (3 Baekdu Mt. of Northeast China, 1 Harbin, and 1 Vladivostok), Gp 2, whereas three alleles (2 Harbin, Northeast China, and 1 far-eastern Russia) were grouped into Gp 3. Based on the previous analysis of cytochrome *b* gene and control region sequences from three species of family *Myodes*, Gp 1 from Korea was identified as *M. regulus*, and Gp 2 from Mt. Baekdu, Harbin and Vladivostok, as *M. rufocanus*, whereas Gp 3 from samples of Harbin and Vladivostok, as *M. rutilus*. The endemic species needs protection for their conservation, and the number of *Myodes regulus*, trapped from the Korean wild, is declining recently, and thus we need more efforts for the conservation of the Korean endemic *Myodes regulus*, showing distinctive morphology and DNA sequences.

Three New Records of Scleractinia (Anthozoa: Zoantharia) from Korea

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The three species of scleractinians, *Leptoseris explanata* Yabe & Sugiyama, 1941, *Phyllangia hayamaensis* (Eguchi, 1968), and *Oulastrea crispata* (Lamarck, 1816) have been newly recorded in Korea. They were collected at the depth of 10 to 25 m in Jejudo Island by SCUBA diving from 1991 to 2008. They belong to three families, Agariciidae, Caryophylliidae, and Faviidae within three suborders, Fungiina, Caryophyllina, and Faviina, respectively. This study approaches scleractinians with a focus on skeletal morphology including shape, form, and size of colonies, and shape, size, calice, columella, pali, theca, costae and septa of corallites. *L. explanata* is characterized by plate-like colony and finely striated septo-costae in parallel rows connecting corallites. *P. hayamaensis* is distinguished by well developed peritheca, columella fusing with inner septa, and irregular arrangement of septa. *O. crispata* is characterized by encrusting shape and plocoid form of colonies, and polygonal calice, papillose columella and paliform lobes of corallites.

Variability in Color Pattern of the Elytra in the Succinea-group at Two Ladybird Species - *Harmonia axyridis* Pall and *Harmonia yedoensis* Takizawa (Coleoptera, Coccinellidae)

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The two ladybirds - *H. axyridis* and *H. yedoensis* are sibling, often sympatric species. Imagoes of these ladybirds are extremely similar, there is potential to make misidentification, so, for diagnostics of this species use of males genitals. However it is not always probably to make this identification, for example, when it's necessary to keep alive beetles. This study describes the color pattern of the elytra in succinea-group of *H. axyridis* and *H. yedoensis* from different populations. We had been revealed 7 types of pattern of the elytra in succinea-group, for populations of *H. axyridis* from the Far East of Russia and Korea, and 4 types of pattern for populations of *H. axyridis* from Siberia. Besides in succinea-group of *H. axyridis*, from Siberian populations we single out the subgroup, which named succinea-drop group. For this group, 5 types of pattern have been found. For *H. yedoensis* 6 types of pattern have been revealed. Types of pattern in succinea-group of *H. yedoensis* have essential differences from types of *H. axyridis* from different populations.