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**Captive Propagation of Oriental White Stork (*Ciconia boyciana*) and Their Breeding Behavior**  
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A pair of Oriental white stork (*Ciconia boyciana*) bred successfully in Korea Institute of Oriental WhiteStork Rehabilitation Research in 2002 and 2003. The pair laid six eggs by double clutching method in 2002. Four chicks were hatched and raised by hand. In 2003, the pair laid eight eggs. But only one chick was hatched and raised by its parents. Female and male participated in incubation the 6:4 proportion in 31 days incubation period. The chick made the begging call one day after hatching and its parents started to feed. Female fed more frequently than male in the early stage of chick development but devoted to nest repairing and guarding rather than feeding as stages go by. The chick raised by its parents developed more rapidly than the chicks raised by hand. The chick was failed to be fed a new food item by its parents and the behavioral training is necessary to the parents for obtaining various food items.

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**Breeding Success of Black-billed Magpies in Korea (*Pica pica sericea*) - (VI)**  
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We have investigated the breeding success of a black-billed magpie population on Kwanak Campus of Seoul National University since 1998. Annual breeding success varied from 2.3 (2003) to 3.2 (1999) fledglings per successful nest. Proportion of successful nests varied from 21.1 (2003) to 55.4% (1999). These annual differences in breeding success were related with annual climate conditions. The low breeding success of this year was due to the unusually frequent and heavy rainfalls during the feeding period, which seem to deter parents from collecting food items. Annual variations in the condition of nestlings were analysed with regression of tarsus length vs weight. We used the slopes of regression equations as indices of nestling condition, because they represent each year's average growth of magpie nestlings. Both breeding success in fledgling number and nestling condition showed similar pattern of annual variation; 1998~2000 were favorable for magpie breeding while 2001~2003 were not. The influences of climate factors on fledging success, proportion of successful nests and condition of nestlings were discussed.

B114

**Morphological Variations in Regional Populations of Korean Black-billed Magpies**  
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Magpie is known as a sedentary bird, which does not show high level of dispersal. Some researchers suggested that magpies do not frequently cross high mountains and mainly reside in the lower part of mountainous area. Based on this suggestion, we can infer that high mountains may deter frequent migrations of magpies and result morphological divergence between adjacent populations. In order to quantify the degree of morphological variations and find their relationship with different types of landscapes, we measured 16 body characteristics of 270 dead magpies collected from 12 regions in South Korea. Results of ANOVA and ANCOVA revealed no significance in statistics, which are mainly due to the large variances in the age classes and sexes. In general, differences between sexes and age classes were greater than regional differences. Although statistically not significant, we found a major morphological difference between the eastern and western populations of Taebak Mountain Ranges. Magpies in the east coast were relatively larger than those in other regions, especially in skeletal features such as tarsus and ulnar lengths. This pattern is in accord with molecular findings by Eo (2001). Both results suggest that the high mountains may act as a barrier between the eastern and western regions of Taebak Mountain Ranges, though the adaptive meaning of large body size in the eastern region remains unclear.

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**The Effective Methods for Enhancing the Seed Germination of *Elymus mollis* and *Calystegia soldanella***  
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*Elymus mollis* and *Calystegia soldanella* are endemic plants living in coastal sand dunes. And also *E. mollis* has been known as a pioneer of coastal sand dune with *Carex kobomugi*. And *C. soldanella* had been used as a traditional medicine. Therefore, for the restoration of coastal sand dune of which is being reduced by the human activities, it needs a large propagation of coastal sand dune plants such as *E. mollis* and *C. soldanella*. In this study, we have investigated the effective methods for enhancing the seed germination of *E. mollis* and *C. soldanella*. In the case of *E. mollis*, pretreatment the seed with GA3 of 500ppm for 24hrs gave the best germination ratio of 70%. But in the case of *C. soldanella*, pretreatment of GA3 didn't enhance germination, although pretreatment of H2SO4 for 3hrs led to 100% germination.