

# My research in Ecoinformatics and Biodiversity and my experiences as a PhD student in Aarhus

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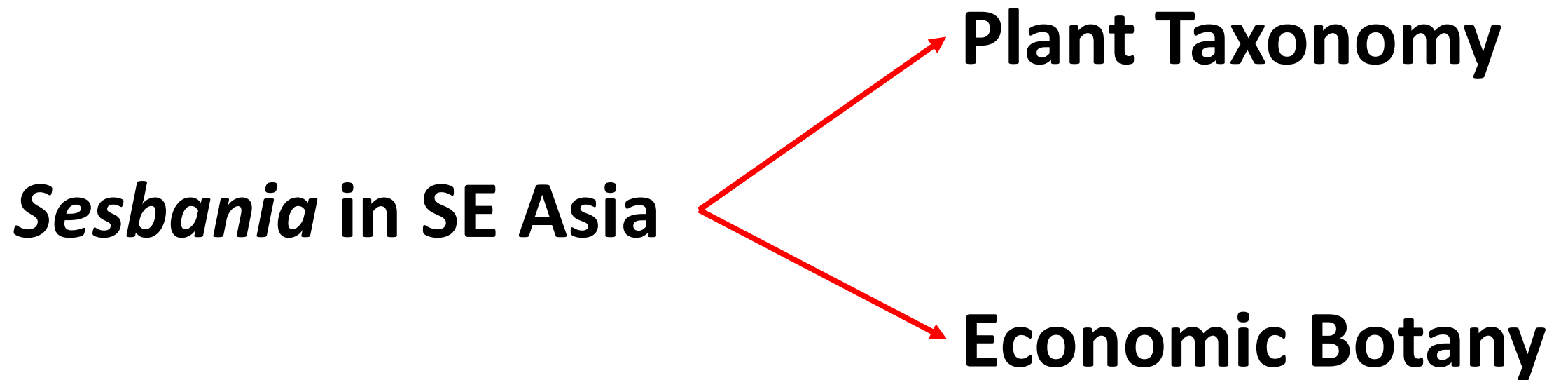
# Outline

## Introduction

### ***Sesbania* in SE Asia**

- Taxonomic revision of *Sesbania* in SE Asia
- Economic Botany of *Sesbania*

### **PhD life in Aarhus**



**What is *Sesbania*?**

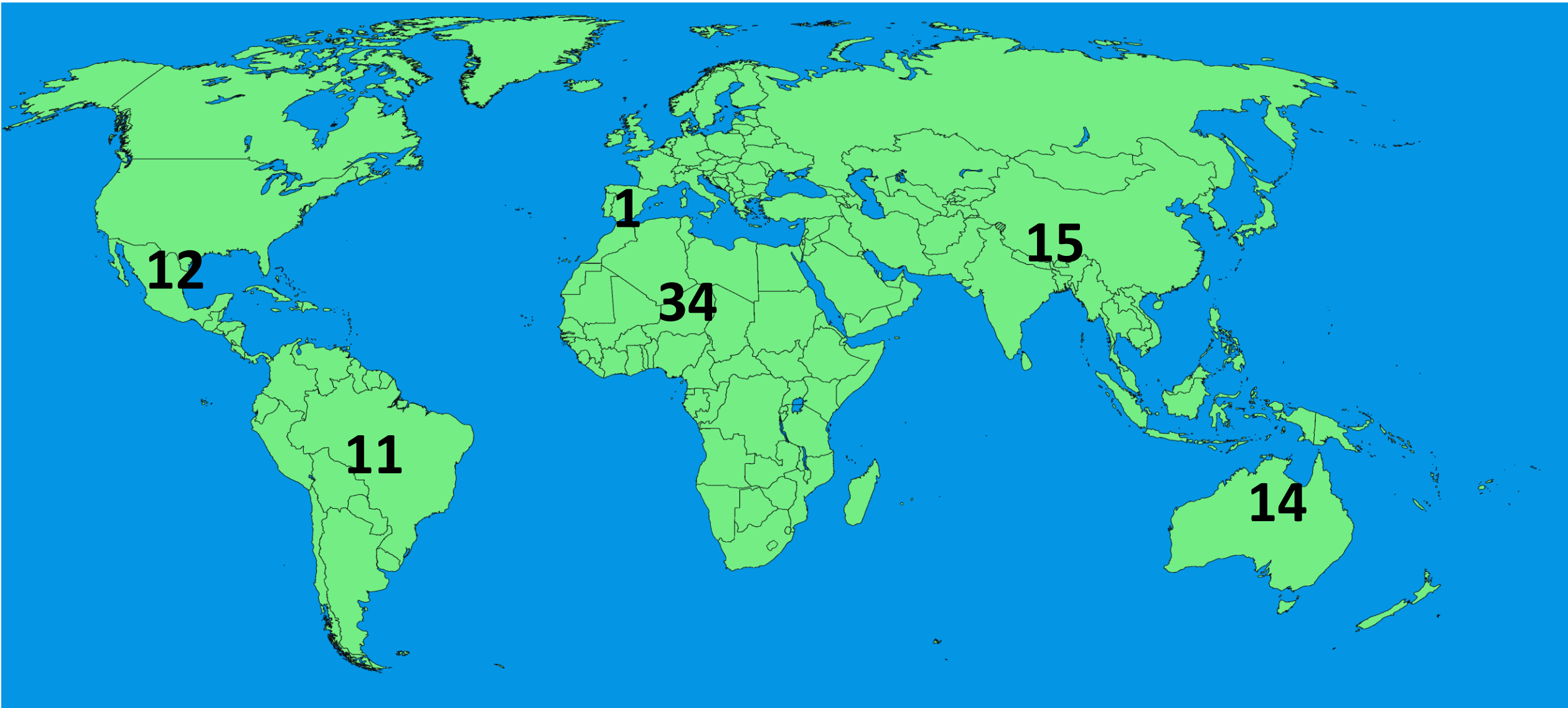
# *Sesbania* Adans.



# Papilionaceous flowers



# *Sesbania* distribution



# **What is Plant Taxonomy?**



# **Plant Taxonomy**

**the science of naming and classifying plants**

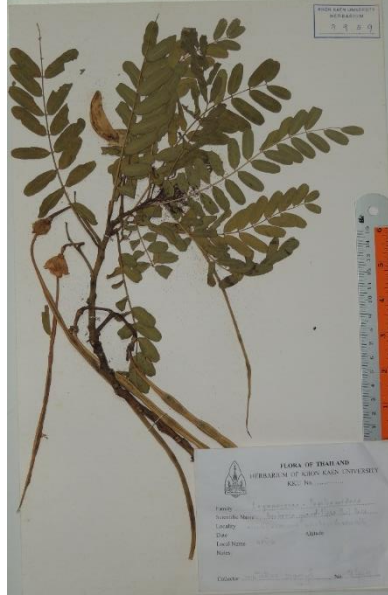
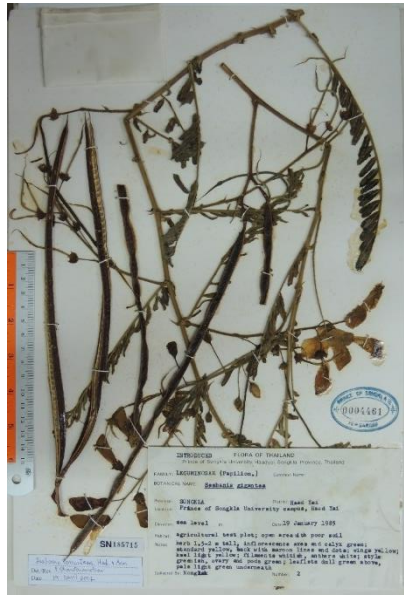
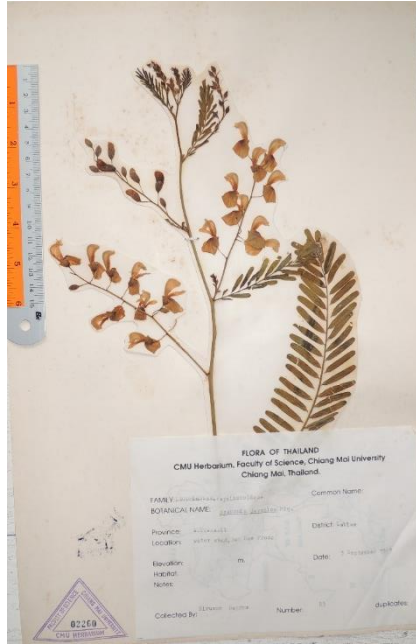
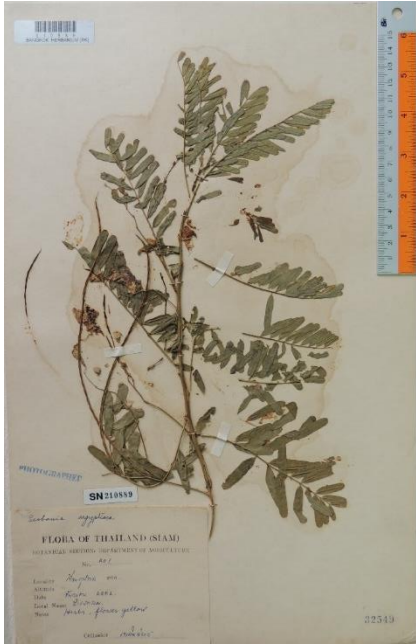
**Classification**

**Identification**

**Nomenclature**

**Description**

# Taxonomic revision of *Sesbania* in SE Asia

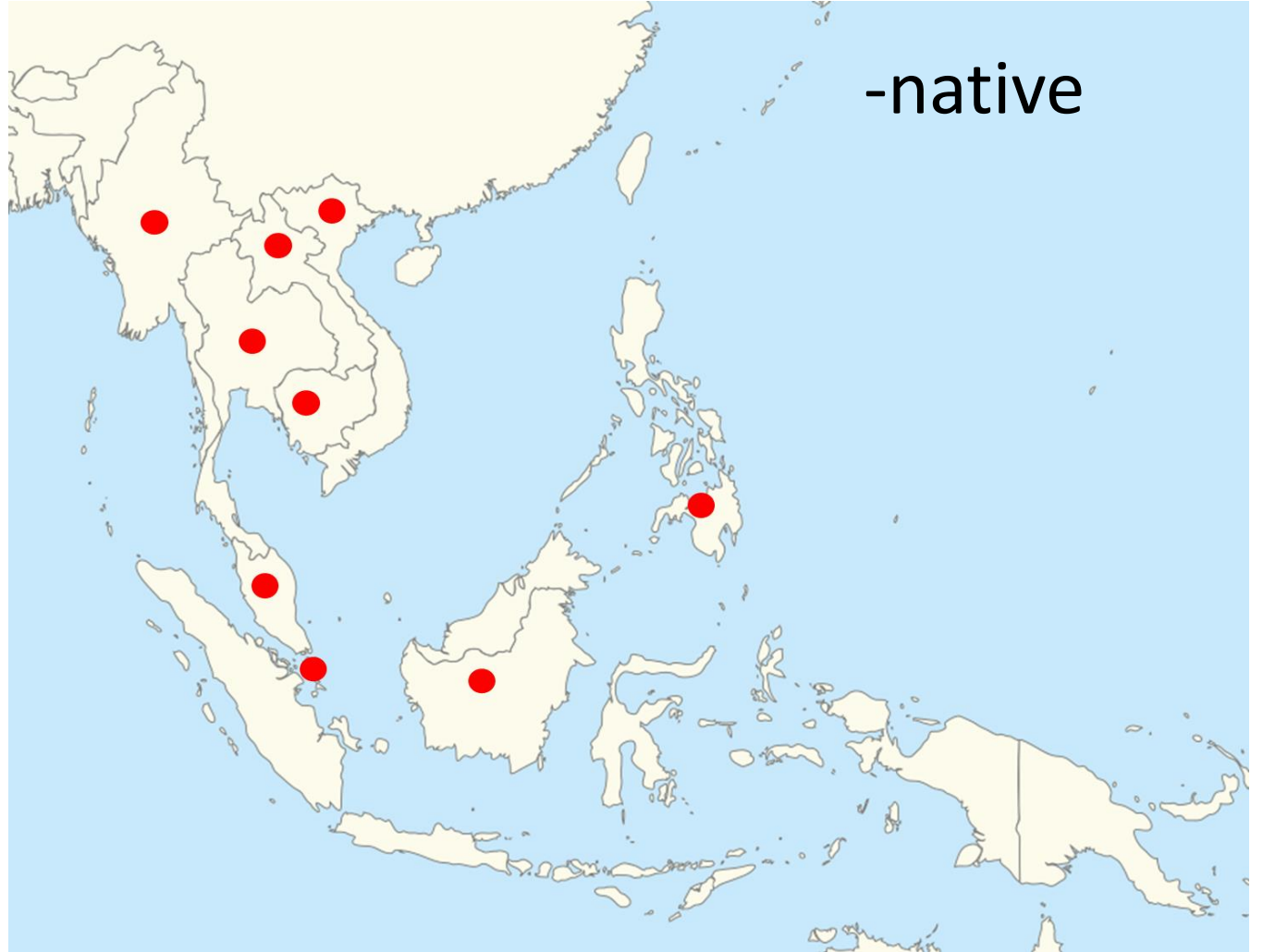


Anders Barfod

# SE Asian *Sesbania*

- 1. Flower very large, more than 5 cm long, white or red. Pod 7–9 mm wide. .... *S. grandiflora*
- 1. Flowers less than 5 cm long, yellowish, sometimes with brown or dark purplish markings on the back of the standard, Pod 2–6 mm wide.
  - 2. Stem, branches, branchlets with nodules. .... *S. rostrata*
  - 2. Stem, branches, branchlets without nodules.
    - 3. Leaflets glabrous or nearly so.
      - 4. Branchlets, leaf rachises and inflorescence rachises without prickles. Seeds olive, usually dark mottled.
        - 5. Raceme with 3 flowers. Flowers more than 1.5 cm long. Pod linear, curved. .... *S. herbacea*
        - 5. Raceme with 4-12 flowers. Flowers less than 1.5 cm long. Pod twisted. .... *S. sesban*
      - 4. Branchlets, leaf rachises and inflorescence rachises with prickles. Seeds brown, not mottled. .... *S. bispinosa*
    - 3. Leaflets hairy on one or both surfaces.
      - 6. Leaflets hairy on both surfaces.
        - 7. Stipules lanceolate 1-1.3 cm long. Calyx glabrous or nearly so. Ovary glabrous. Seeds yellowish brown to dark brown, not spotted. .... *S. speciosa*
        - 7. Stipules triangular 1.5-1.7 cm long. Calyx sparsely hairy. Ovary pubescent. Seeds olive-green, usually dark-mottled. .... *S. tomentosa*
- 6. Leaflets hairy on abaxial surface.
  - 8. Leaflets densely grey silky on abaxial surface. Flowers 1 cm. Pod not torulose. Seed reddish brown. .... *S. sericea*
  - 8. Leaflets sparsely hairy on abaxial surface. Flowers more than 1 cm. Pod more or less torulose. Seed dark brown.
    - 9. Flowers more than 1.5 cm long. Calyx 6-7 mm long. Pod twisted, usually at least 4 mm wide. .... *S. javanica*
    - 9. Flowers less than 1.5 cm long. Calyx 3-5 mm long. Pod straight, slightly curved, less than 4 mm wide. .... *S. cannabina*

# *Sesbania bispinosa*



# *Sesbania tomentosa*



-cultivated  
-naturalized

# **What is Economic Botany?**

# **Economic Botany**

**the study of plants utilized either directly or indirectly for the benefit of Man (Wickens, 1990)**

**Ethnobotany : The study of plants used by primitives and aboriginal people (Harshberger, 1895)**

**Agronomy**

**Pharmacology**

**Anthropology**

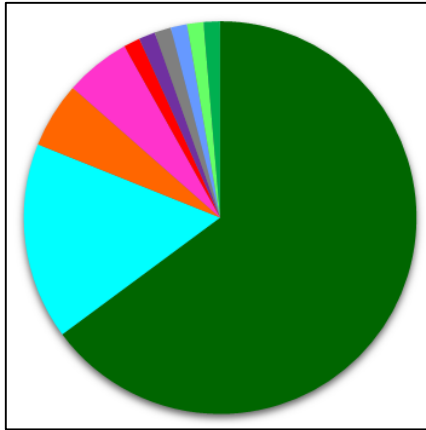
**Etc.**

# Economic Botany of *Sesbania*

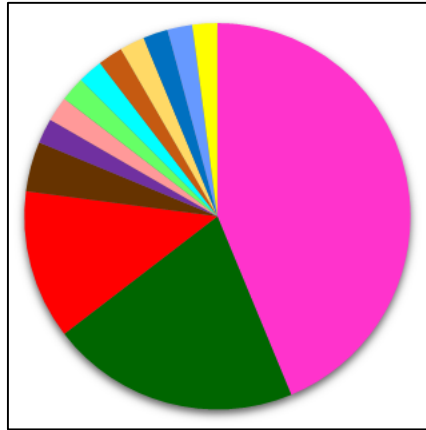




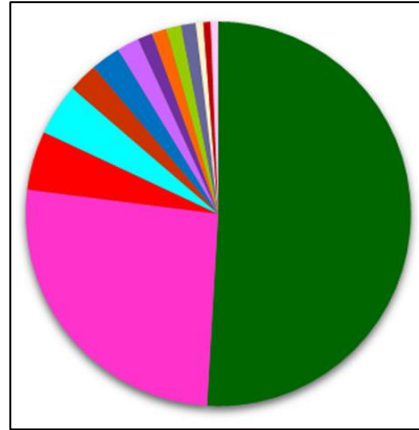
## Human Food



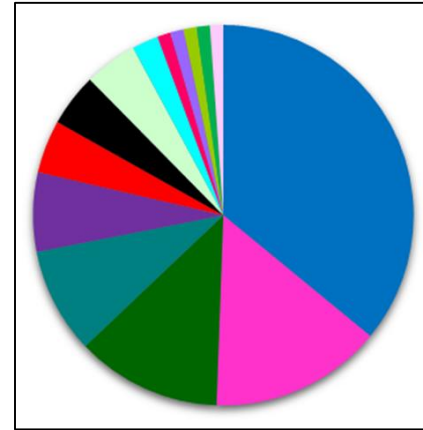
## Animal Food



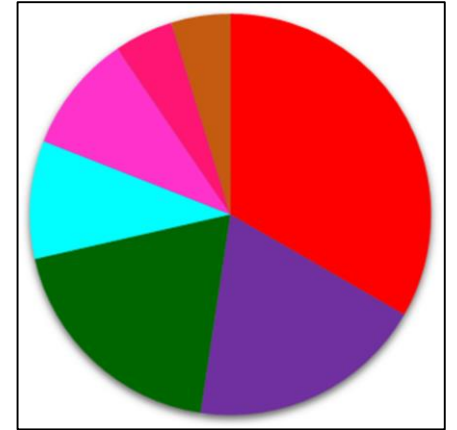
## Medicines



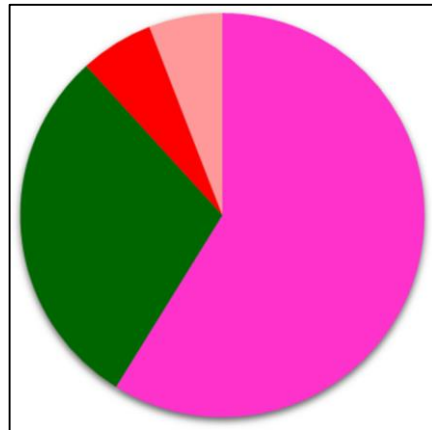
## Environment



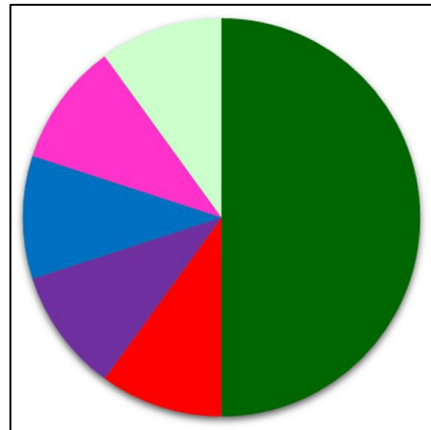
## Materials



## Fuel



## Other Uses



- *S. bispinosa*
- *S. cannabina*
- *S. drummondii*
- *S. emerus*
- *S. formosa*
- *S. grandiflora*
- *S. greenwayi*
- *S. herbacea*
- *S. hirtistyla*
- *S. javanica*
- *S. keniensis*
- *S. longifolia*
- *S. macrantha*
- *S. microphylla*
- *S. pachycarpa*
- *S. punicea*
- *S. quadrata*
- *S. rostrata*
- *S. sericea*
- *S. sesban*
- *S. somalensis*
- *S. tetraptera*
- *S. tomentosa*
- *S. vesicaria*
- *S. virgata*
- *Sesbania sp.*

# Negative economic impacts

## Weeds

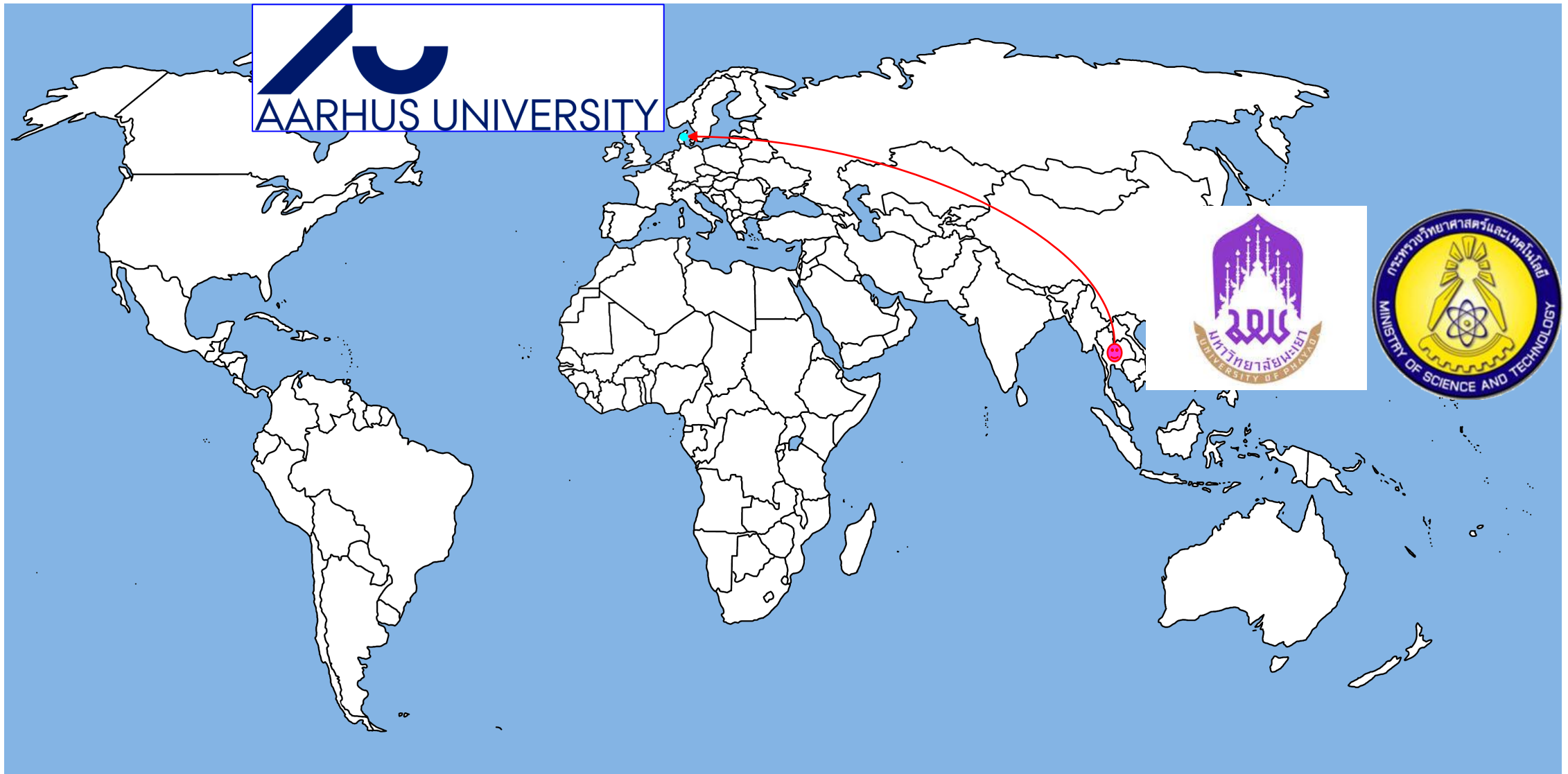
1. *S. bispinosa* (Rice)
2. *S. cannabina* (Rice)
3. *S. concolor* (Crops)
4. *S. drummondii* (Pasture)
5. *S. herbacea* (Soybean, Cotton, & Rice)
6. *S. leptocarpa* (Crops)
7. *S. speciosa* (Pasture)

## Pest host

1. *S. punicea* (*Chinavia hilaris*)



# PhD life in Aarhus



Introduction

Taxonomic revision of *Sesbania* in SE Asia

Economic Botany of *Sesbania*

PhD life in Aarhus



**Aarhus**



**Phayao**



# Aarhus





**Aarhus University**



**University of Phayao**



# Aarhus University



# University of Phayao





**Languages**

**Danish**

**Thai**

**Cost of living**

**Expensive**

**Cheap**

**Society**

**Celebration of Youth**

**Seniority**

**Personalities**

**Open, Self-confident**

**Timid**

**Paper access**

**Easy**

**Very difficult**

**Facilities**

**Good**

**Fair**



**Thank you very much  
for your attention.**

