Diet of Asian Glossy Starling (*Aplonis panayensis*) in Kuching City

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Introduction

- Asian Glossy Starling (AGS) are omnivorous, feeding on soft fruits and arthropods (Skorupaa & Hothem, 1985; Corlet, 1992).
- Large population of AGS has become a problem in urban areas – contaminate building, spread disease, pest, etc.

Figure 1: AGS

Introduction

- One of the factors that promotes the population growth of AGS is abundance of foods in urban area.
- **Is AGS really abundant in Kuching?**
- **If so, what types of food promotes the population growth of AGS in Kuching City?**

Objectives

1) To determine the diet of AGS in Kuching City, Sarawak.

2) To determine the frequency of occurrence of fruits and insects in the diet of starlings.

3) To determine whether their diet compositions depend on the availability of fruits and insect in the vicinity of area of study.

Methodology

Study Site :

1) Civic Centre Kuching
2) Reservoir Park Kuching

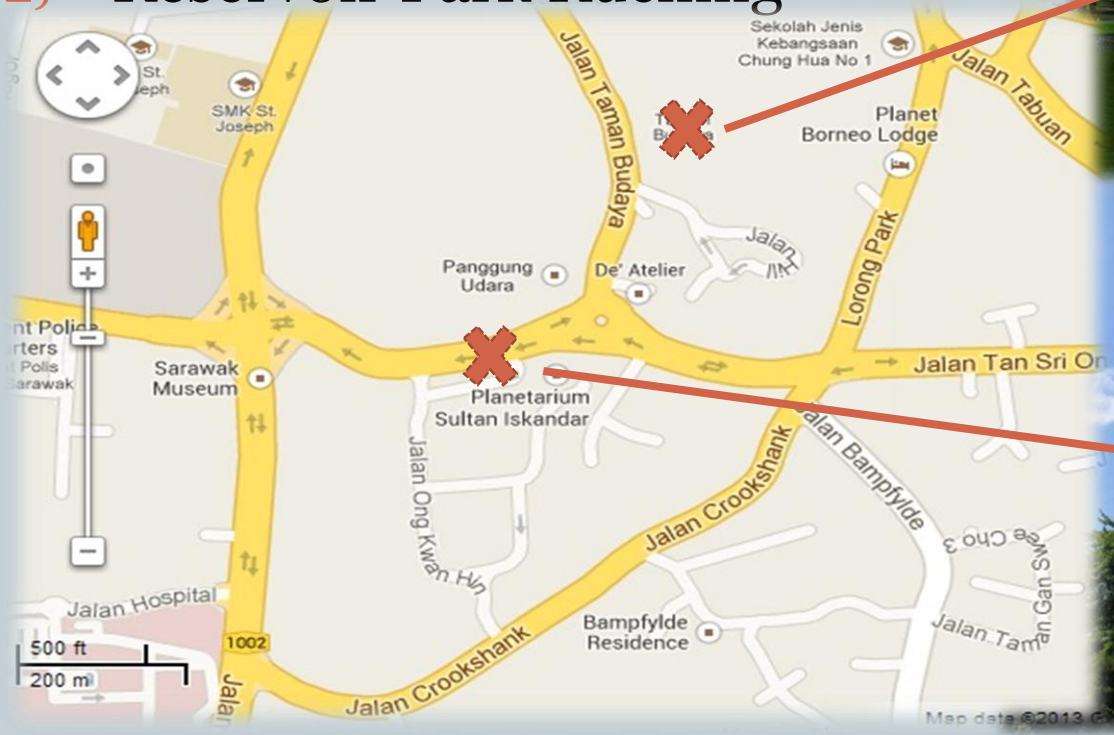


Figure 2 : Map of study site in Kuching City

Survey Methodology :

1) Point Counts at Reservoir Park
2) Counting Individual Birds at Civic Centre
3) Record of Potential Diet at Reservoir Park and surrounding area

Figure 3: AGS at Civic Centre

Feacal Examination :

- 51 feacal samples were collected at Civic Centre
- During analysis, these samples were mixed and rinsed with 70% ethanol.
- Then, samples are examined under stereoscopic microscope with the aid of camera.
- The insects fragment are identified.

Figure 4 : Faeces of AGS at Civic Centre

Results & Discussion

1) Proportion of Urban Birds at Reservoir Park and Civic Centre

Table 1 : Proportion of Birds at Reservoir Park and Kuching Centre

Location	Reservoir Park	Civic Centre
Total number of species	30	2
Mean number of bird	127	40
Mean number of Asian Glossy Starling	44	38
Mean number of other birds	83	2
Percentage of Asian Glossy Starling (%)	35%	95%

2) Record of Potential Diet

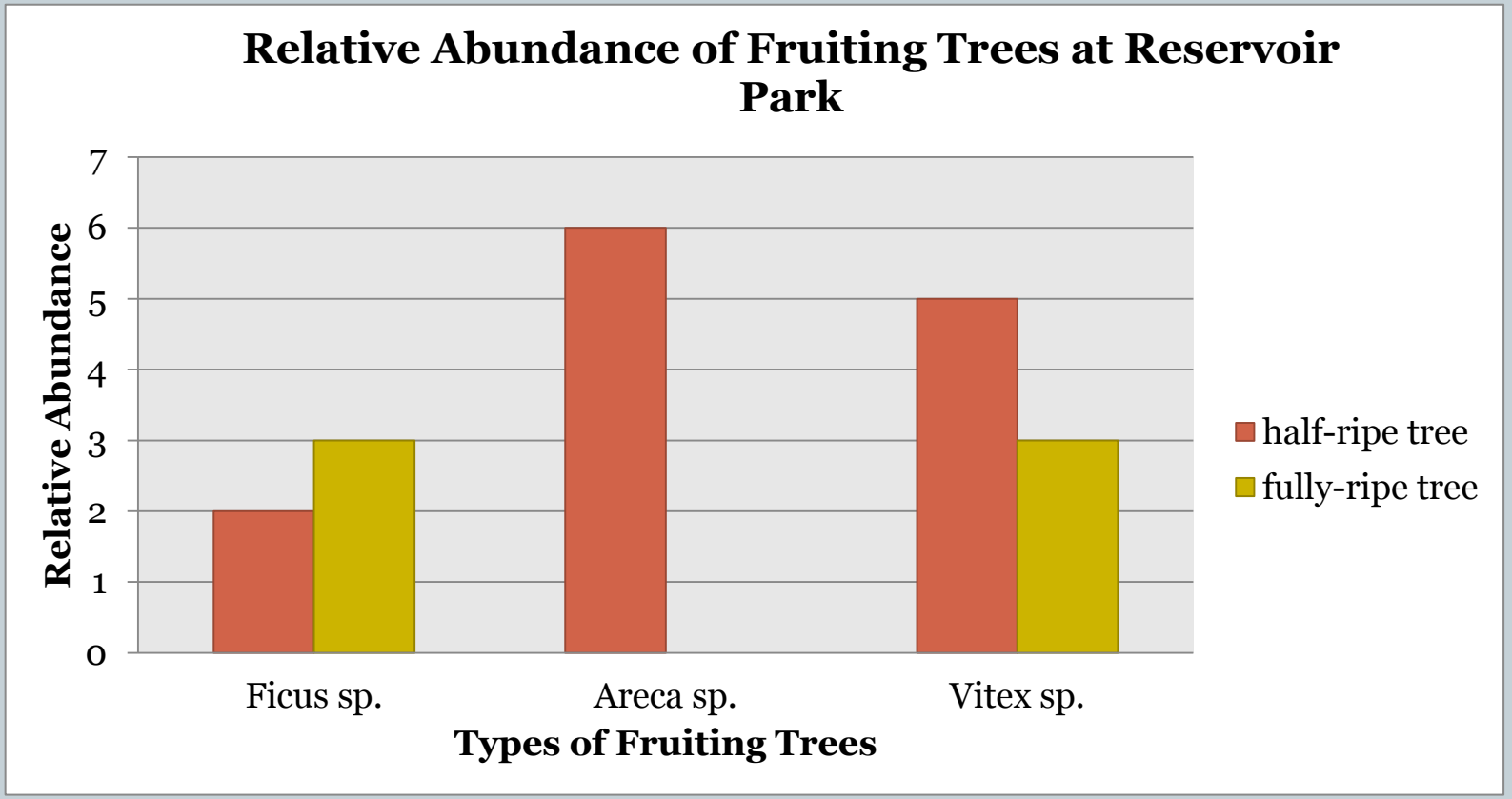
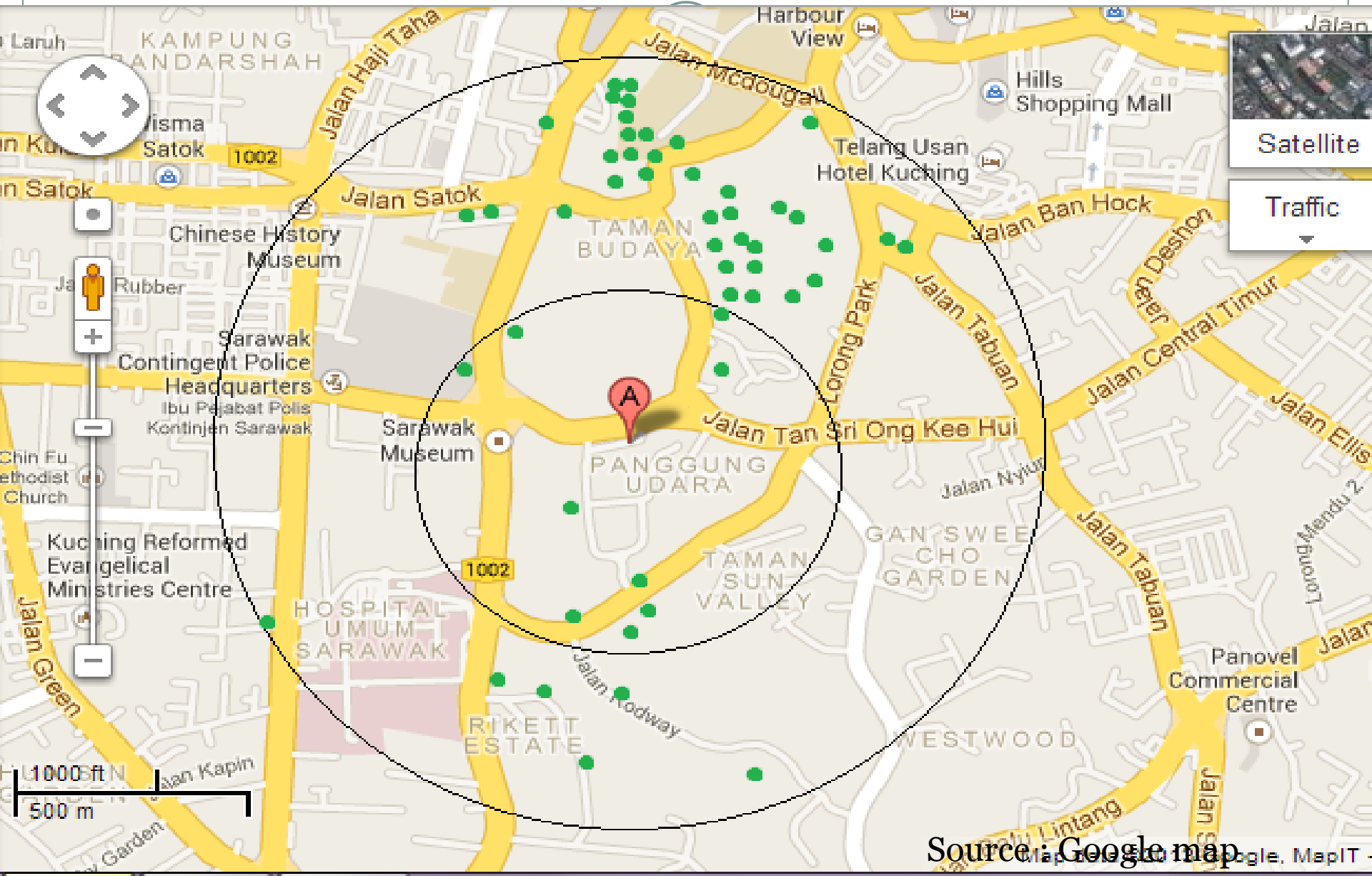


Figure 5 : Relative Abundance of Fruiting trees at Reservoir Park

Location of *Ficus* sp. within 1000m of Civic Centre



Source: Google map


MAP 8865

Table 2 : Total Relative Abundances of Insects at Reservoir Park.

Types of Insects	Total
1) Lepidoptera	53
2) Orthoptera	21
3) Odonata	61
4) Hymenoptera	15692
- *Formicidae* sp.	15647
- Other species	45
5) Hemiptera	64
6) Coleoptera	1
7) Diptera	41
8) Isoptera	172

3) Fecal Examination

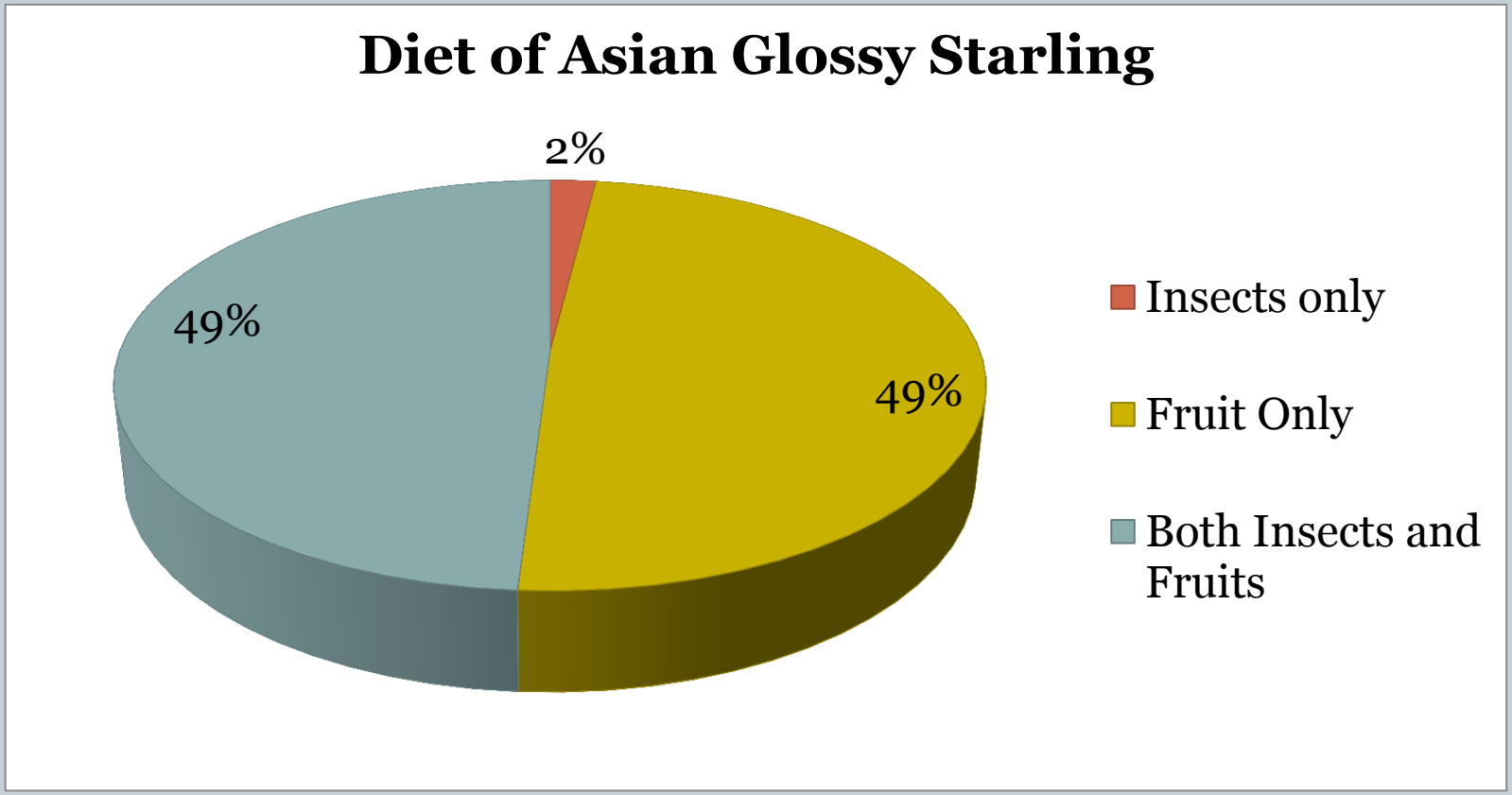


Figure 6 : Diet Composition of Asian Glossy Starling

Faeces samples :

- 86% of samples contain figs
- 2% contain *Vitex* sp.
- 12% contain unidentified plant materials

- 70 individuals of Hymenoptera
  - 45 individuals of **family Agaonidae (Fig wasp)**
  - 7 individuals of family Ormyridae (Parasitize gall-making insects)
  - 18 individuals of family Formicidae (Ants)
- 5 individuals of unidentified Insects

Male fig wasps

Female fig wasp

Head of female fig wasp

Formicidae sp.

Fig flesh

Seed of figs

Conclusion

1) AGS is the dominant bird in Kuching City
   - 35% of birds in Reservoir Park and 95% of birds in Civic Centre.
2) 49% of fecal sample contain fruits and 49% fruit and insect
   - Fruits: mainly **figs** (86%)
   - **Insect:** mainly **Hymenoptera** from Family **Agaonidae** (45 individuals), **Formicidae** (18 individuals), **Ormyridae** (7 individuals)
3) The diet of AGS in Kuching City depends on the availability of fruits in particular figs which are present within 1 km of the sampling area.

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