Pest Status

Suputa
Plant Protection Department
Faculty of Agriculture, Gadjah Mada University

Referenses

ISPM 8

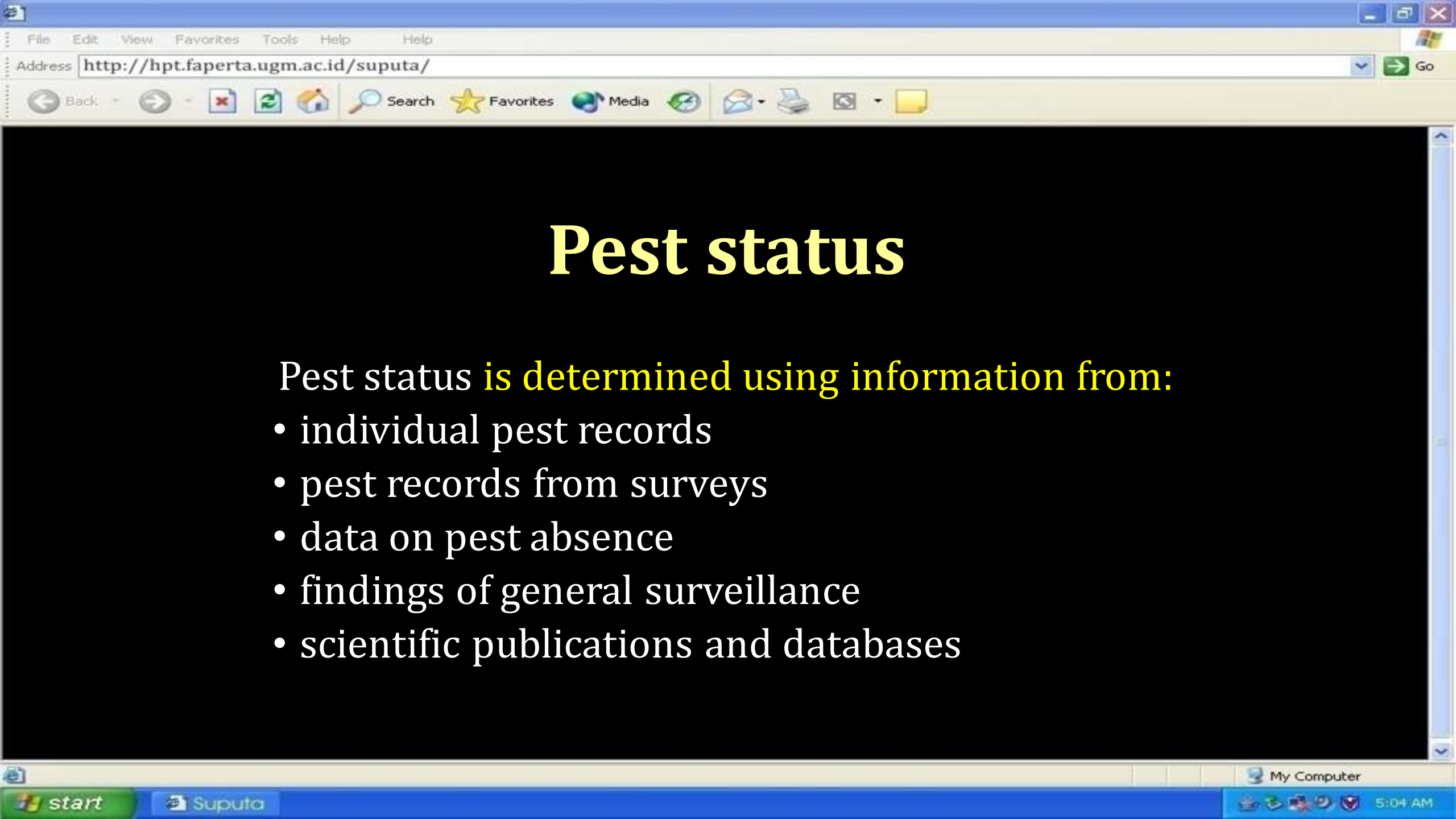
- https://www.ippc.int/static/media/files/publications/en/1323945129_ISPM_08_1998_En_2011-11-29_Refor.pdf

Update on the Host Range of Different Species of Fruit Flies in Indonesia.

Suputa, Y.A. Trisyono, E. Martono, & S.S. Siwi, 2010. *Indonesian Journal of Plant Protection*. 16 (2): 62-75.

Pest status

The determination of **pest status** requires **expert judgement** concerning the information available on the present-day occurrence of a pest in an area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Pest status
Pest status is determined using information from:
• individual pest records
• pest records from surveys
• data on pest absence
• findings of general surveillance
• scientific publications and databases
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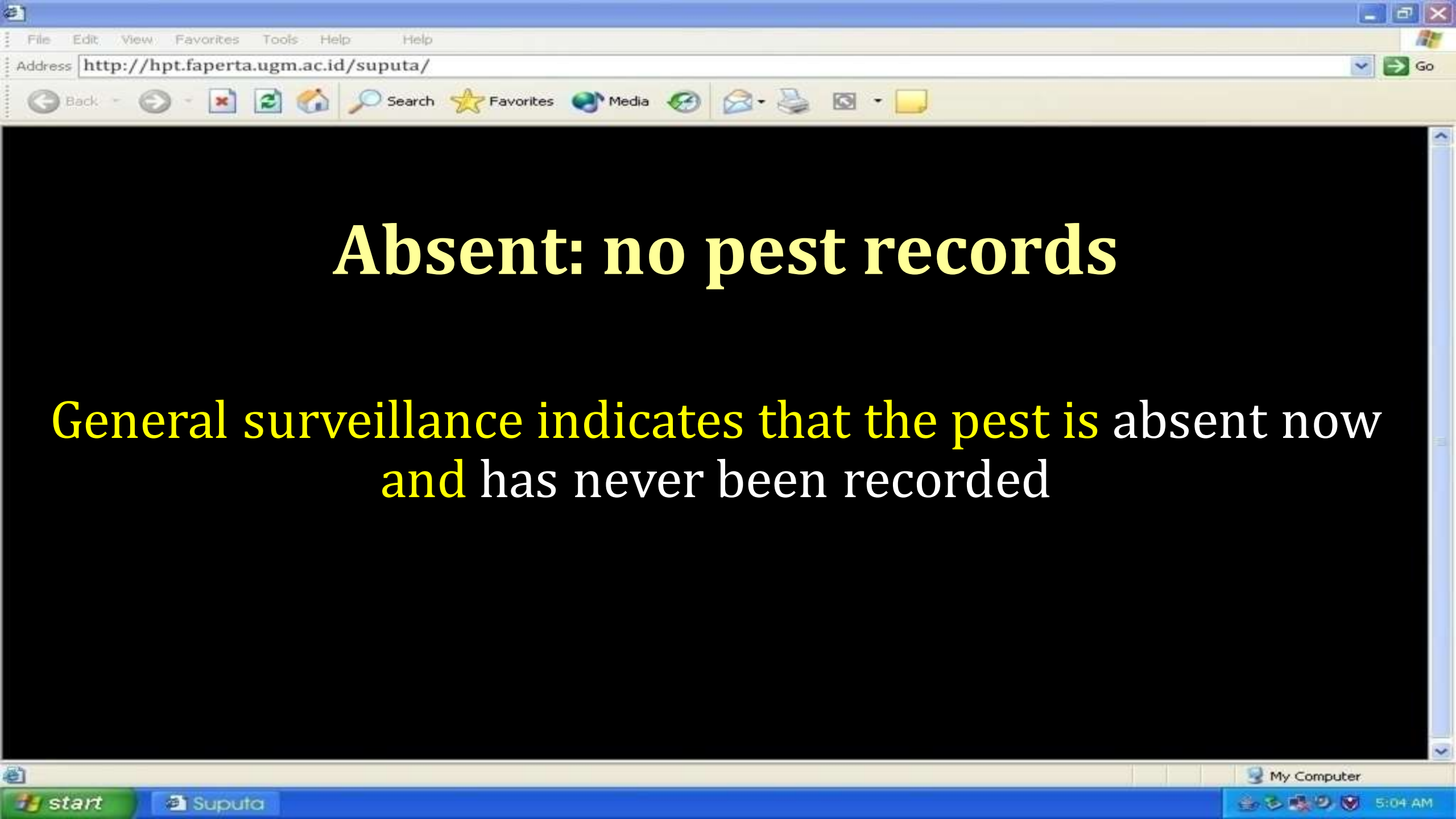
Pest status

- presence of the pest
- absence of the pest
- transience of the pest

Presence

in all parts of the area
only in some areas
except in specified pest free areas
in all parts of the area where host crop(s) are grown
only in some areas where host crop(s) are grown
only in protected cultivation
seasonally
but managed
subject to official control
under eradication
at low prevalence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Absent: no pest records
General surveillance indicates that the pest is absent now and has never been recorded
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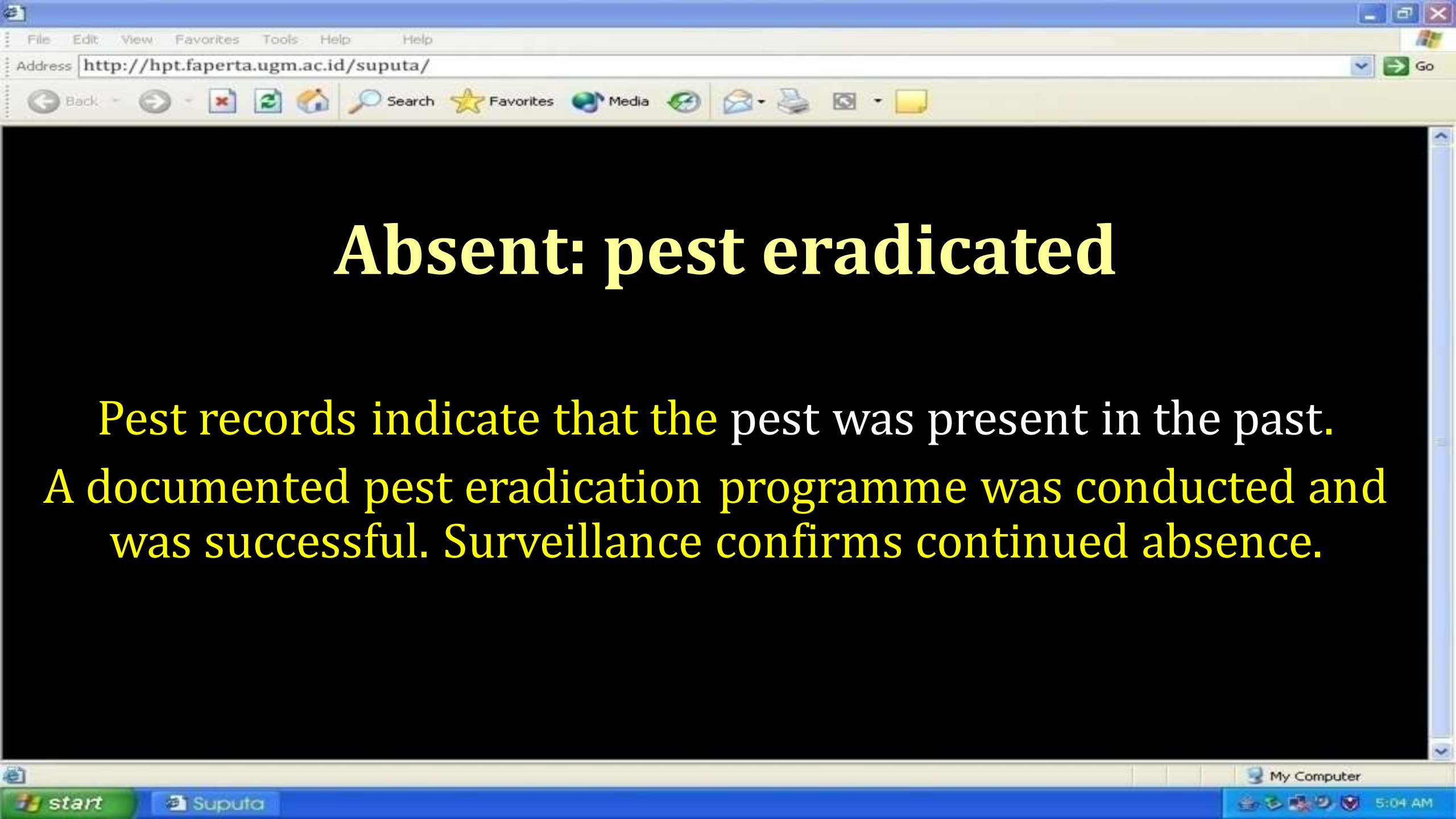
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Absent: pest eradicated
Pest records indicate that the pest was present in the past.
A documented pest eradication programme was conducted and was successful. Surveillance confirms continued absence.
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Absent: pest no longer present

Pest records indicate that the pest was transient or established in the past, but general surveillance indicates the pest is no longer present. The reason(s) may include:

- climate or other natural limitation to pest perpetuation
- changes in hosts cultivated
- changes in cultivars
- changes in agricultural practices

Absent: pest records invalid

Pest records indicate the presence of a pest, but the conclusion is reached that the records are invalid or no longer valid, as in the following officially declared cases:

- changes in taxonomy
- misidentification (Bactrocera = Dacus Kalshoven, 1951)

DIPTERA

Tephritidae

The difference between *Bactrocera* spp. and *Dacus* spp.

Bactrocera cucurbitae

Dacus longicornis

DIPTERA

Tephritidae

The difference between *Bactrocera* spp. and *Dacus* spp.

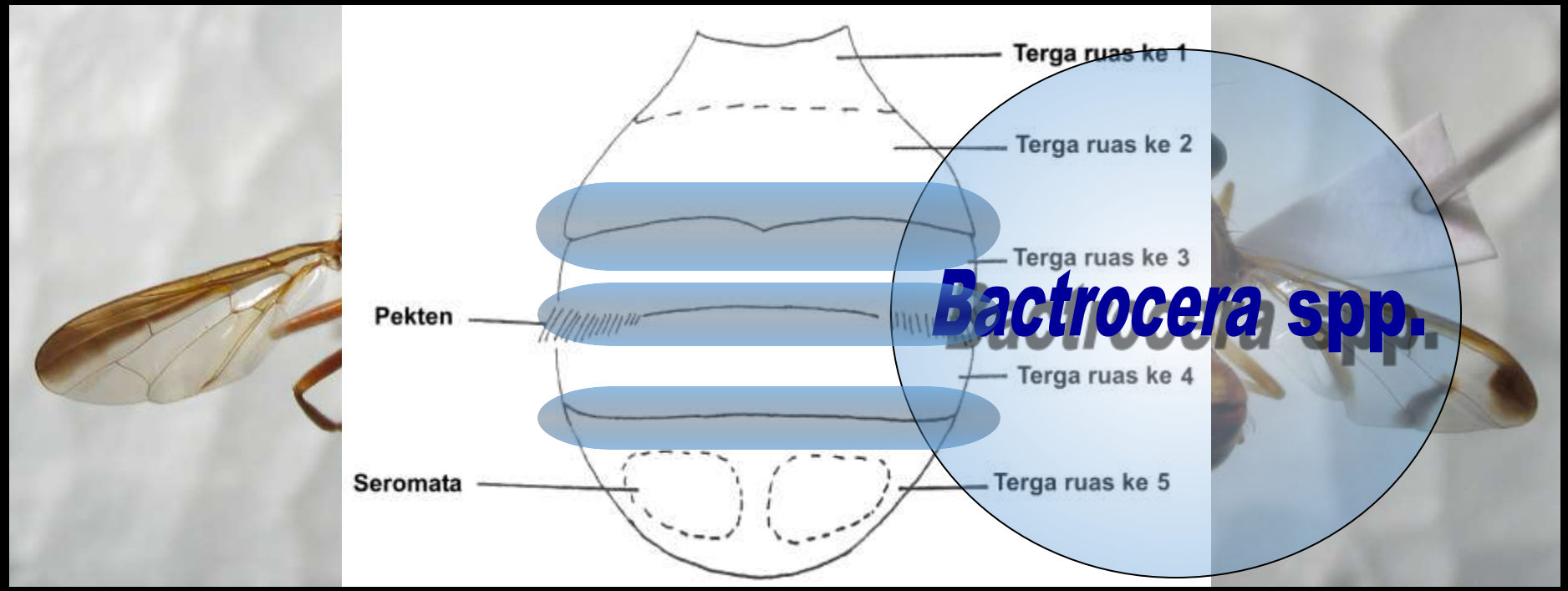
Dacus ciliatus

Bactrocera minax

DIPTERA

Tephritidae

The difference between *Bactrocera* spp. and *Dacus* spp.



Dacus longicornis

Bactrocera cucurbitae

Absent: pest records invalid

Pest records indicate the presence of a pest, but the conclusion is reached that the records are invalid or no longer valid, as in the following officially declared cases:

- changes in taxonomy
- misidentification
- erroneous record
- changes in national borders where reinterpretation of the record may be needed

Absent: pest records unreliable

Pest records indicate the presence of a pest, but the determination leads to the conclusion that the records are unreliable, as in the following officially declared cases:

- ambiguous nomenclature
- outdated identification or diagnostic methods
- records cannot be considered reliable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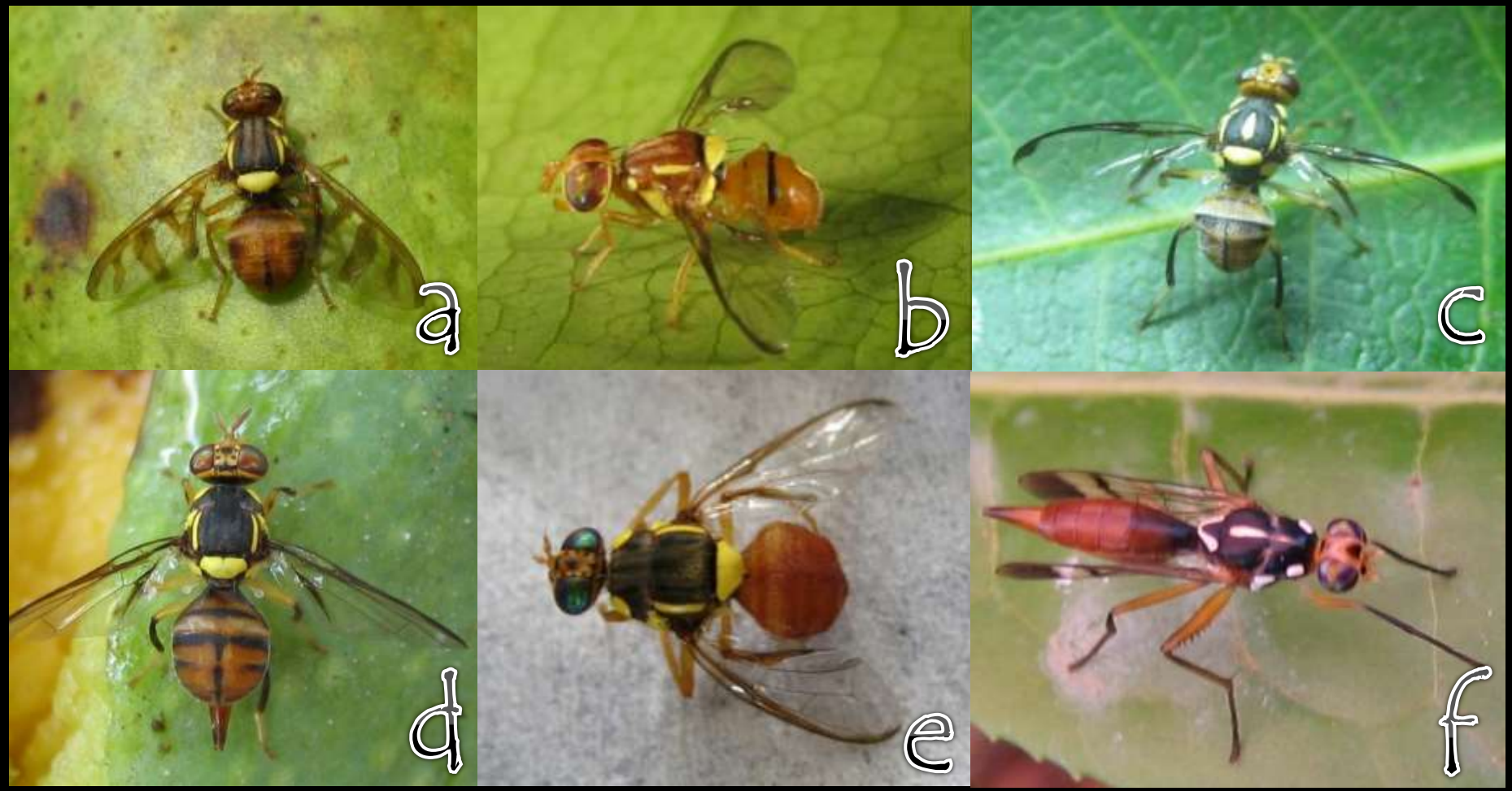


Thorax predominantly black

Thorax not predominantly black

Ciri-ciri Morfologi Lalat Buah Dorsalis complex

Lateral postsutural vittae present

Lateral postsutural vittae absent

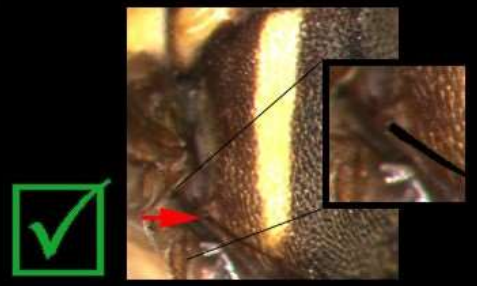
Medial postsutural vitta absent

Medial postsutural vitta present

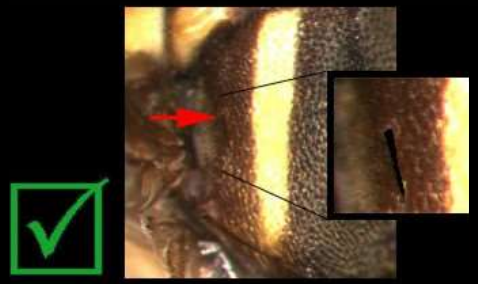
Lateral presutural vittae absent

Lateral presutural vittae present

Ciri-ciri Morfologi Lalat Buah Dorsalis complex

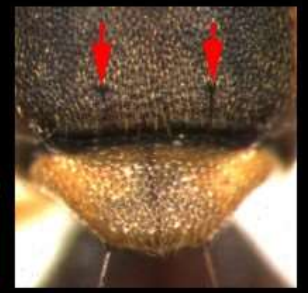


Posterior supra alar bristles present

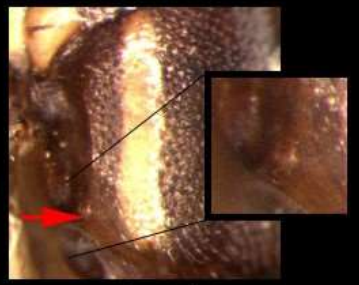


Anterior supra alar bristles present

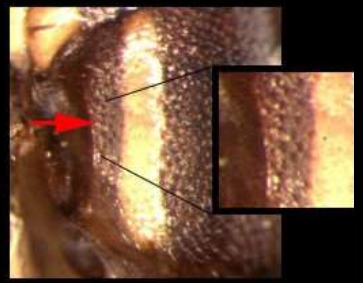
2 Scutellar bristles present



Prescutellar bristles present

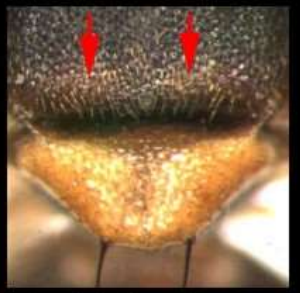


Posterior supra alar bristles absent



Anterior supra alar bristles absent

> 2 Scutellar bristles present



Prescutellar bristles absent

Foto: Lawson et al. 2003

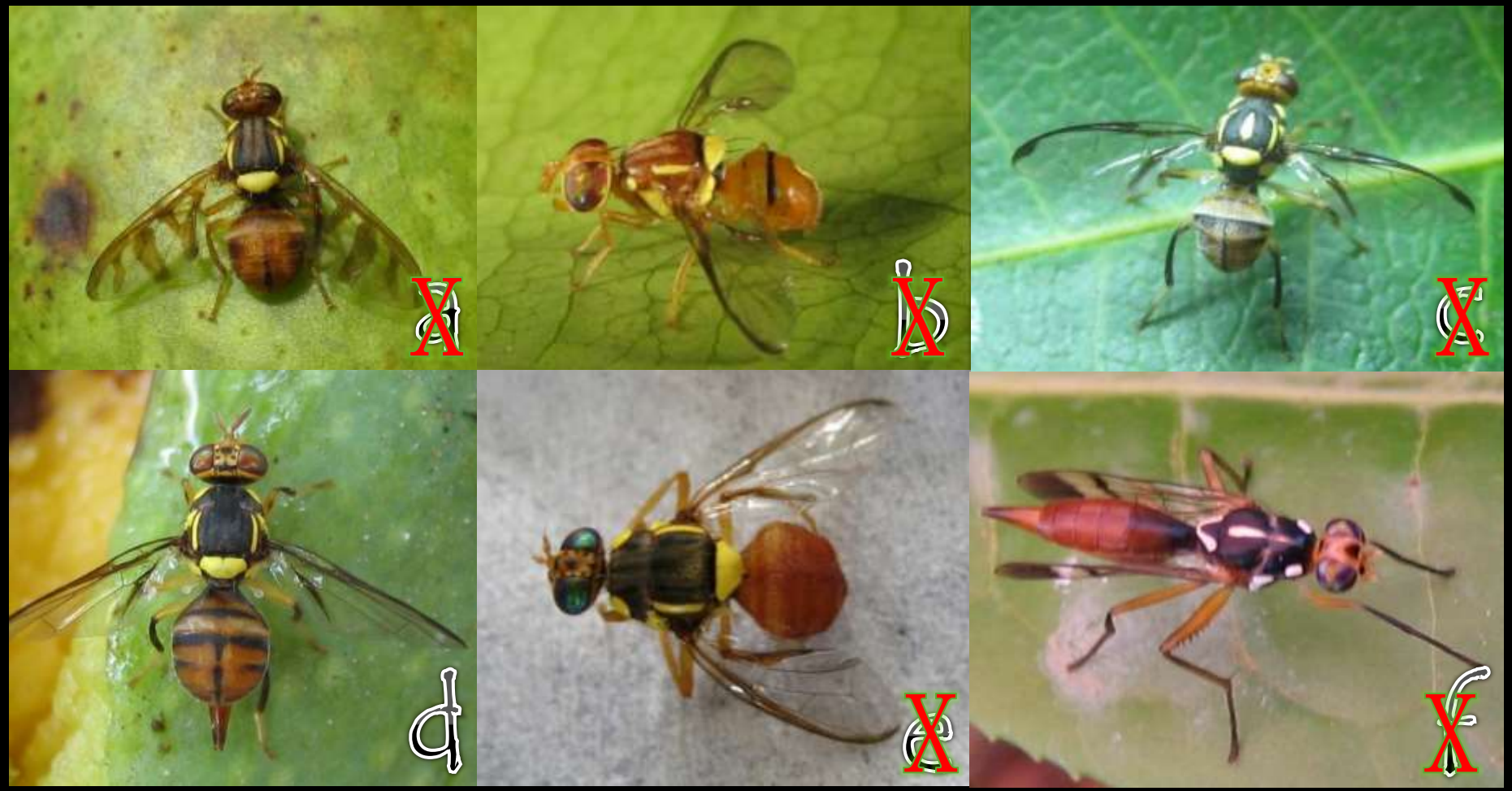
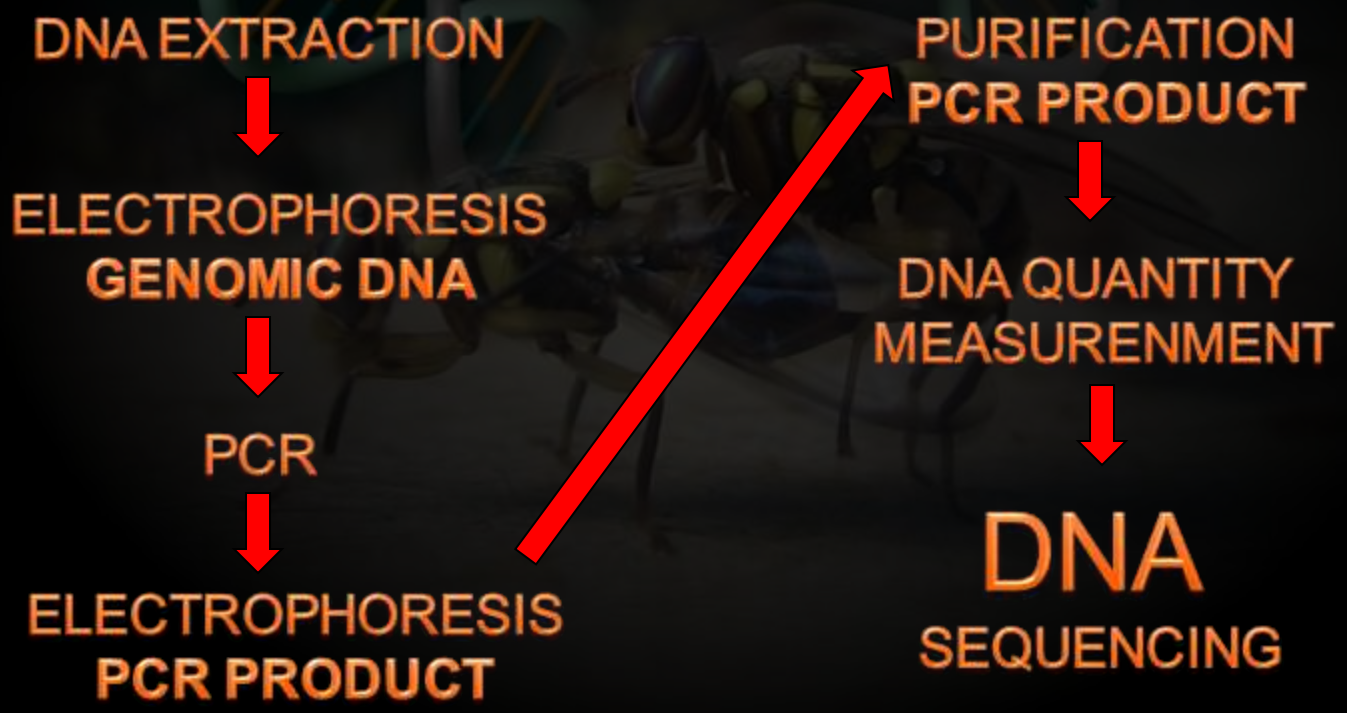
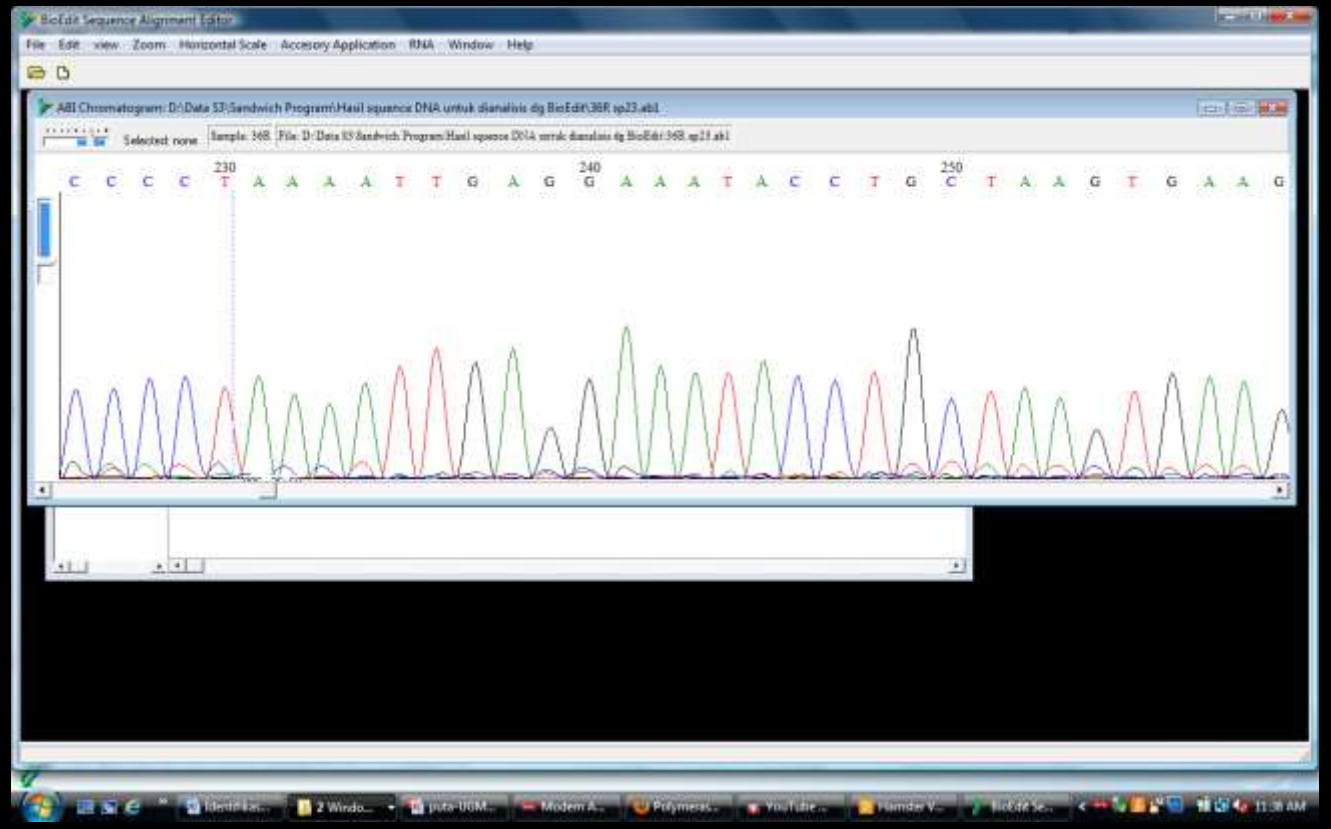


Foto: Lawson et al. 2003

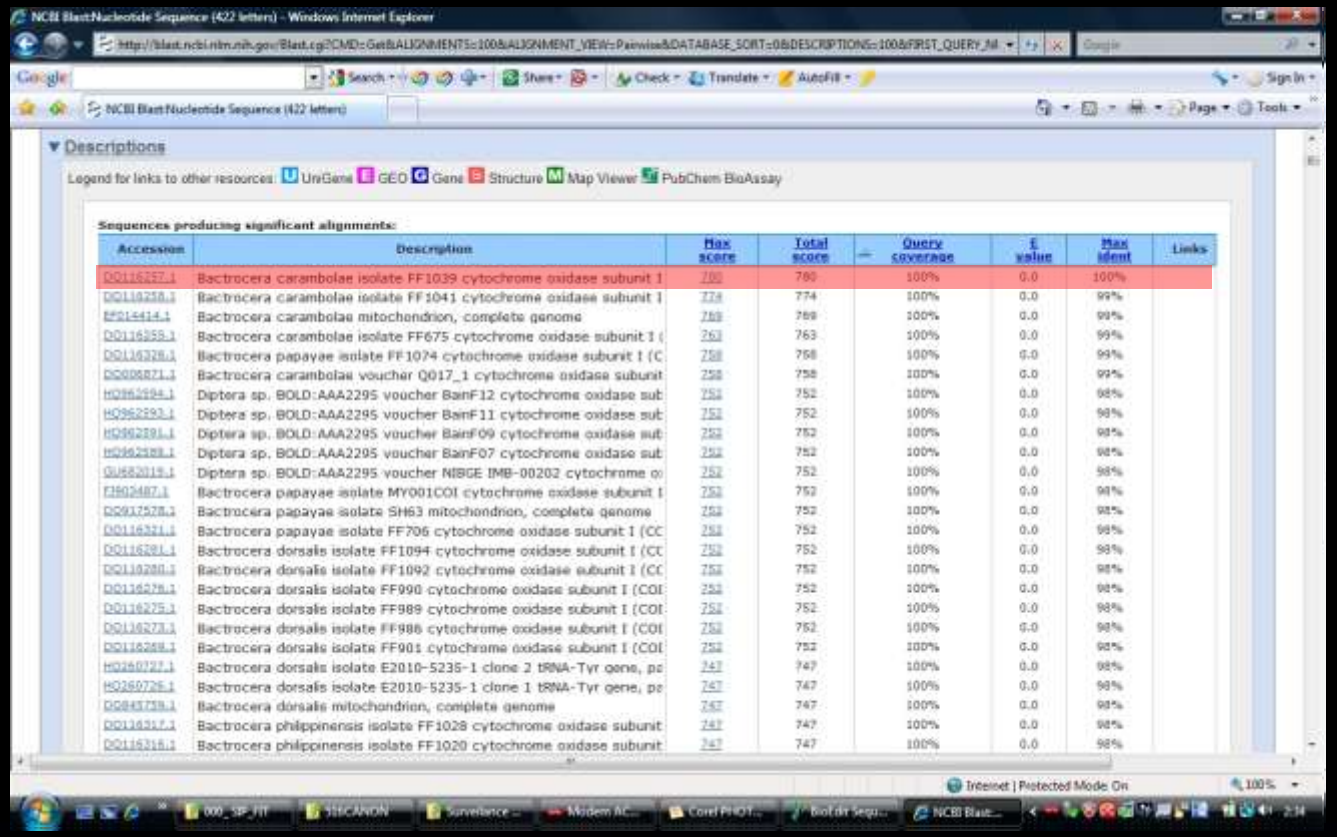
Identification of Fruit Fly Species using DNA analysis



Identification of Fruit Fly Species using DNA analysis



Identification of Fruit Fly Species using DNA analysis



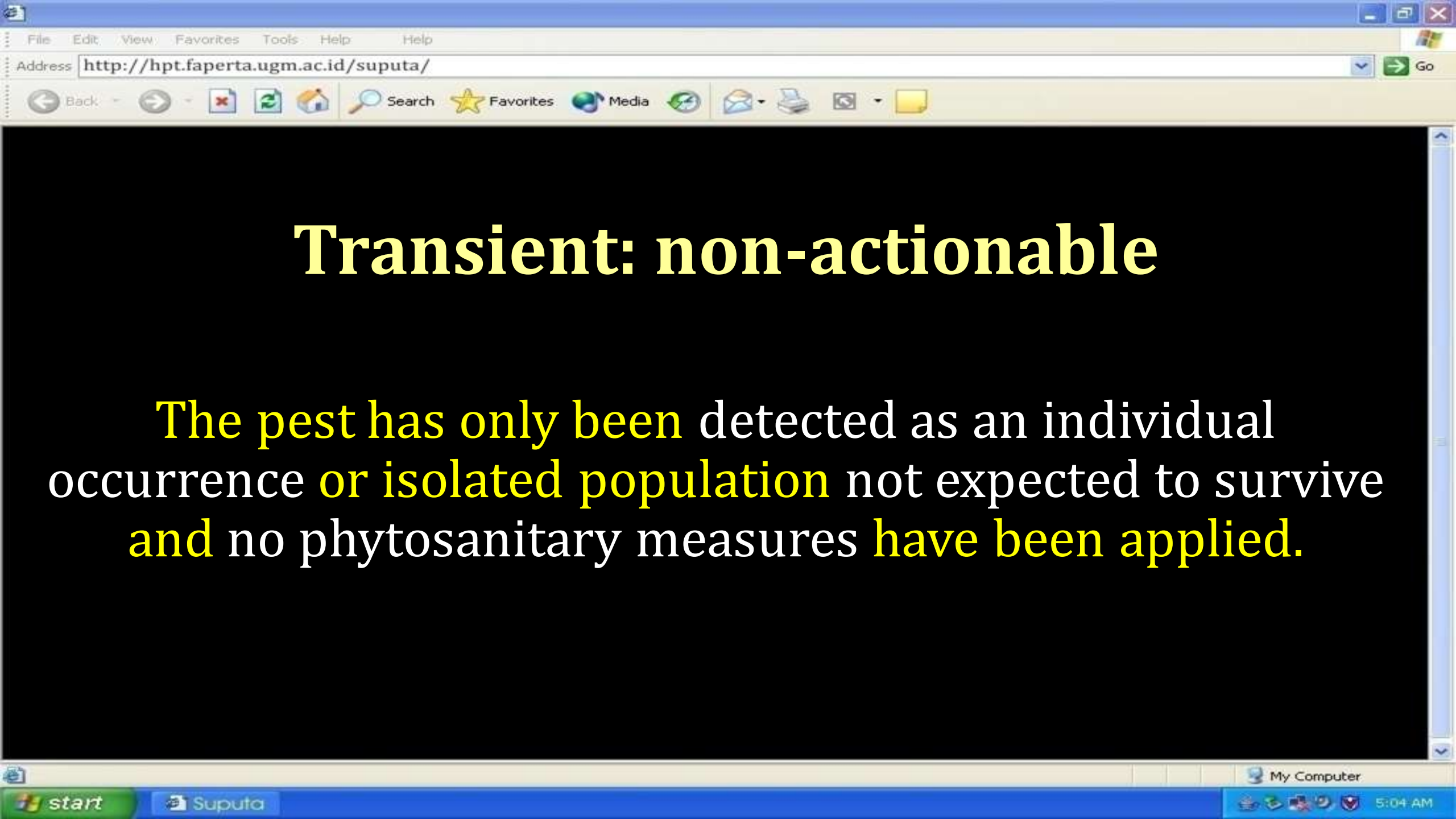
Absent: intercepted only

The pest has only been reported on consignments at a point of entry or initial destination or while under detention before release, treatment or destruction.

Surveillance confirms that the pest has not established.

Transience

Pest status is considered transient when a pest is present but establishment is not expected to occur based on technical evaluation.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Transient: non-actionable
The pest has only been detected as an individual occurrence or isolated population not expected to survive and no phytosanitary measures have been applied.
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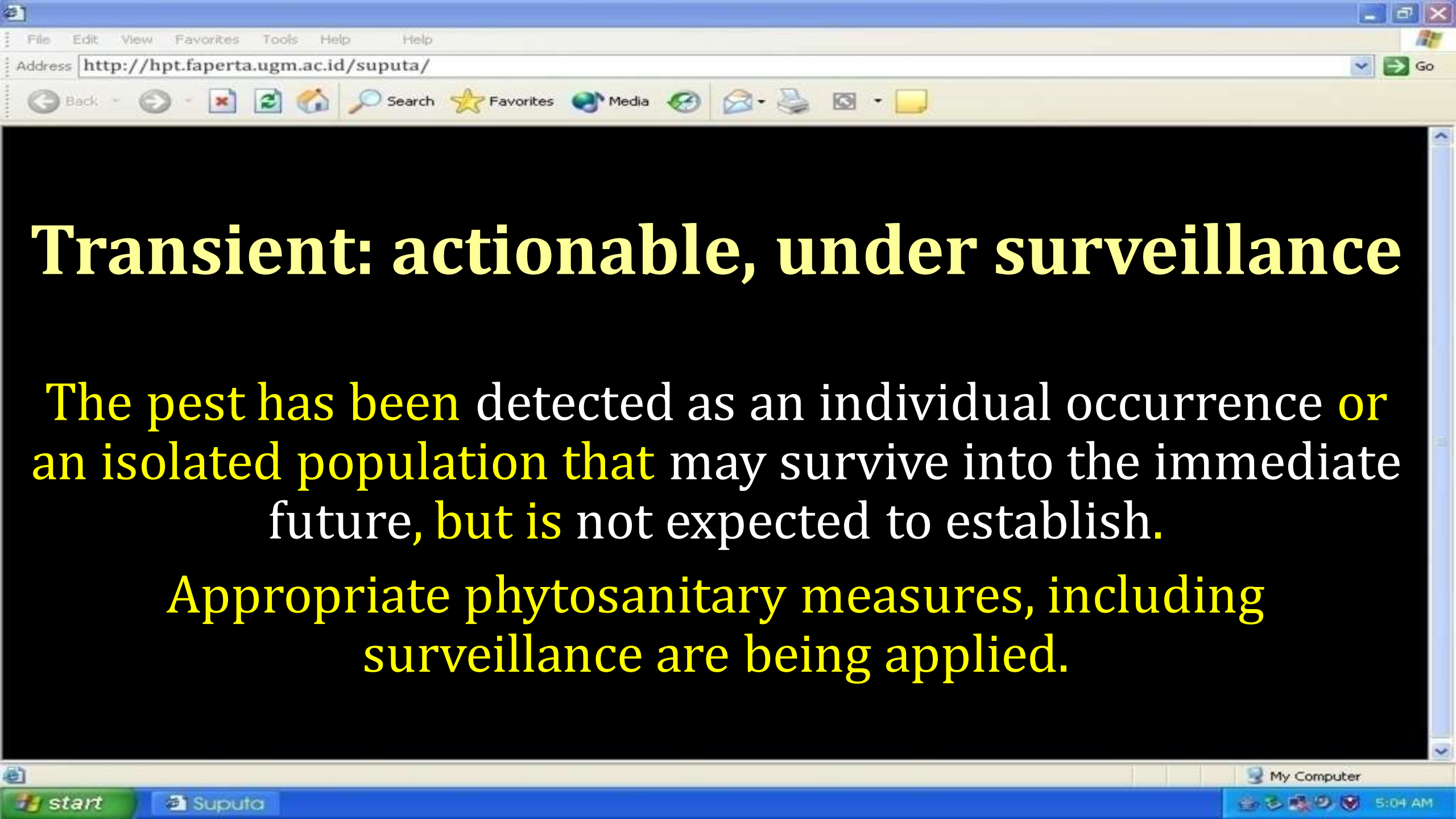
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Transient: actionable, under surveillance
The pest has been detected as an individual occurrence or an isolated population that may survive into the immediate future, but is not expected to establish.
Appropriate phytosanitary measures, including surveillance are being applied.
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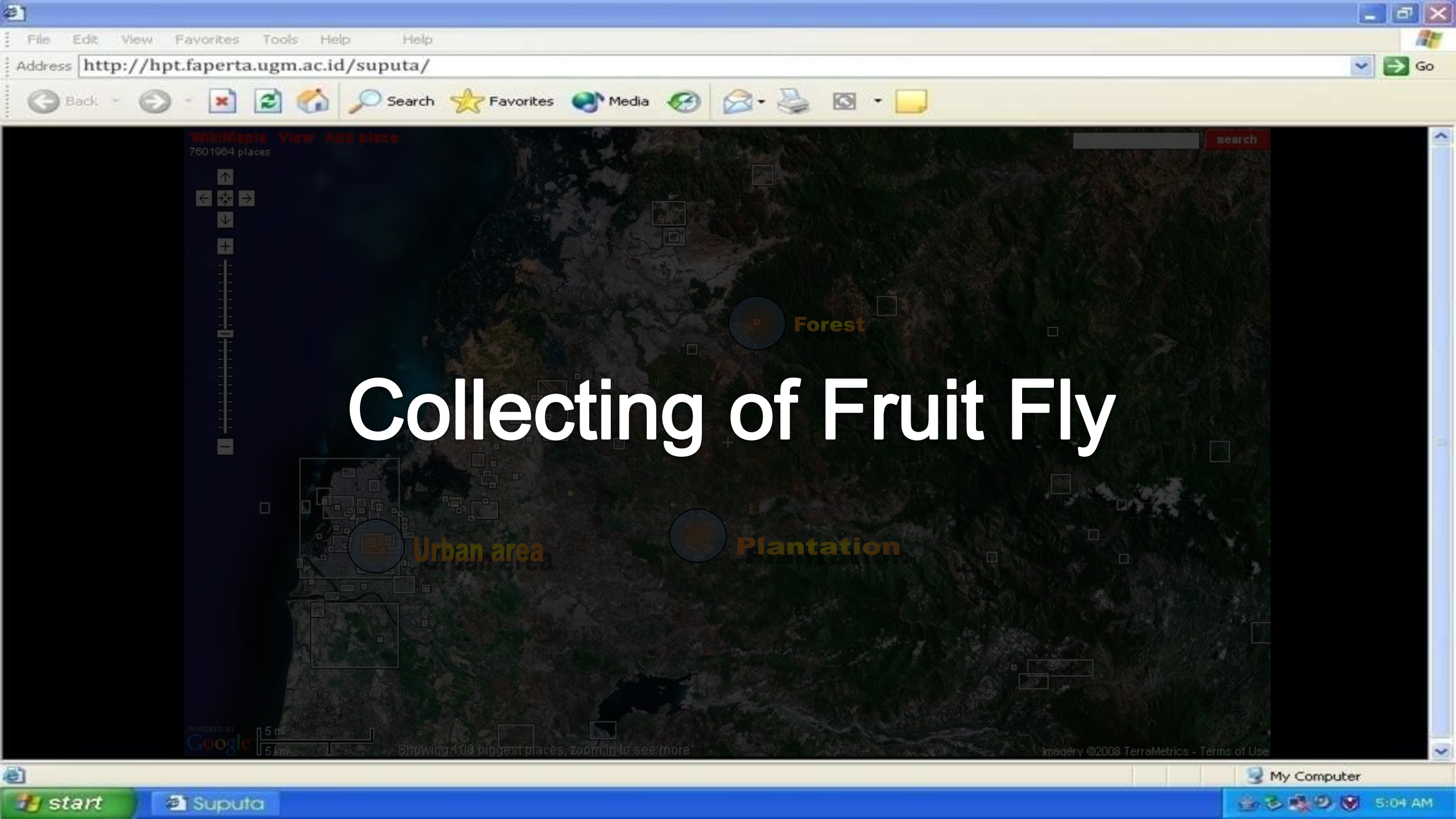
Transient: actionable, under eradication

The pest has been detected as an isolated population which may survive into the immediate future and, without phytosanitary measures for eradication, may establish.

Appropriate phytosanitary measures have been applied for its eradication.

Determination of pest status in an area

- individual pest records
- pest records from surveys
- records or other indication of pest absence
- results of general surveillance
- information from scientific publications and databases
- phytosanitary measures used to prevent introduction or spread
- other information relevant to assessing pest absence or presence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Forest
Collecting of Fruit Fly
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Subgenus Zeugodacus

36.	*B. calumniata* (Hardy)	CUE	
37.	*B. caudata* (Fabricius)	CUE	
38.	*B. cucurbitae* (Coquillett)	CUE	
39.	*B. emittens* (Walker)	CUE	
40.	*B. exornata* (Hering)	CUE	
41.	*B. heinrichi* (Hering)	CUE	
42.	*B. persignata* (Hering)	CUE	
43.	*B. pseudocucurbitae* White ψ	CUE	
44.	*B. synnephes* (Hendel)	CUE	
45.	*B. tau* (Walker) ψ	CUE	awit
46.	*B. gamais* n.sp.	ME	

Subgenus Callantra

47.	*Dacus leongi* Drew & Hancock ψ	CUE	
48.	*D. longicornis* Wiedermann	CUE	
49.	*D. nanggalae* Drew & Hancock ψ	CUE	

DIPTERA: TEPHRITIDAE: TRYPETINAE

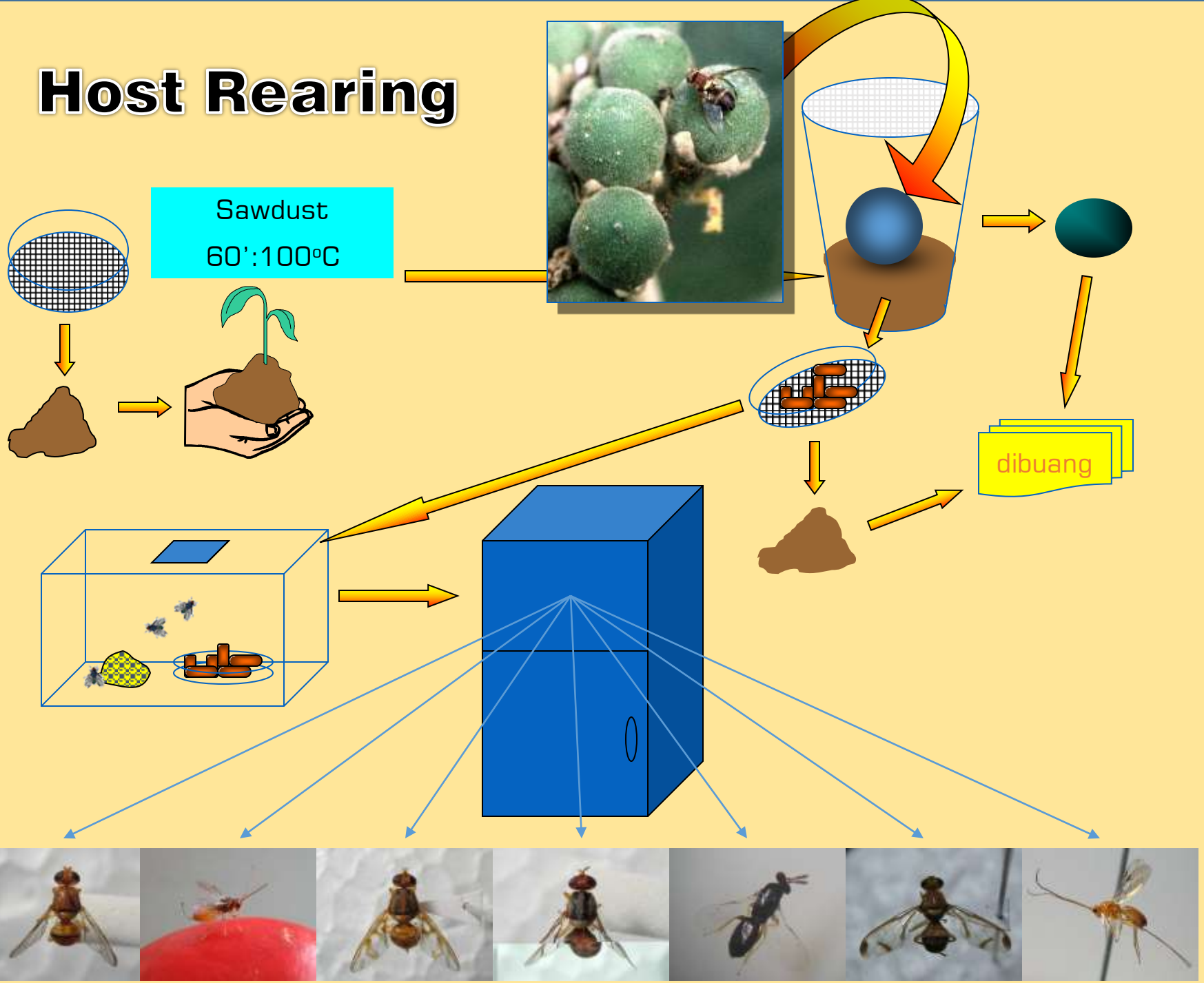
50.	*Adrama determinata* (Walker)	Biji Teh	o

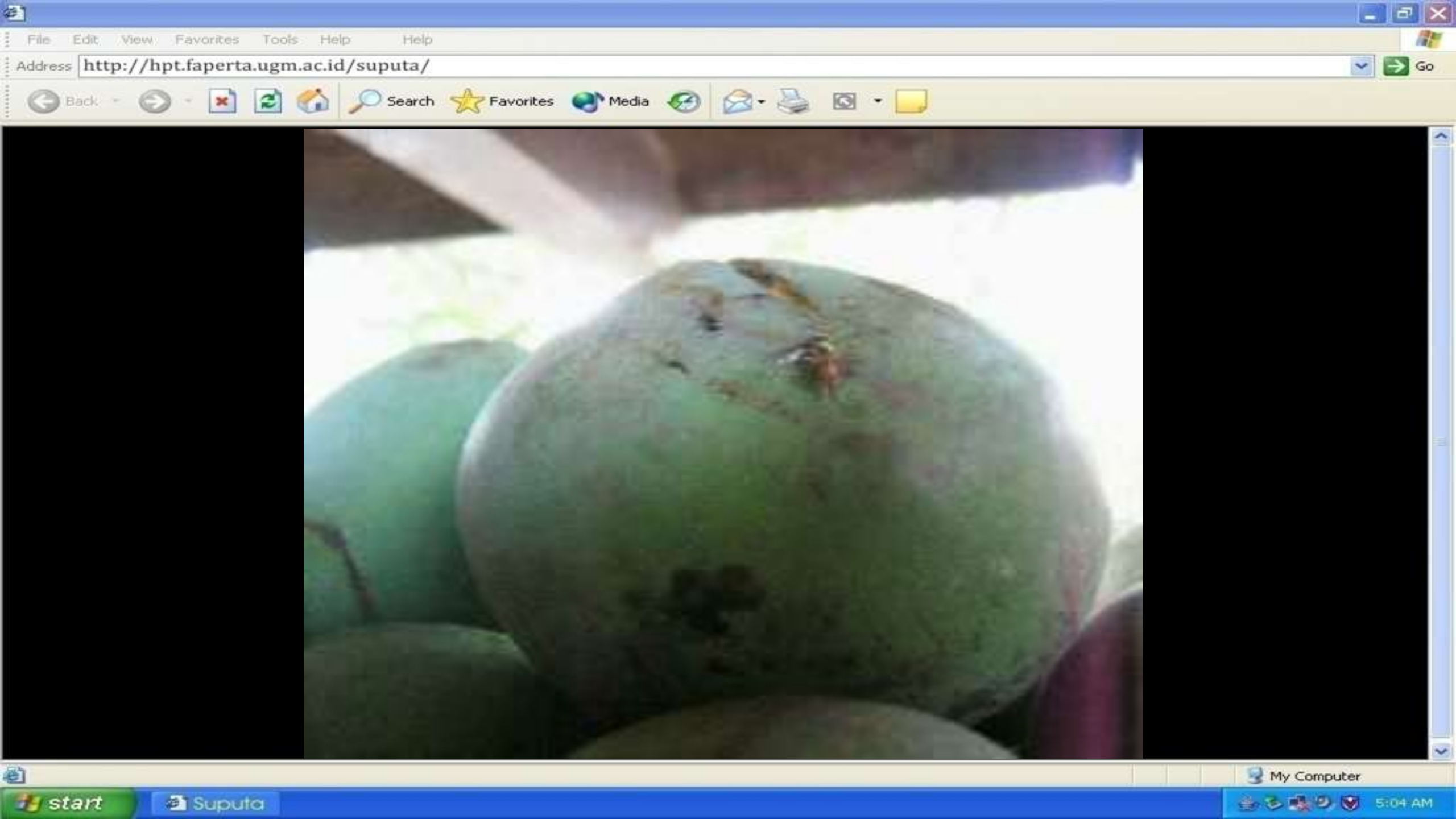
DIPTERA: MUSCIDAE: PHAONIINAE
Subgenus Acritochaeta

51.	*Atherigona orientalis* (Schin.)	Buah Cabai Merah	

ψ: Lalat buah yang dikirimi oleh staf BPTPH, Karantina, dan Universitas.

Host Rearing

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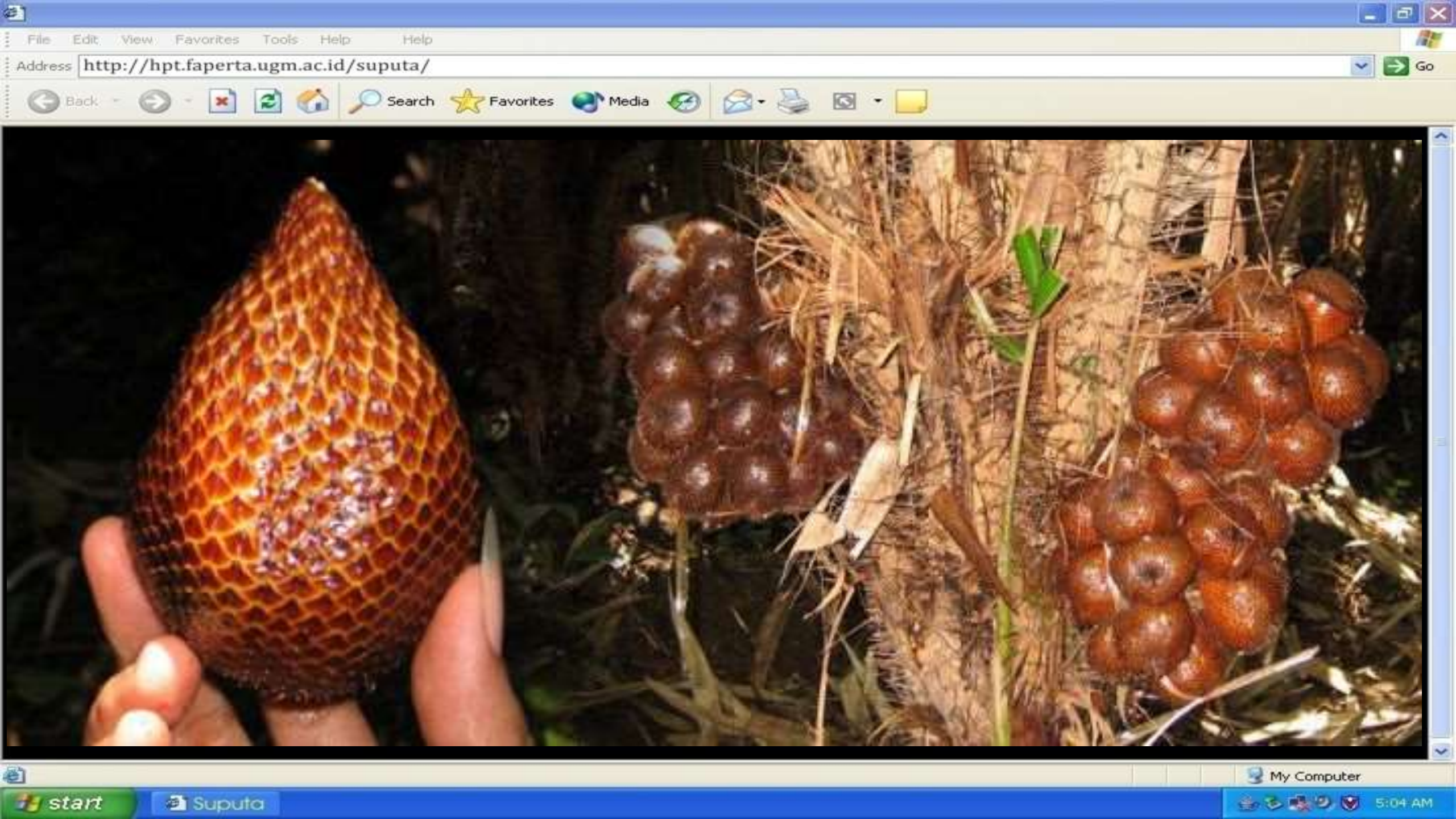
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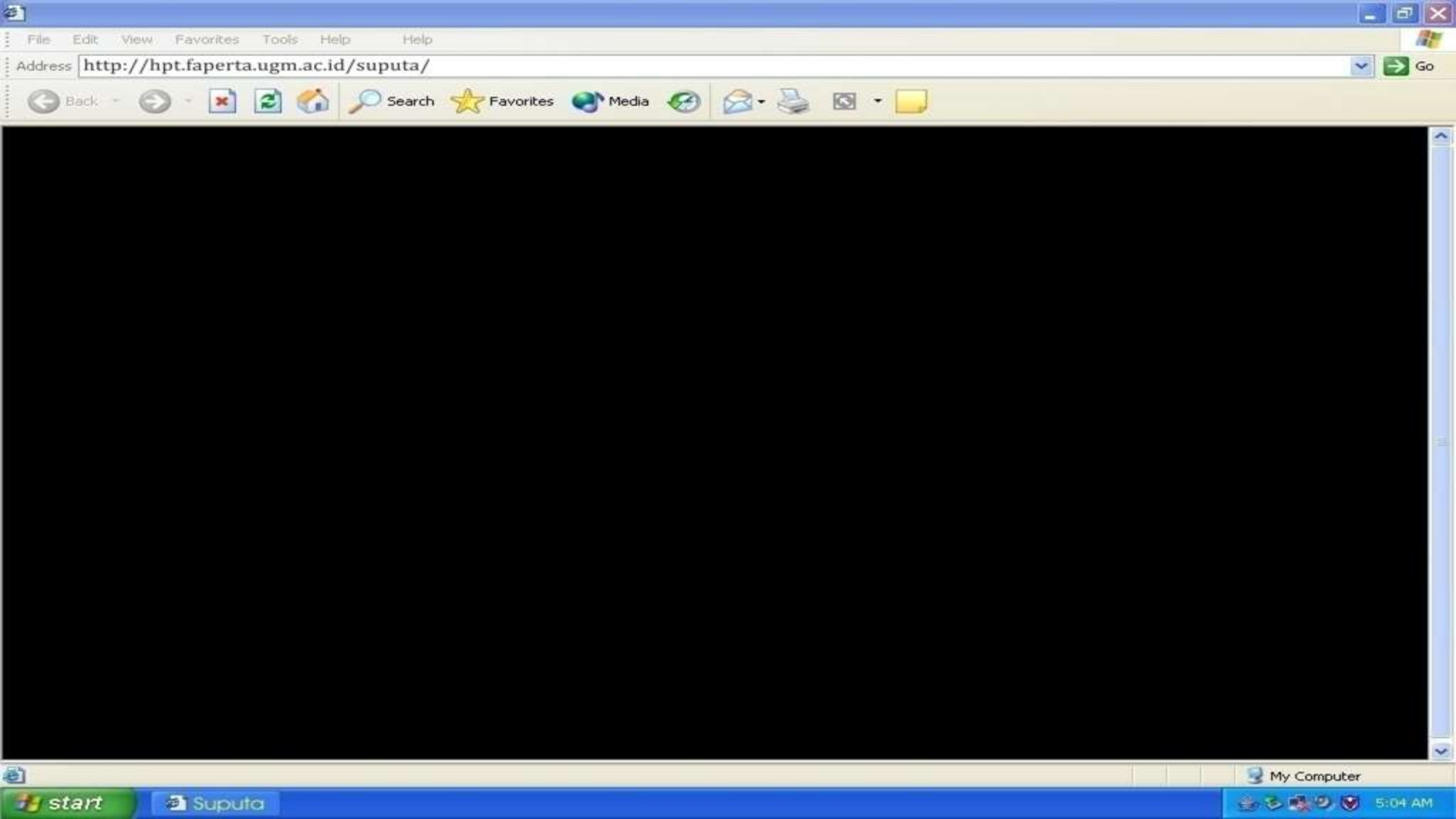
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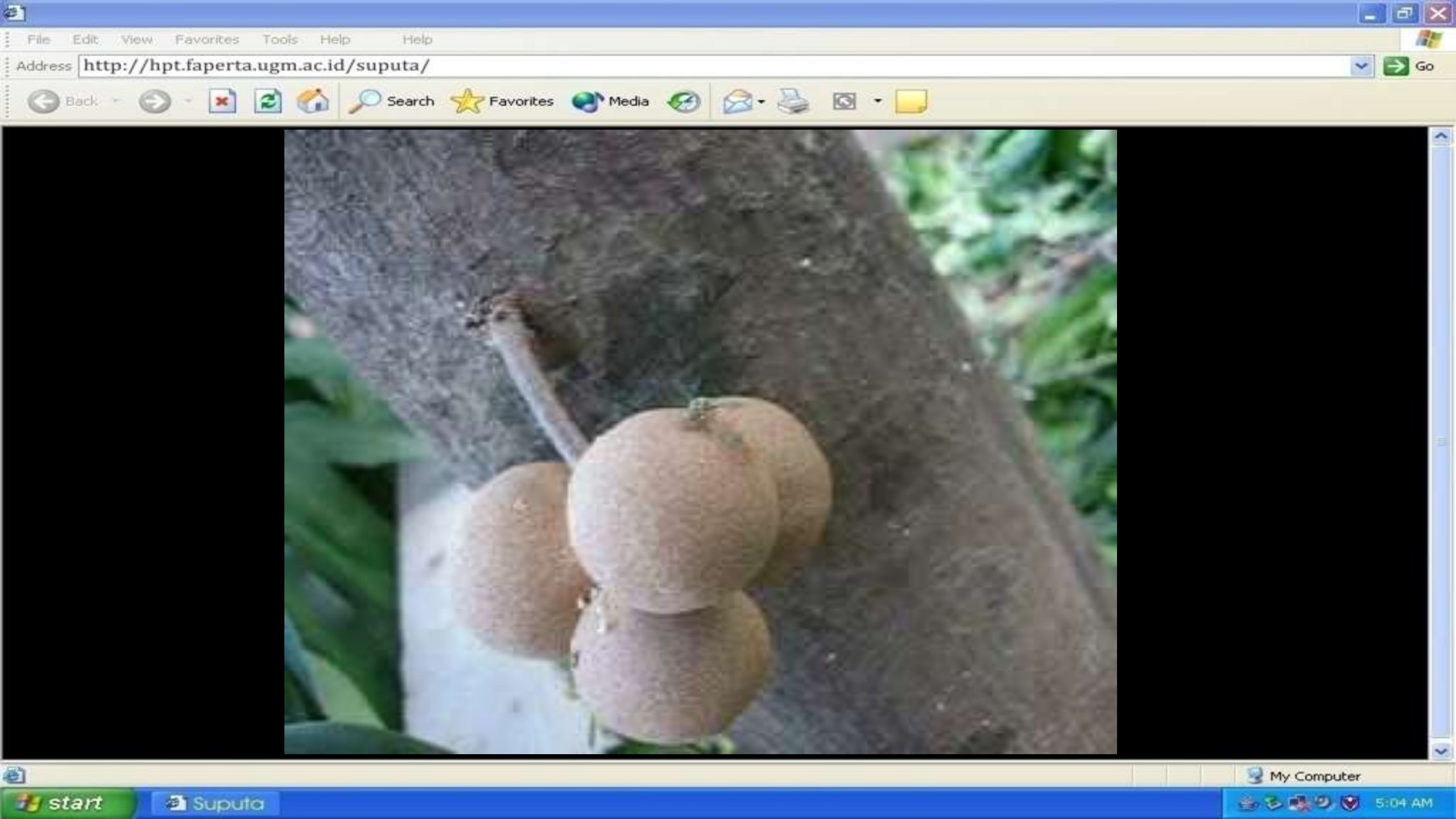
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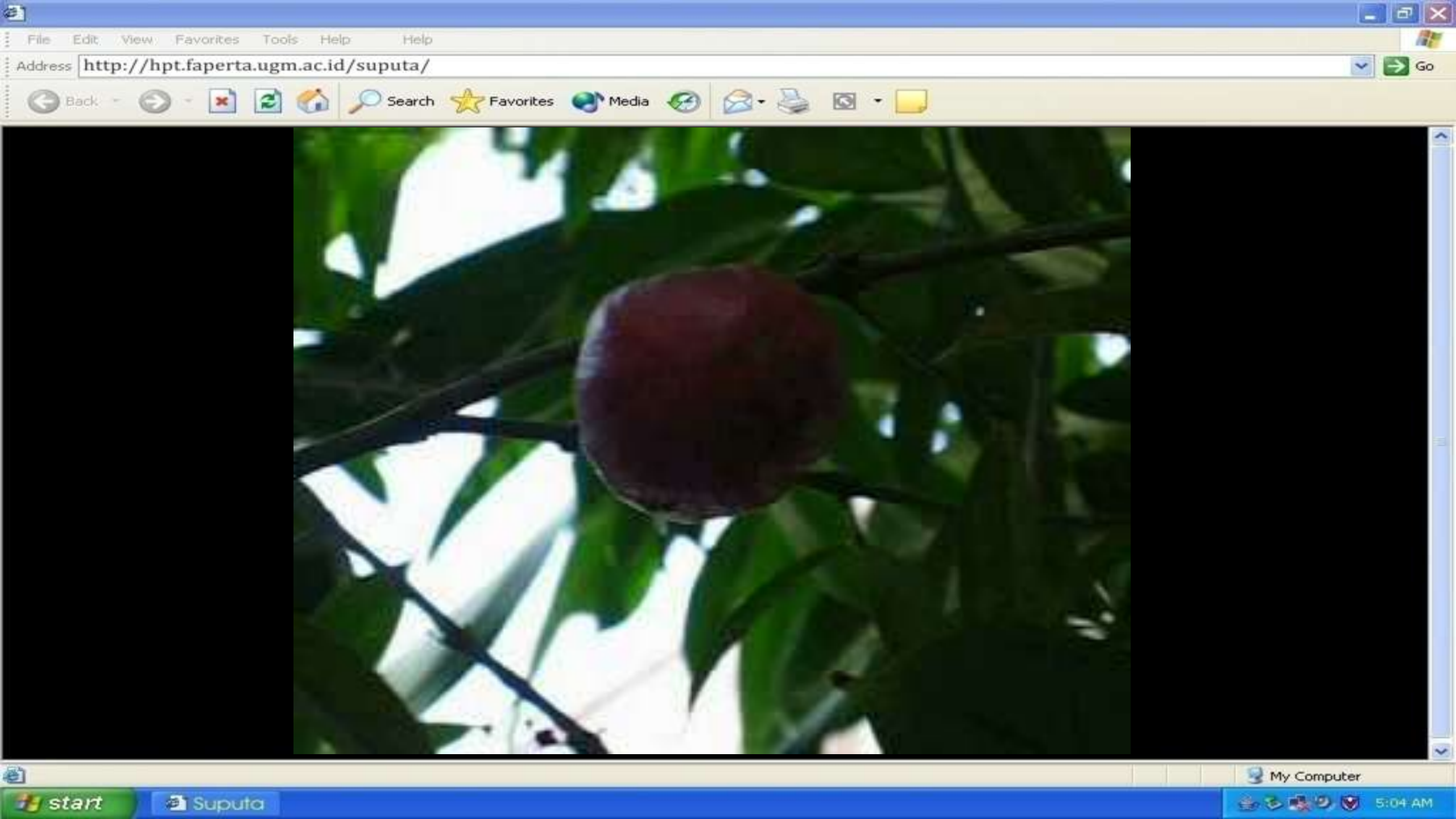
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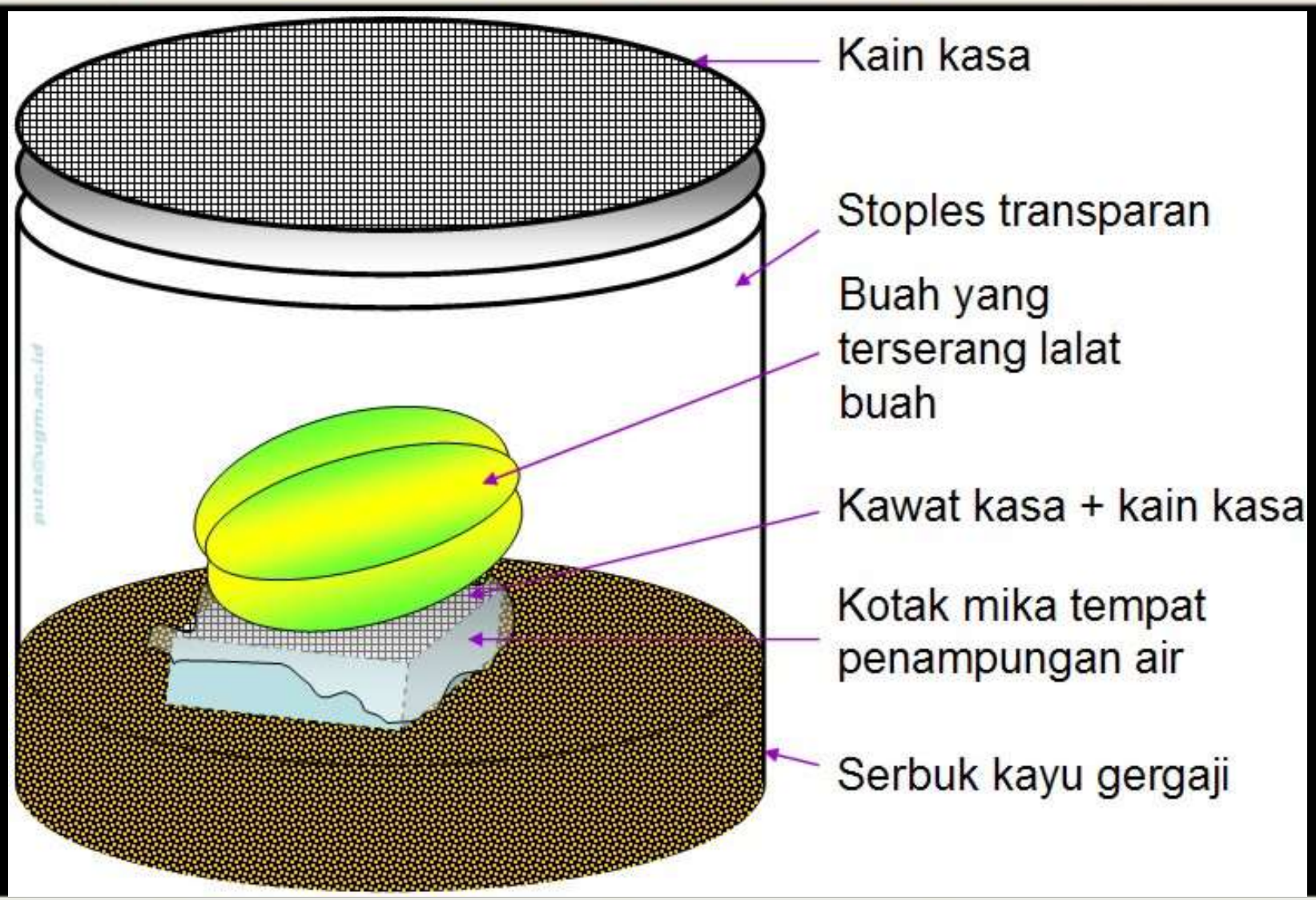
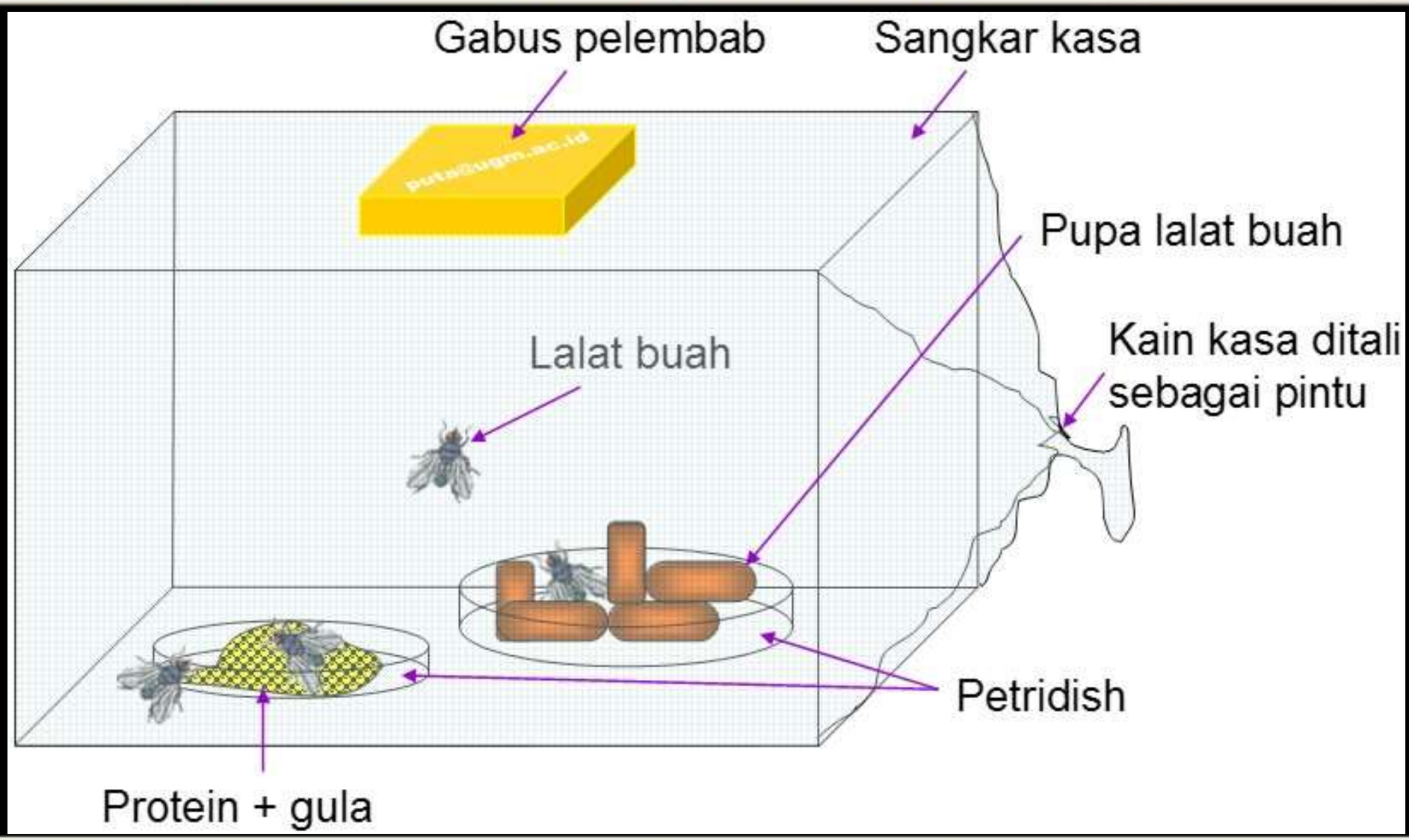
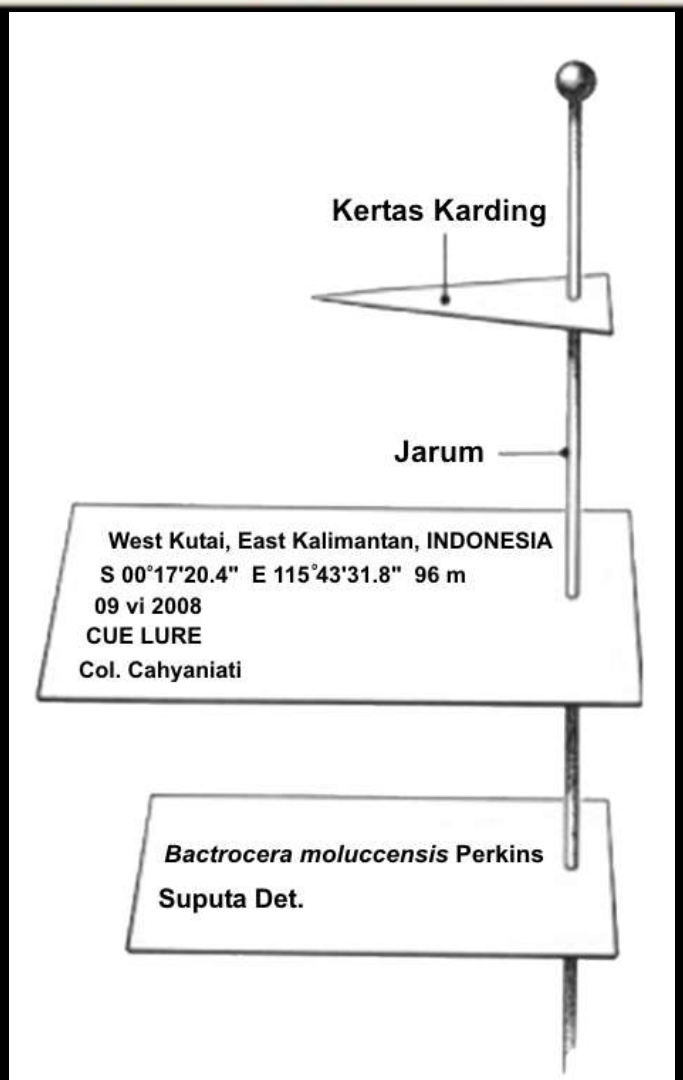
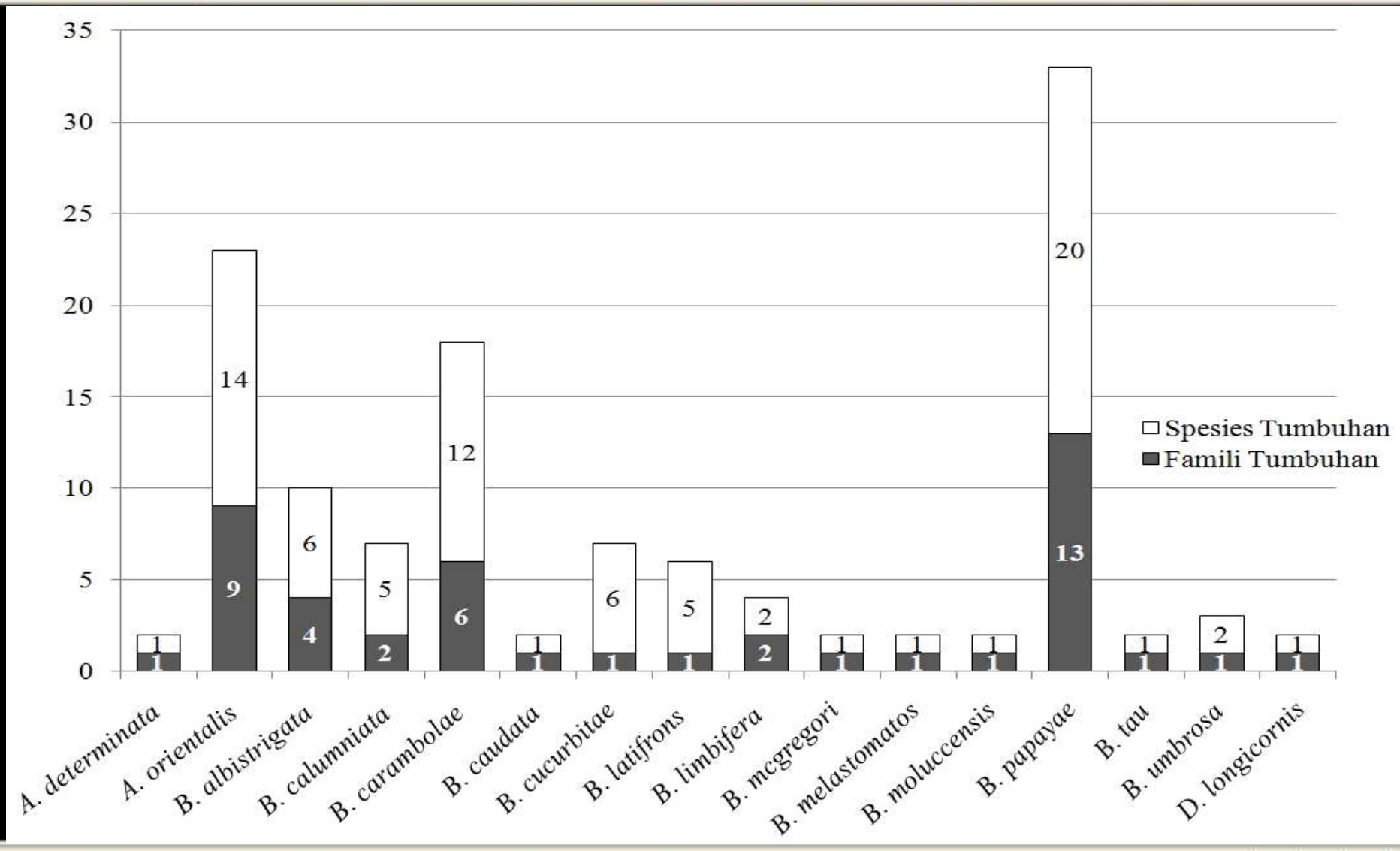








MONOFAGA

A. determinata (-) → *Camellia sinensis*
B. caudata (CUE lure) → *Cucurbita moschata*
B. mcgregori (-) → *Gnatum gnemon*
B. melastomatos (CUE lure) → *Melastoma malabathricum*
B. moluccensis (CUE lure) → *Inocarpus fagifer*
B. tau (CUE lure) → *Passiflora edulis*
D. longicornis (CUE lure) → *Luffa acutangula*

STENOFAGA

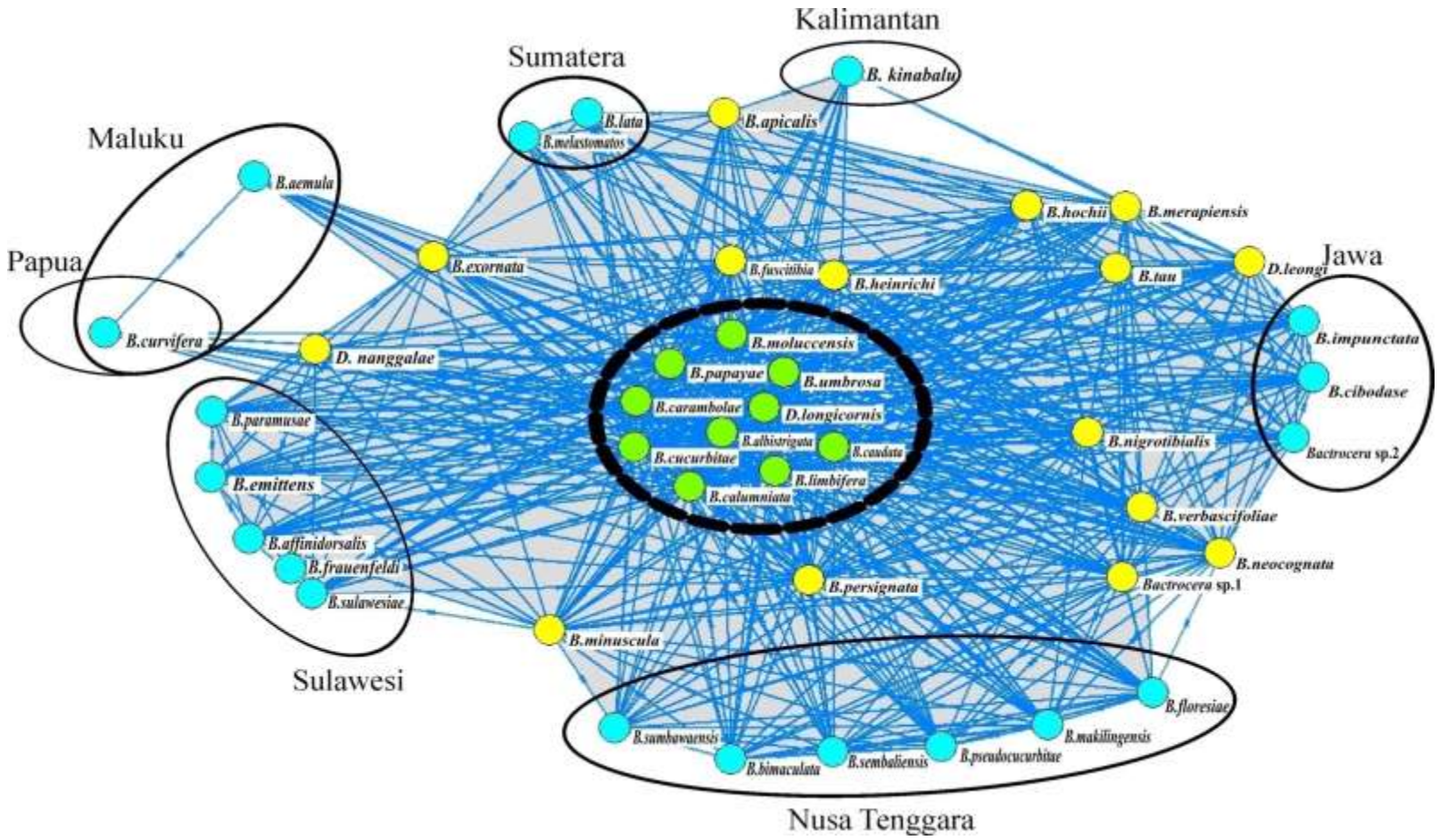
B. umbrosa (ME) → *Artocarpus* spp.

OLIGOFAGA

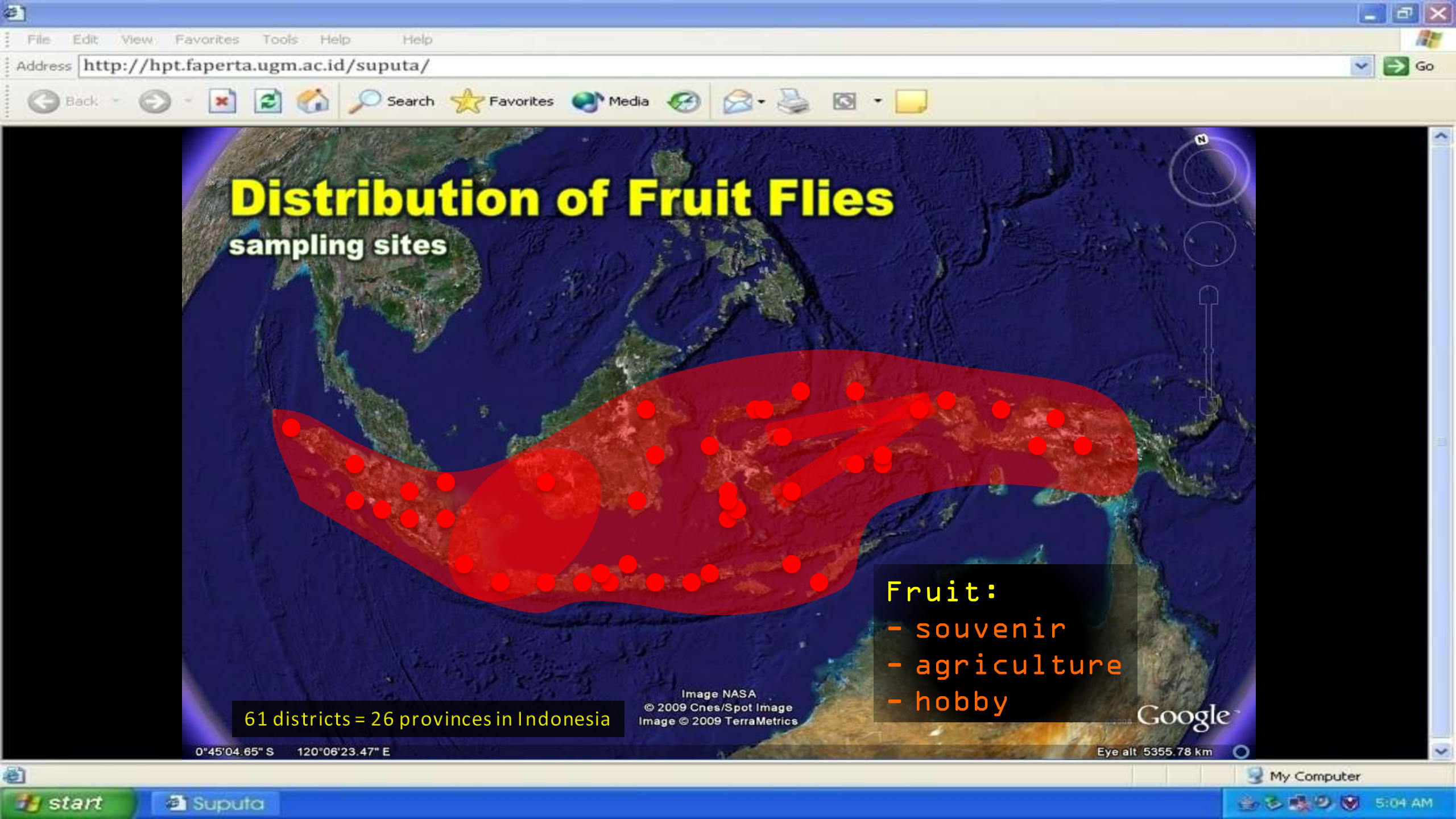
B. cucurbitae (CUE lure) → Cucurbitaceae
B. latifrons (-) → Solanaceae

POLIFAGA

B. papaya (ME) → Anacardiaceae, Annonaceae, Caricaceae, Combretaceae, Fabaceae, Meliaceae, Myrtaceae, Oxalidaceae, Sapindaceae, Thymelaeaceae
B. carambolae (ME) → Anacardiaceae, Annonaceae, Caricaceae, Combretaceae, Meliaceae, Myrtaceae, Oxalidaceae, Sapindaceae
A. orientalis (-) → Anacardiaceae, Annonaceae, Caricaceae, Combretaceae, Fabaceae, Meliaceae, Myrtaceae, Sapindaceae,



Gambar 8. Pengelompokan sebaran lalat buah menggunakan *Pajek software package*; endemik, kosmopolit, dan semi-kosmopolit.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Distribution of Fruit Flies
sampling sites
Fruit:
- souvenir
- agriculture
- hobby
61 districts = 26 provinces in Indonesia
Image NASA
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Image © 2009 TerraMetrics
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0°45'04.65" S 120°06'23.47" E
Eye alt 5355.78 km
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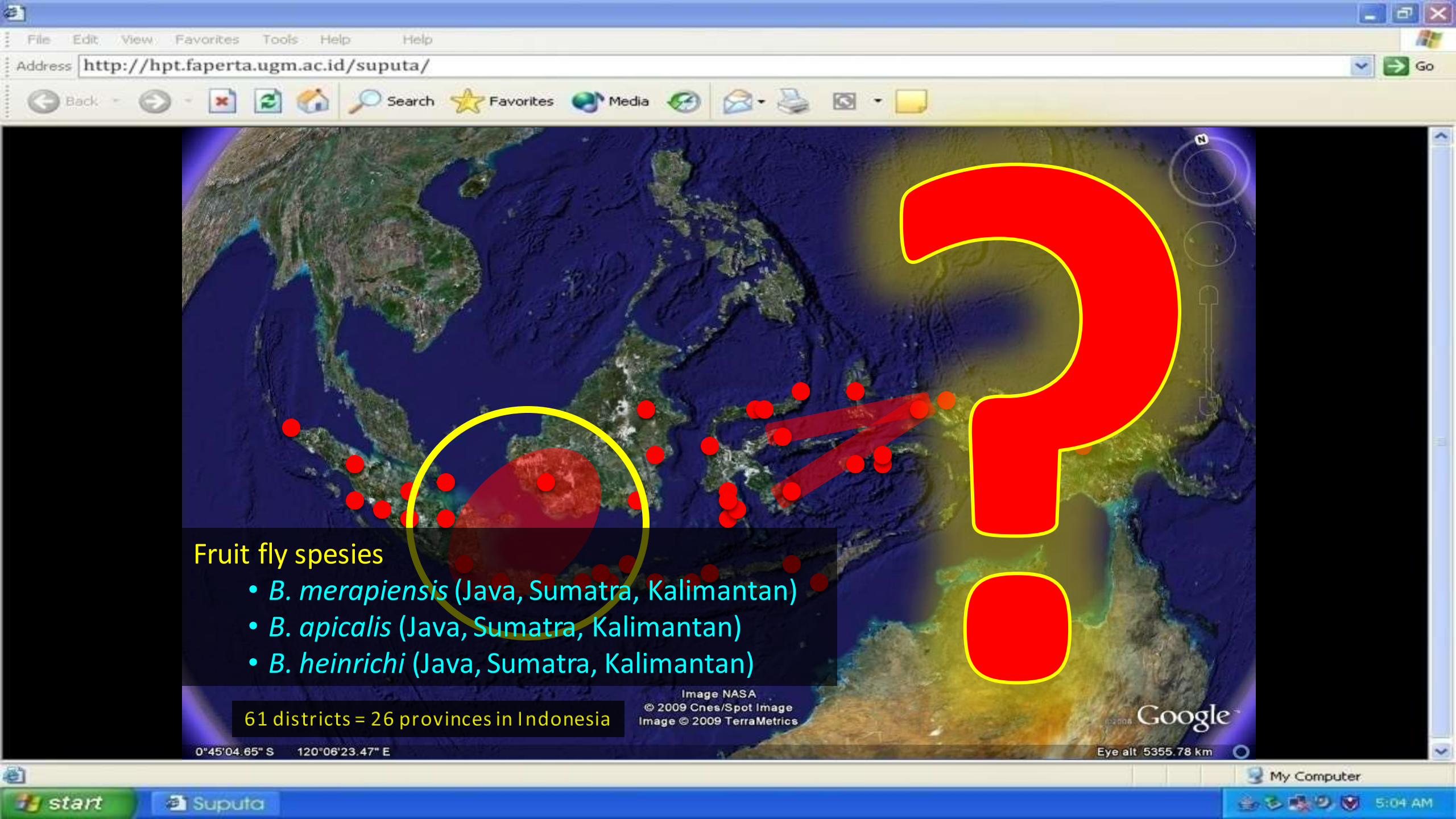
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Fruit fly spesies
• B. merapiensis (Java, Sumatra, Kalimantan)
• B. apicalis (Java, Sumatra, Kalimantan)
• B. heinrichi (Java, Sumatra, Kalimantan)
61 districts = 26 provinces in Indonesia
Image NASA
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0°45'04.65" S 120°06'23.47" E
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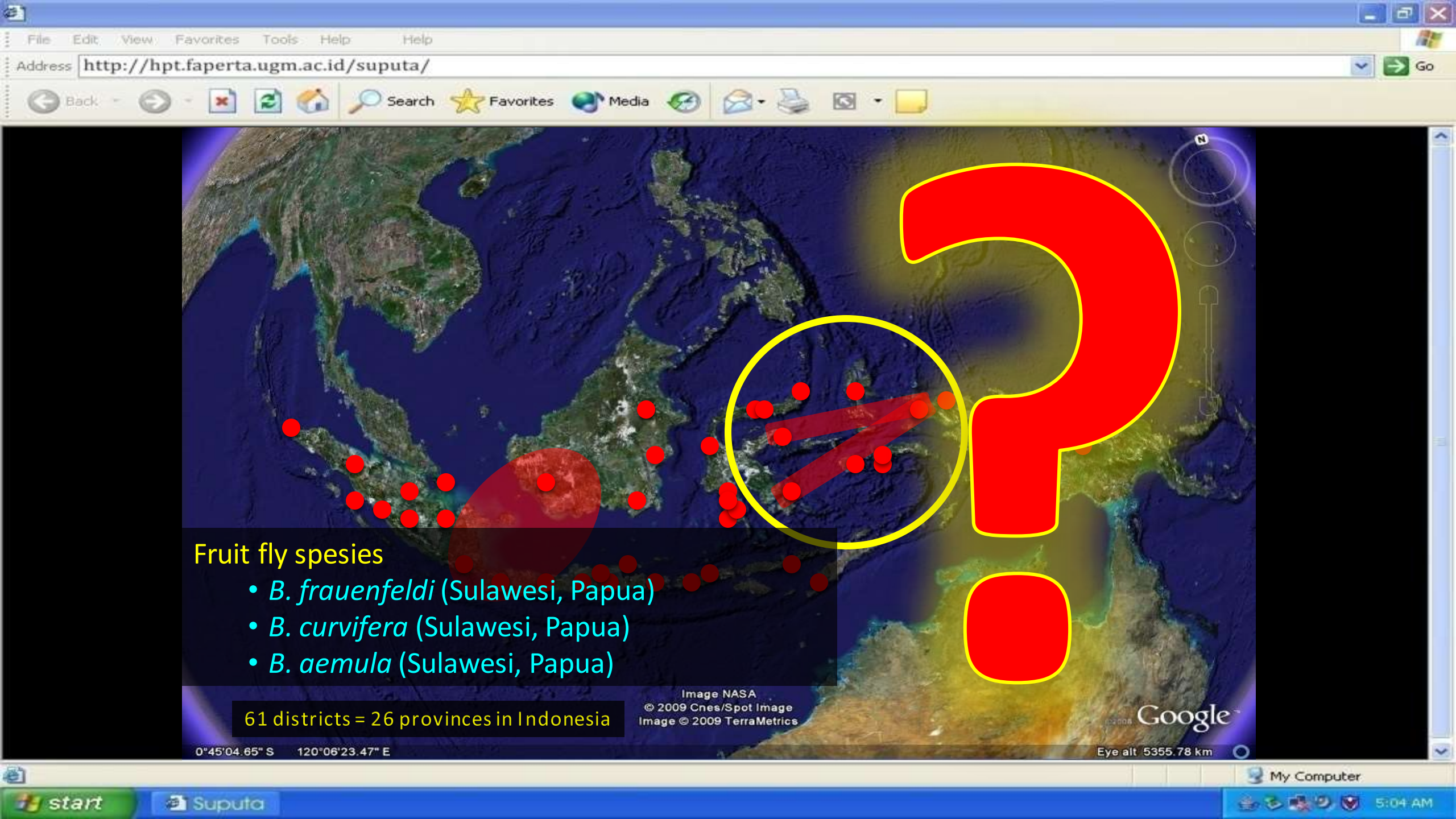
NatGeo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Fruit fly spesies
• B. frauenfeldi (Sulawesi, Papua)
• B. curvifera (Sulawesi, Papua)
• B. aemula (Sulawesi, Papua)
61 districts = 26 provinces in Indonesia
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Eye alt 5355.78 km
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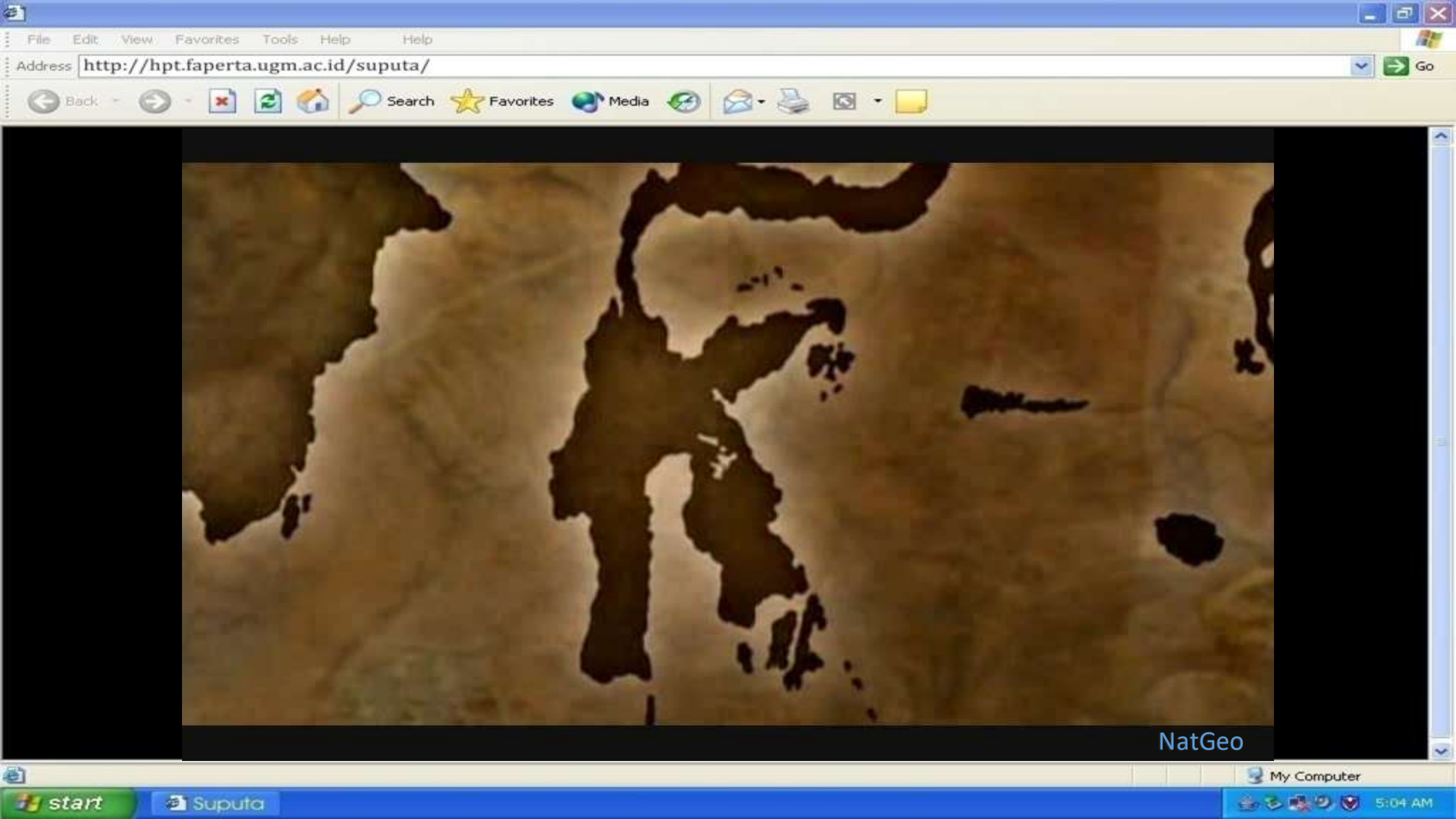
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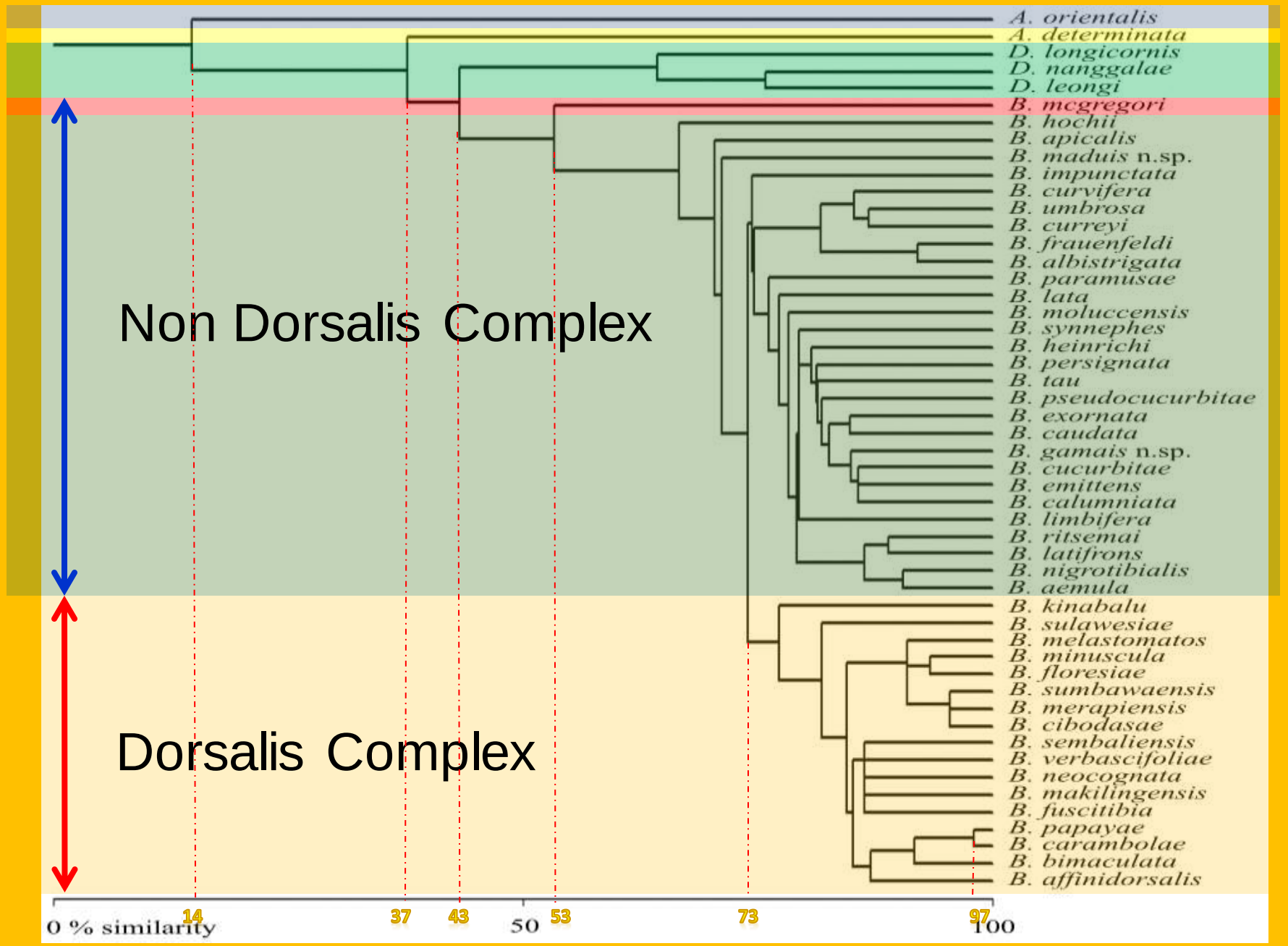
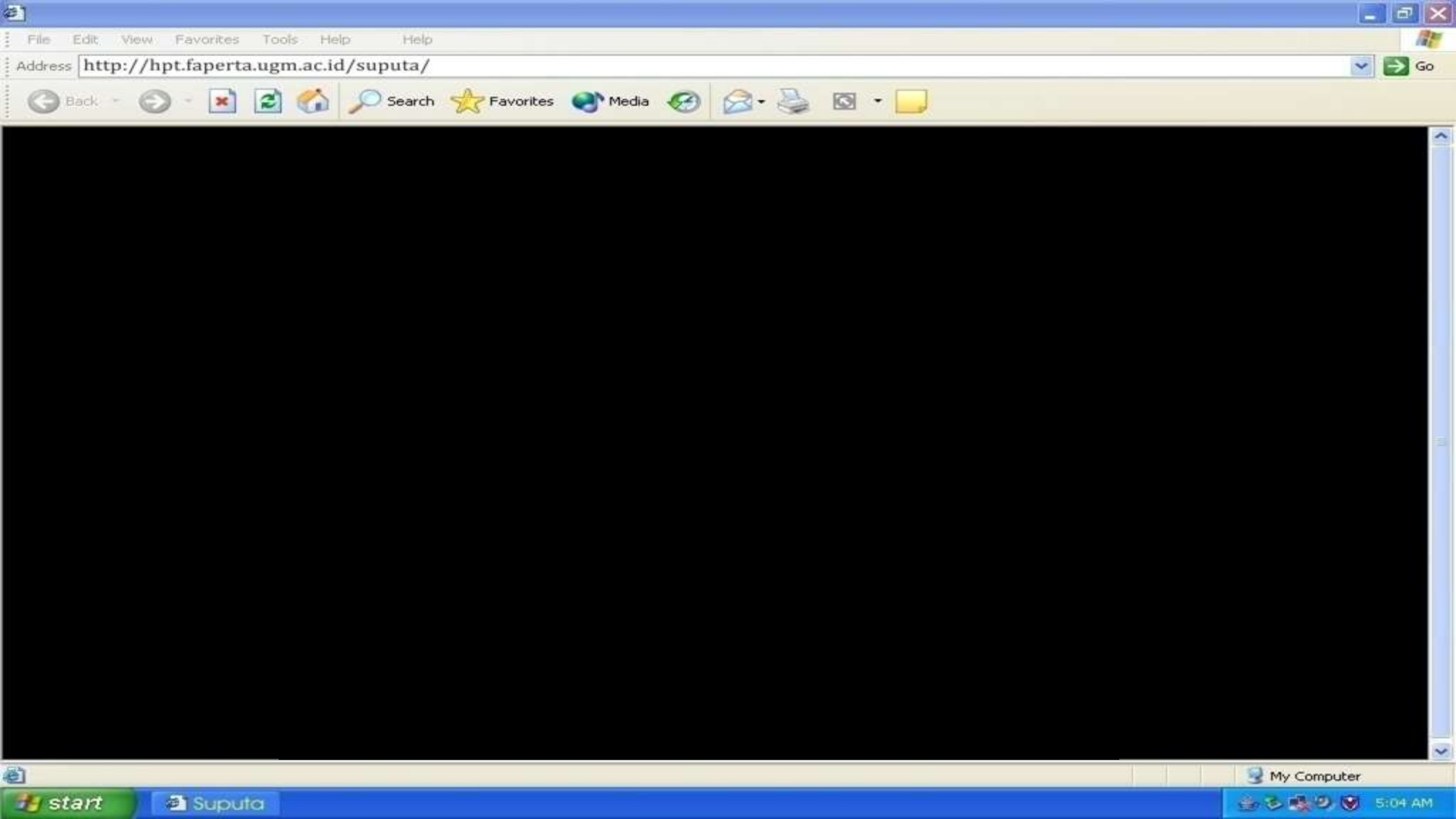


Bray-Curtis Cluster Analysis.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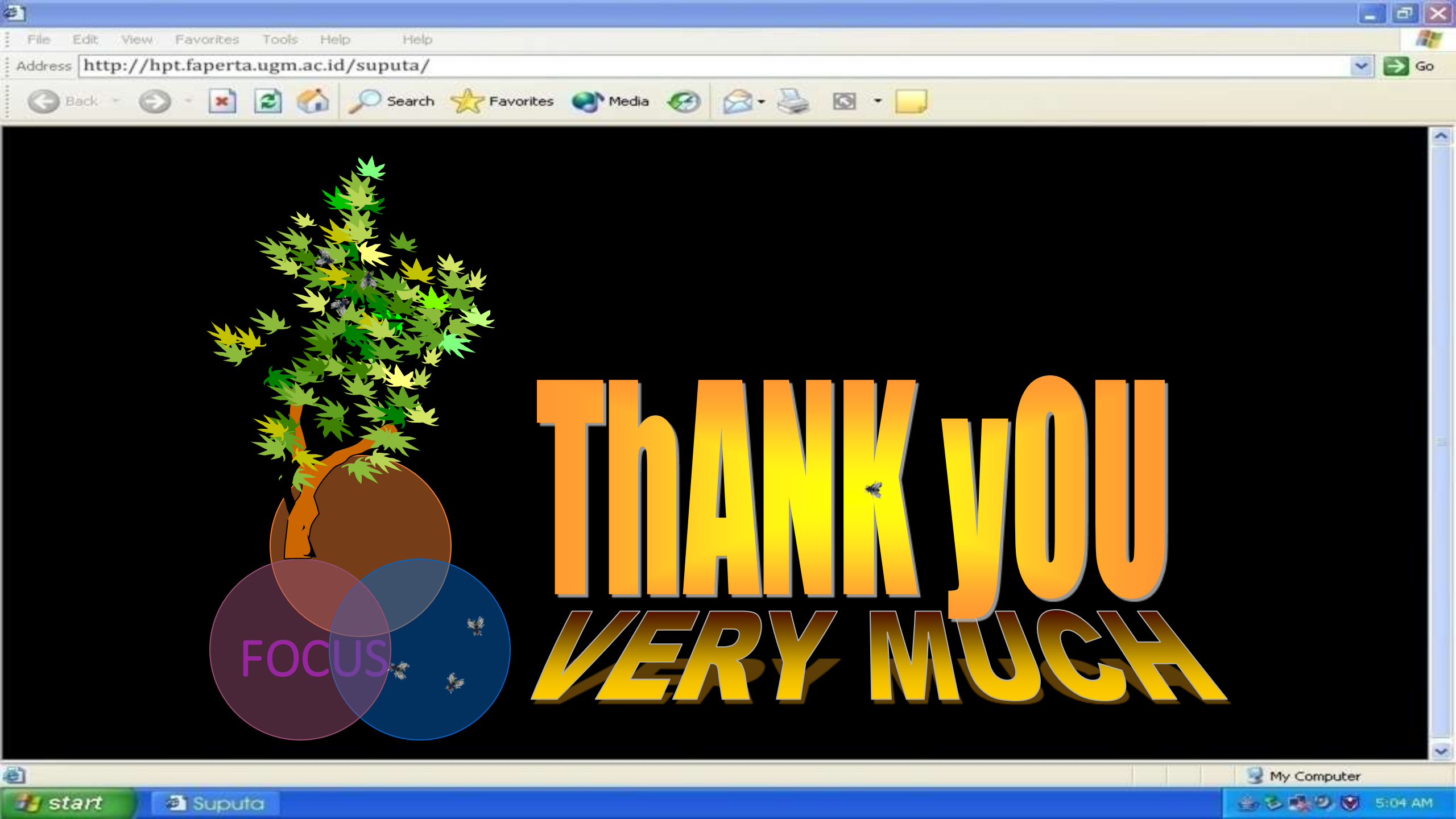
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