## NENU x EdUHK Joint-U Ecological Studies in Jilin Province 2016



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## Tasks

-Ecological surveying in different habitats -Surveys of flora and fauna (Insects and birds) -Data collection and further processing & analysis of samples collected

Goals -Further improvement in environmental quality



-Alleviating current environmental problems or degradation

## Roles

-1-2 Hong Kong students assigned to each of the 4 groups divided

-Conduct field works together with mainland students -Exchange knowledge & ideas with mainland students

Photo taken in Songnen Research Station for Grassland Ecology

	Survey of Water Birds	Survey of Insects	Survey of Flora
Field Site(s)	Momoge National Nature Reserve	Songnen Research Station for Grassland Ecology	Songnen Research Station for Grassland Ecology & Chang Bai Mountain
Reasons of site selection	<ul> <li>Wetland of various conditions could be found</li> <li>A Ramsar Site providing food sources for water birds, especially Red-crowned crane (<i>Grus japonensis</i>) (Figure 1)</li> </ul>	<ul> <li>Grassland is the habitat of insects</li> <li>Comparison made: datsefa collected here (nomadic herding practiced) &amp; restricted districts without pastoralism</li> </ul>	<ul> <li>Site useful for measuring the species richness and the level of degradation of particular areas</li> </ul>
Procedure	<ul> <li>Fixed-point observation for 30 mins with the use of binoculars or cameras (Figure 2)</li> <li>Observe from distinctive distance away from each other</li> </ul>	<ul> <li>3 sites selected: grassland without disturbance, moderately degraded land and severely degraded land (Figure 6)</li> <li>Hand-netting of insects for 10 times in each of</li> </ul>	<ul> <li>Plant survey in Songnen Research Station (Li et al., 2016)</li> <li>Conduct in 1m x 1m quadrat (Figure 7)</li> <li>Set up of 2 quadrats in each habitat</li> <li>Identify the vegetation in quadrats</li> <li>Measure the length and count the number of each plants</li> </ul>

- each other
- Record the information, e.g. GPS location, weather condition, types of vegetation & habitat, etc.
- Observe the birds by using telescopes or cameras
- Remain photo records and descriptions of birds for further identification (if required) (Gregory et al., 2004) (Li et al., 2016)
- ianu-neuling of insects for to times in each of the sites
- Insects collected are killed in tank with Ethyl acetate and stored in plastic bags temporarily
- Sort the insects according to families
- Store the insects with cotton and newspaper in prevention of rottening of specimen (Figure 5)
- Conduct further identification afterwards (University of Kentucky, n.d.) (Li et al., 2016)
- ight and count the number of each plants
- Estimate the biomass and relative abundance of plants Plant survey in Chang Bai Mountain (Li et al., 2016)
- Transect method (Figure 8)
- Set up of 20m x 20m area in primary forest
- Set up of 20m x 10m area in secondary forest
- Extract 2 packs of dead organic materials (leaf litter) from two 20cm x 20cm locations for each sites
- Collect herbaceous plants by setting up two 5m x 5m quadrats
- Identify the species of shrub and trees in 20m x 20m for both sites
- Record the information of species in quadrats, e.g. frequency, number of hills per unit area, diameter at breast height and total basal area of breast height, etc.







Figure 3 Observation of birds





Figure 7 Setting of quadat in Songnen Research Station



Figure 9 Setting of quadats in Changbai Mountain





Gregory, R., Gibbons, D., & Donald, P. (2004). Bird census and survey techniques. References: 李振新、唐占輝、宋傳濤、江廷磊、何春光、王詠 (2016)。生態學專業實習指導。吉林: 東北師範大學。 University of Kentucky. (n.d.). Where and How to Collect Insects. Retrieved from https://www.uky.edu/Ag/Entomology/ythfacts/4h/unit1/whcolin.htm