

# Food-use of insects in livelihood and its regional distribution in Japan



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# The aim of this study

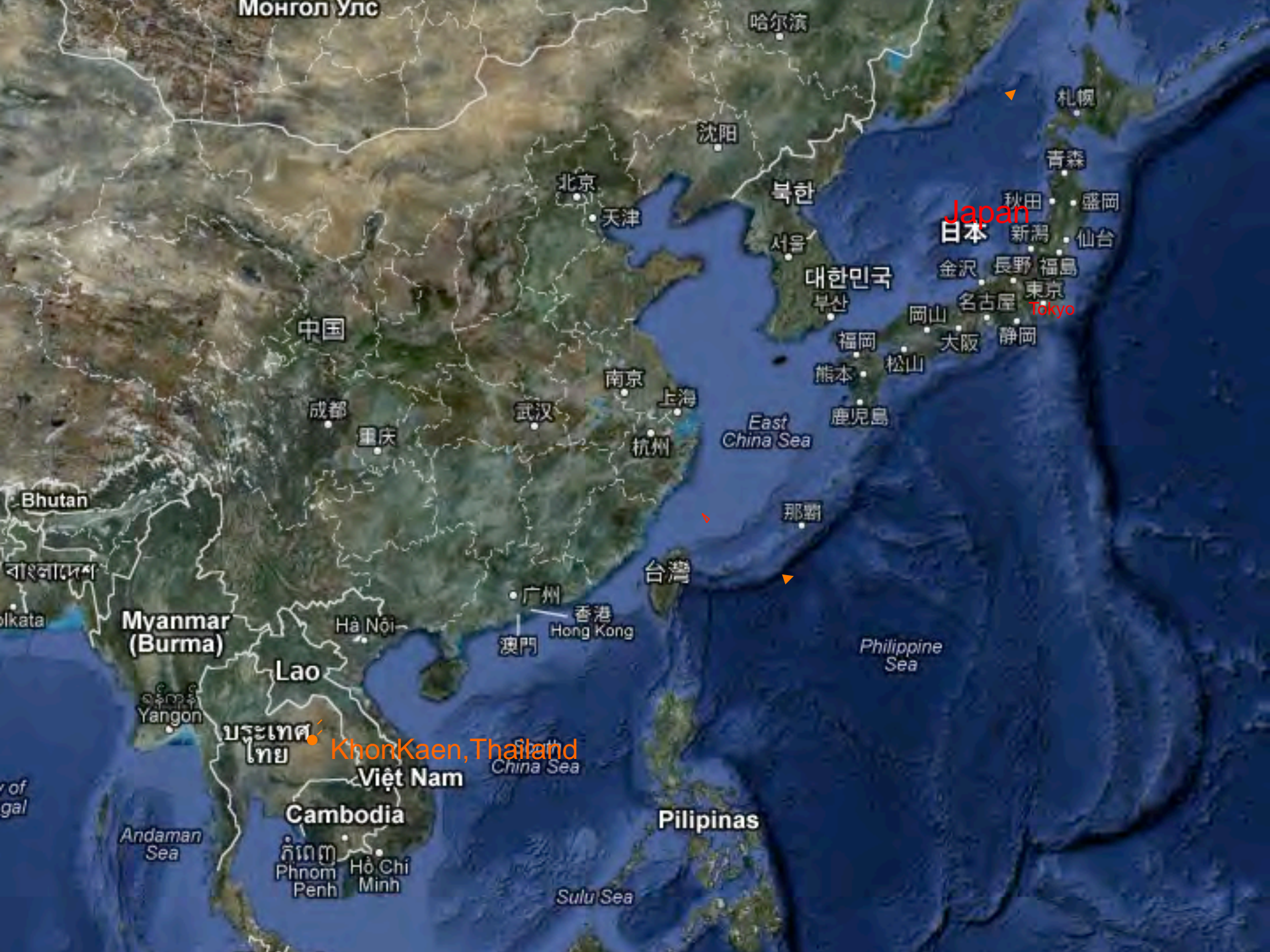
Promotion of insects

as traditional food recourses in Japan

- 1) Regional distribution and comparison
- 2) Food and commercial value
- 3) Indigenous knowledge of collecting and cooking
- 4) Rearing at home (semi-domestication)
- 5) Social activities as cultural heritage and resource management







Монгол Улс

哈尔滨

札幌

青森

日本

秋田

盛岡

新潟

仙台

金沢

長野

福島

東京

Tokyo

名古屋

岡山

大阪

静岡

대한민국

서울

부산

福岡

熊本

松山

鹿児島

East China Sea

那覇

台灣

广州

香港

Hong Kong

澳門

Hà Nội

Lao

ประเทศไทย

Khon Kaen, Thailand

Việt Nam

Cambodia

ភ្នំពេញ

Phnom Penh

Hồ Chí Minh

Pilipinas

Sulu Sea

Andaman Sea

Bhutan

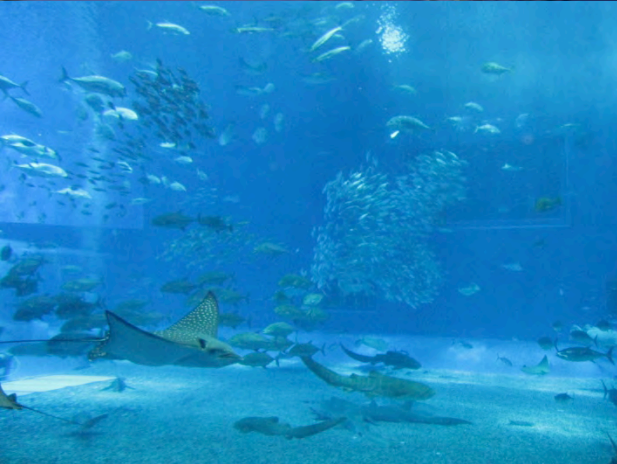
বাংলাদেশ

কলকাতা

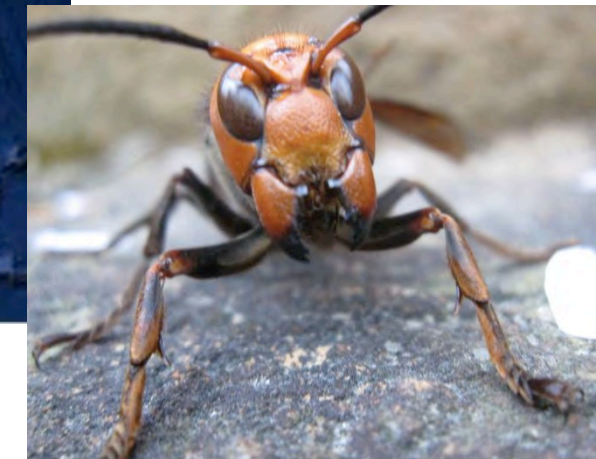
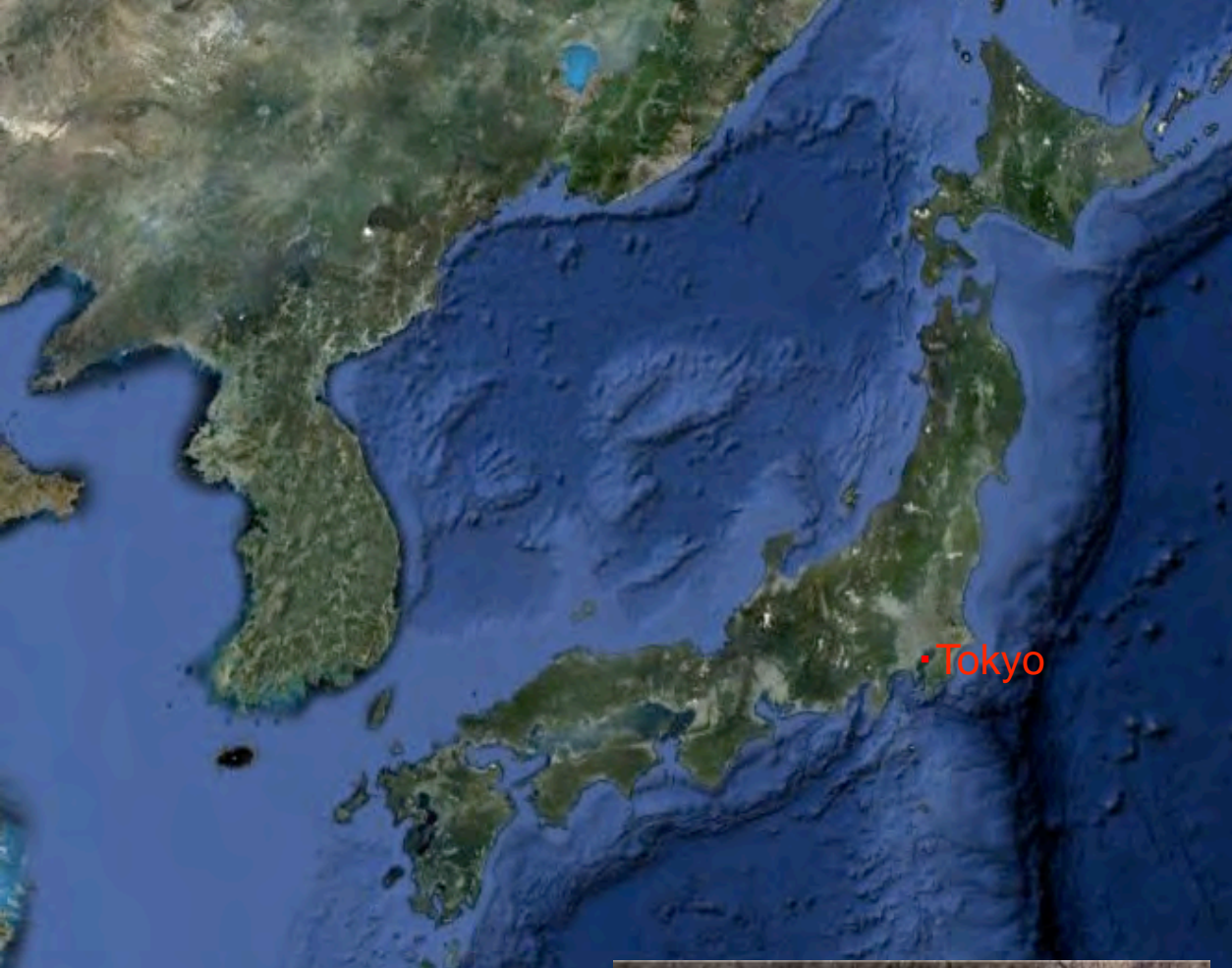
Myanmar (Burma)

Yangon













Kid's summer cloth  
of beetles design



Motives for games



Selling collecting tools  
and beetles as pets



Loving the  
cricket sound  
at a restaurant





|               |              |              |      |      |              |            |            |            |    |    |    |           |     |
|---------------|--------------|--------------|------|------|--------------|------------|------------|------------|----|----|----|-----------|-----|
|               |              |              |      |      |              |            |            |            |    |    |    |           |     |
| チョウ・カ<br>(成虫) | カイコ<br>(サナギ) | 水棲甲虫<br>(成虫) | シロアリ | カメムシ | 水棲昆虫<br>(幼虫) | 甲虫<br>(幼虫) | ハチ<br>(幼虫) | 甲虫<br>(成虫) | セミ | アリ | ハチ | ガ<br>(幼虫) | バッタ |

注) 名称だけのものは成虫、ハチは幼虫・サナギ・成虫を含む

# Insects as world human food



ヨーロッパ

中近東

アフリカ



北米

南米

オセアニア



And more





# Once we were insect-eaters

Long honed beetle caterpillar played role on food resource in mountainous areas when firewood was used to be popular for cooking and heating until 1950s.



Kalahari San



Japan



Papua New Guinea





Grasshoppers



Wasps



Long horned beetle  
caterpillars



Silkworms



Aquatic beetles



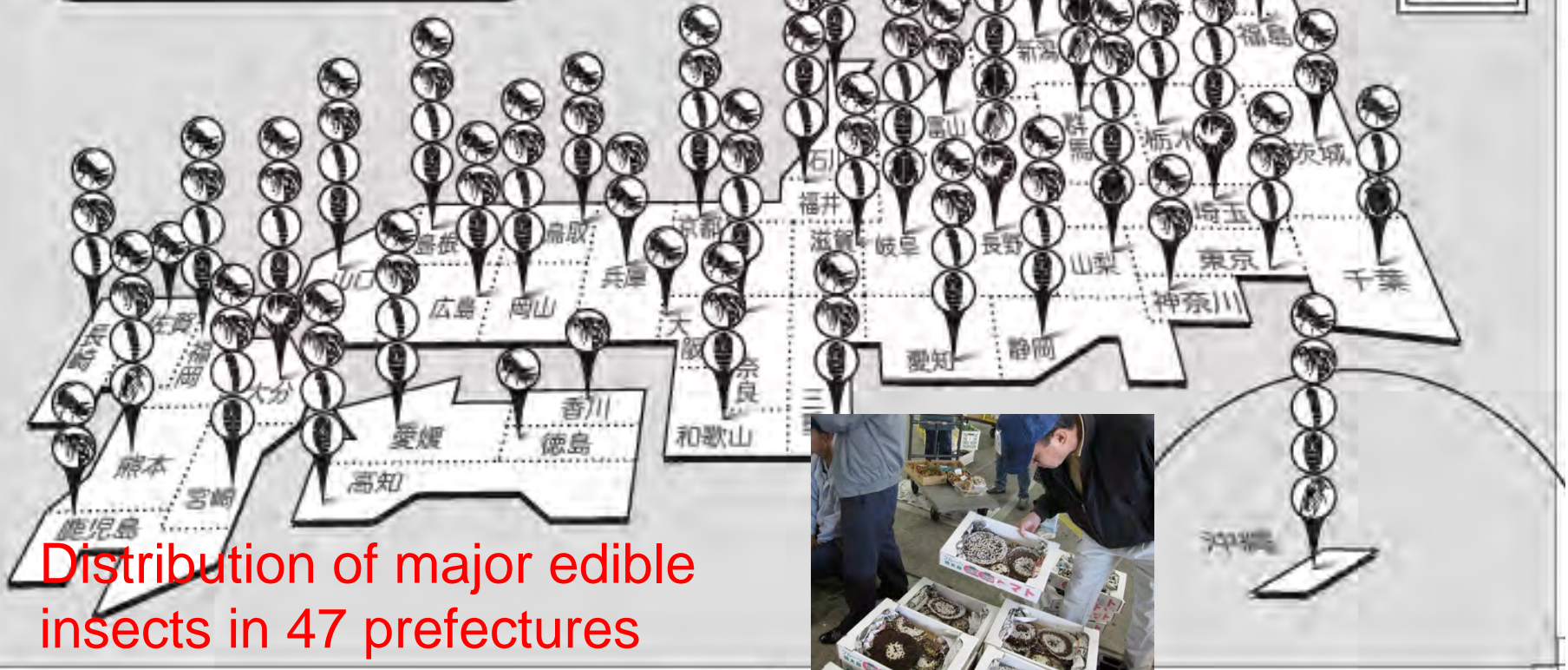
Aquatic larvae



Cicada



本分布図

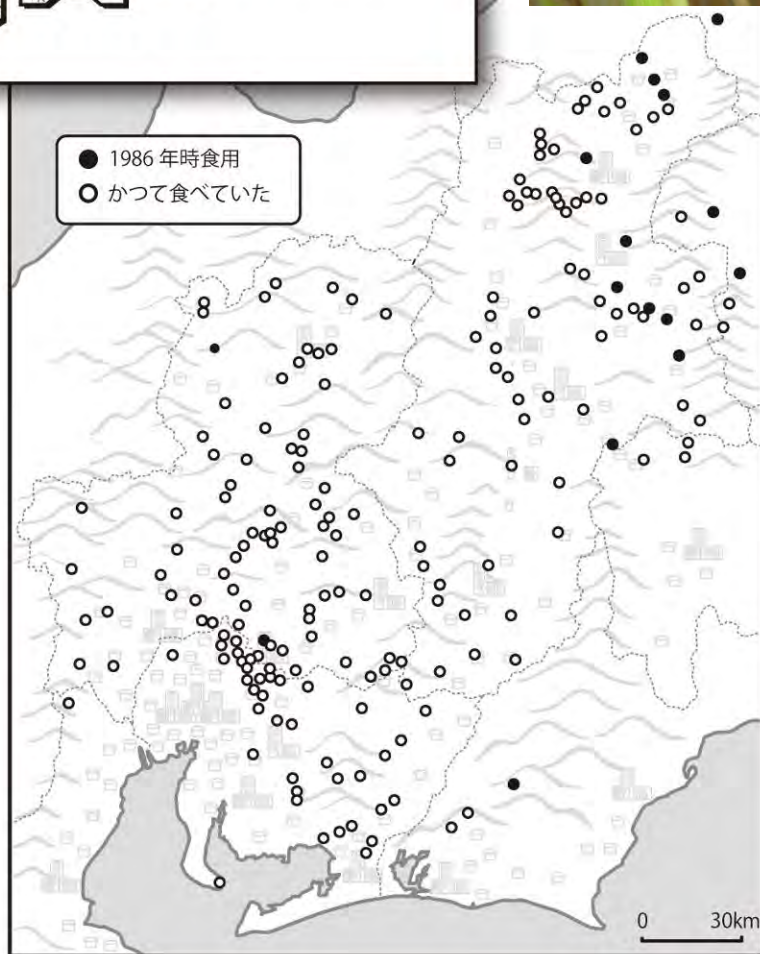
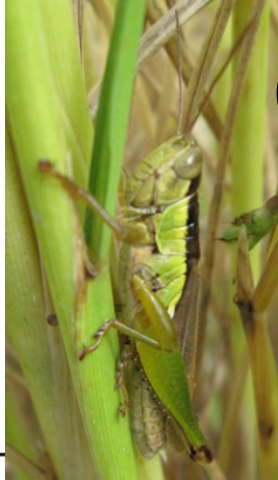
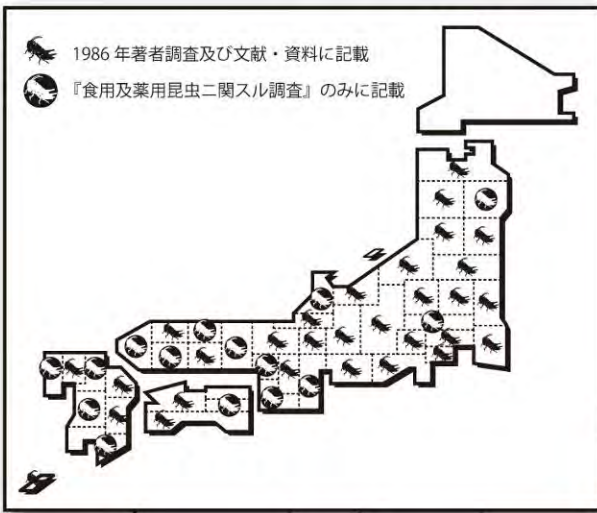


Distribution of major edible  
insects in 47 prefectures





# Grasshopper, *Inago*







Homemade with  
carefully processing



Precooked one  
sold at the store  
Special sale of  
living grasshoppers  
in the morning



Promotion tonight with *sake*!



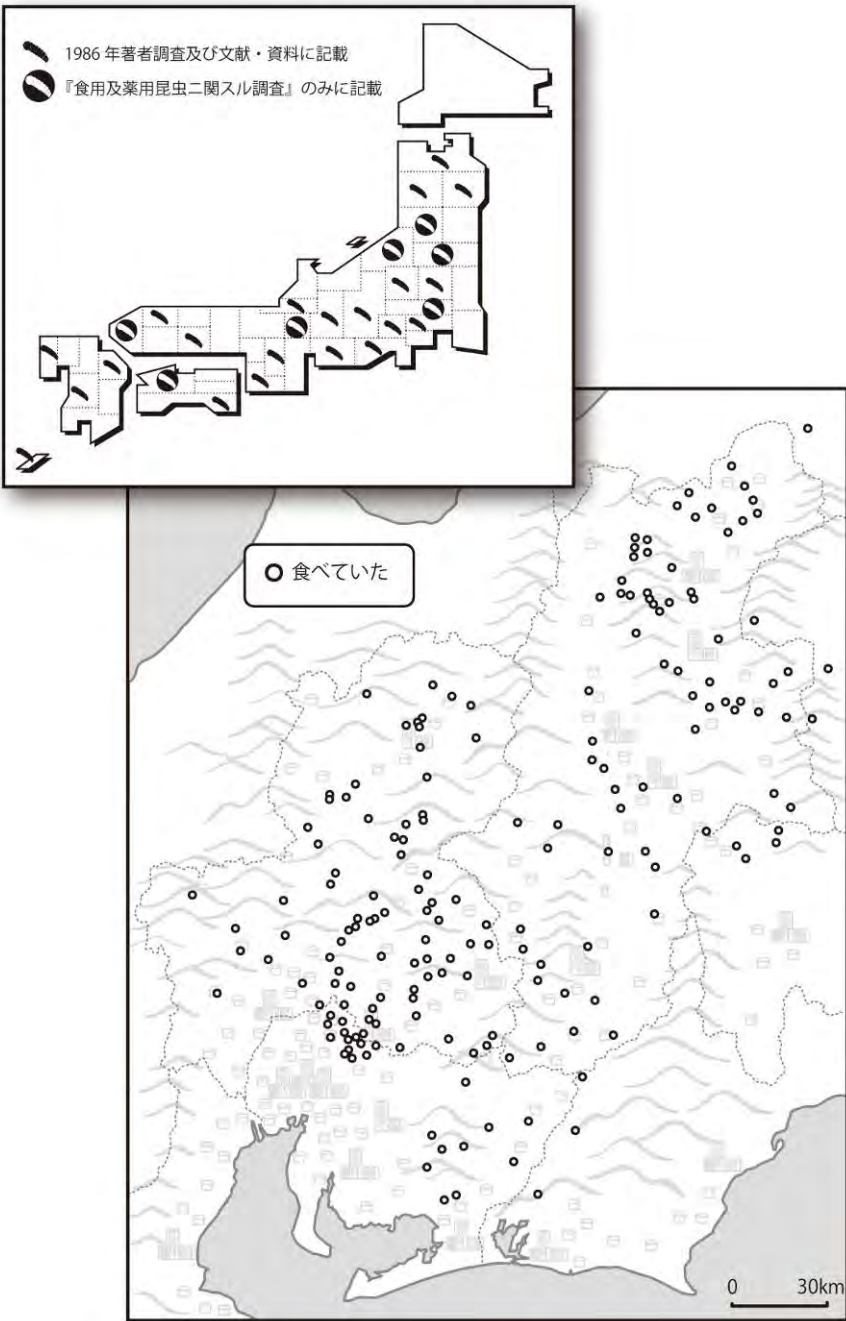


Souvenir after praying at the temple in Narita









Eating habit of Longhorn  
beetles caterpillar in Japan







# Yellow jackets

*Vespula* spp.



- 1986 年著者調査及び文献・資料に記載
- 『食用及薬用昆虫ニ関スル調査』のみに記載





# Collecting Yellow jackets

*Vespula spp.*



Mouth of the nest



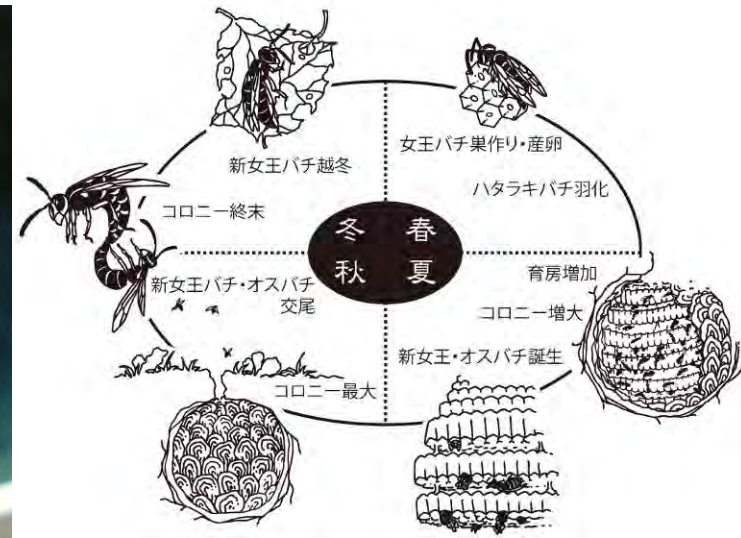
A nest under ground



Gathering workers to a bait



Gazing at worker  
flying carefully







Worker starting to carry the bait  
with a tiny tag



Running after the worker in the woods



Smoking the nest  
underground from the nest  
entrance







Wasps *Vespa mandarinia*



# Varieties of *Vespula* dishes covering typical Japanese cuisines



Basic style boil with soy sauce

Promotion tonight with sake!



Mixed rice



Sashimi



**Sushi**

not raw wasps



**Tempura**



**Sukiyaki**



# Rearing and communal network



3000 bodies new queen is raised



# Human and nature merged in a society



Nonaka (2005/9)

Illustration by N. Yanahara











Winner of yellow jacket rearing



People gathering to the festival



A worker came to sting



Rice cake with yellow jacket paste



A dog got stung









Showing winners' hives



Learning the originality and ingenuity



-  ゲンゴロウ・ガムシ (1986 年著者調査及び文献・資料に記載)
-  ゲンゴロウ・ガムシ (『食用及薬用昆虫ニ関スル調査』のみに記載)
-  水棲昆虫幼虫 (1986 年著者調査及び文献・資料に記載)
-  水棲昆虫幼虫 (『食用及薬用昆虫ニ関スル調査』のみに記載)
-  セミ (1986 年著者調査及び文献・資料に記載)
-  セミ (『食用及薬用昆虫ニ関スル調査』のみに記載)
- 本書既出以外の昆虫 (1986 年著者調査及び文献・資料に記載)
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# Aquatic larvae in the river









Harvesting and consuming insects  
connected with subsistence and in daily life in  
the rural environment

+

Regional cultural preference

Uniqueness

Nature oriented

Indigenous  
knowledge system

Complexity

promoting

Feasting cuisine

Innovation (tools and techniques)

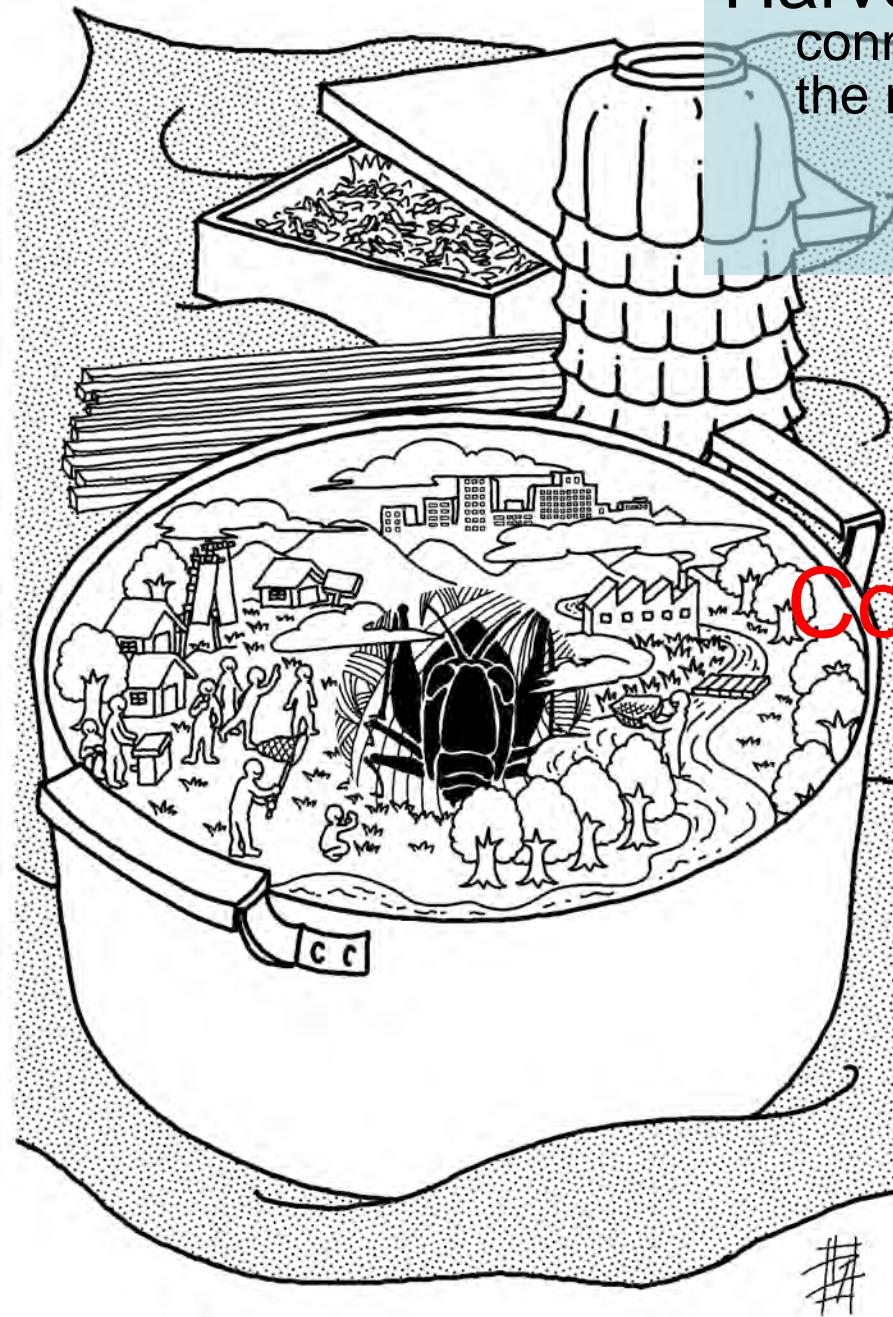
Marketing expansion

Commercialization

Trading (import and promotion)

Resource Management

Performance as sub-culture





# Delightful human-insect relationship

with food

Thank you very much for  
paying attention to me

And enjoy tasting Japanese  
insect food & drink tonight!





