



Belgian National Focal Point to the
Global Taxonomy Initiative

DIVERSITY OF TERMITES (INSECT: ISOPTERA), MAIN PESTS OF YAM TUBERS (DIOSCOREA SP.) AND RESISTANCE OF LANDRACES IN BENIN

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CEBioS

Capacities for Biodiversity and Sustainable Development

LA BIODIVERSITE ET LE DEVELOPPEMENT, UN HERITAGE GLOBAL
BIODIVERSITEIT EN ONTWIKKELING: ERFGOED OPWERELDSCHAAL

26/11/2015

museum



BACKGROUND



Nutritional importance



Figure 1: Yam (*Dioscorea* spp.)



Economical importance



Sociocultural importance



Background

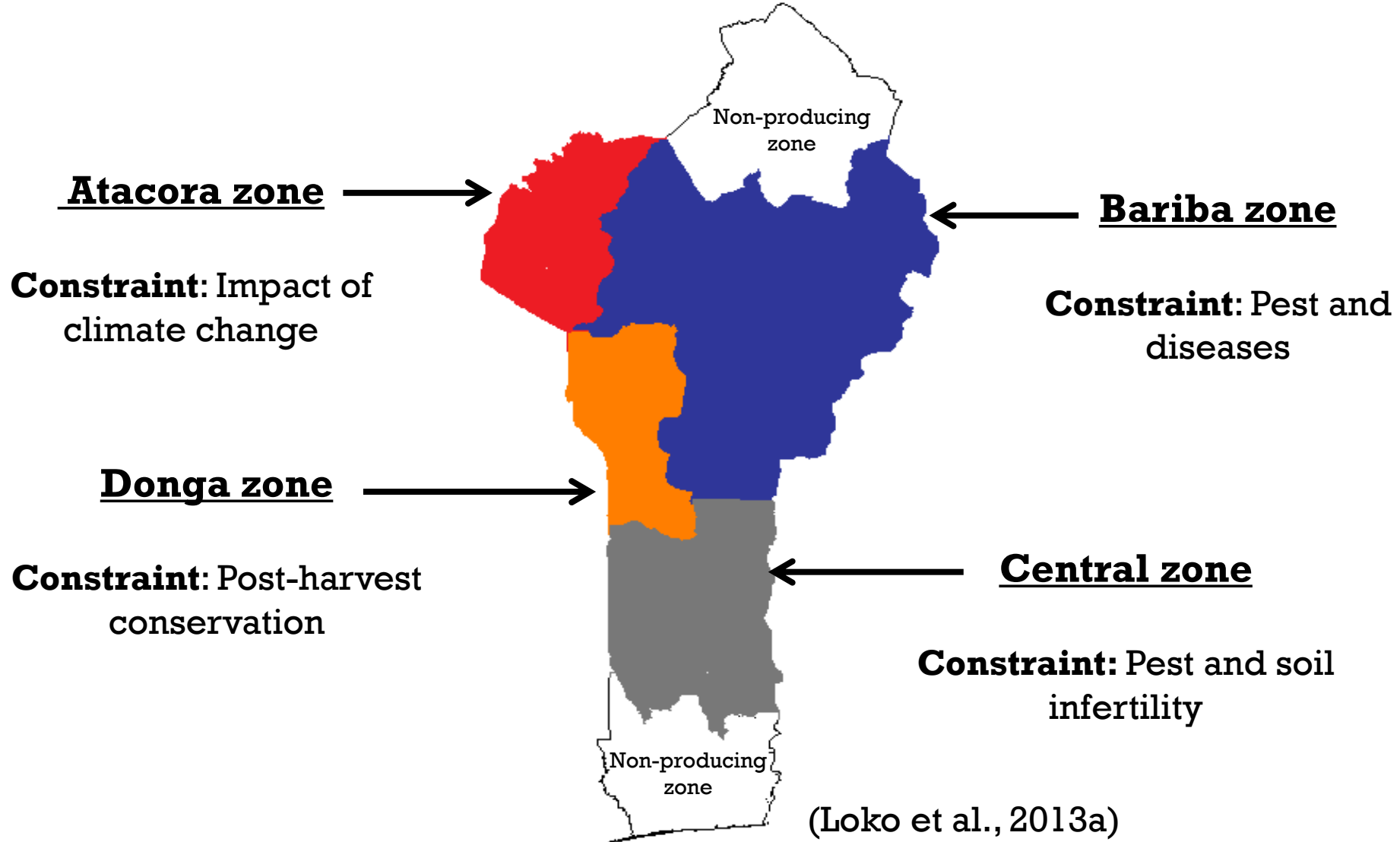


Figure 2: Map of Benin showing yam production zone



Background



a) External view



b) internal view

Figure 3: Yam tuber attacked by termites

Termites have been reported as one of the most important causes of damage to yam tubers in Central and Northern Benin (Loko et al. 2013b).

Losses due to termite attack are high and can reach more than 5 tonnes/ha (Atu 1993).



Background



Figure 4: Termites mound destructed by farmers in yam field

Given the antagonistic roles that termites can play, it is important to understand farmers' perceptions of termites as pests





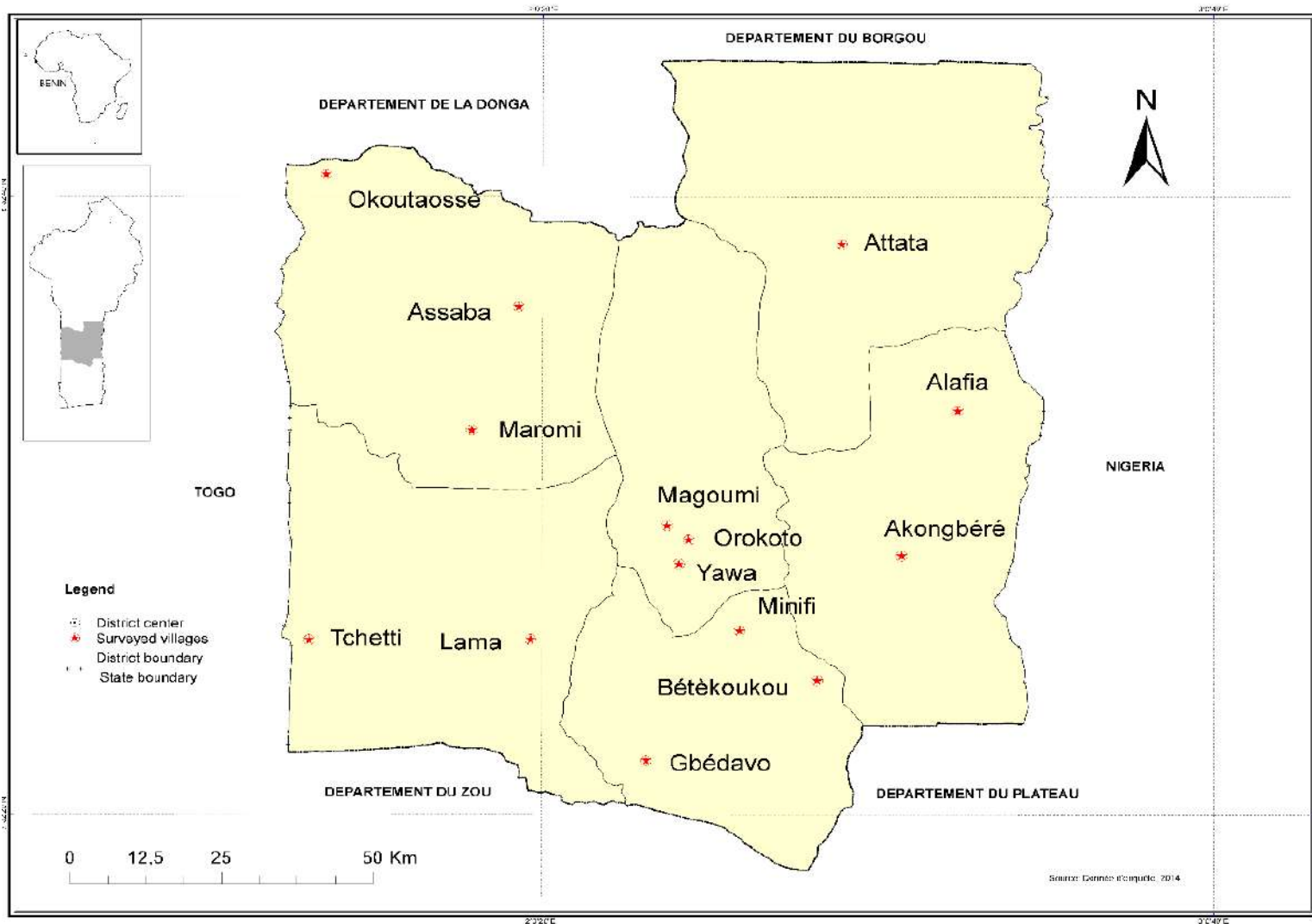


Figure 4: Map of Central Benin showing the geographical position of the surveyed villages

MATERIAL AND METHODS

14 villages selected based on the severity of termite problem in yam (Loko et al. 2013).

Survey and sampling of termites in 24 yam field were done



RESULTS AND DISCUSSION

45 vernacular names of termites recorded in the study area corresponded to ten species



Amitermes evuncifer



Trinevitermes oeconomus



Macrotermes bellicosus



Felluritermes tenebricus



Trinevitermes geminatus



Coptotermes sjostedti



Macrotermes subhyalinus



Macrotermes ivorensis



Amitermes guineensis



Trinevitermes togoensis



Pericapritermes sp.



Microcerotermes sp.

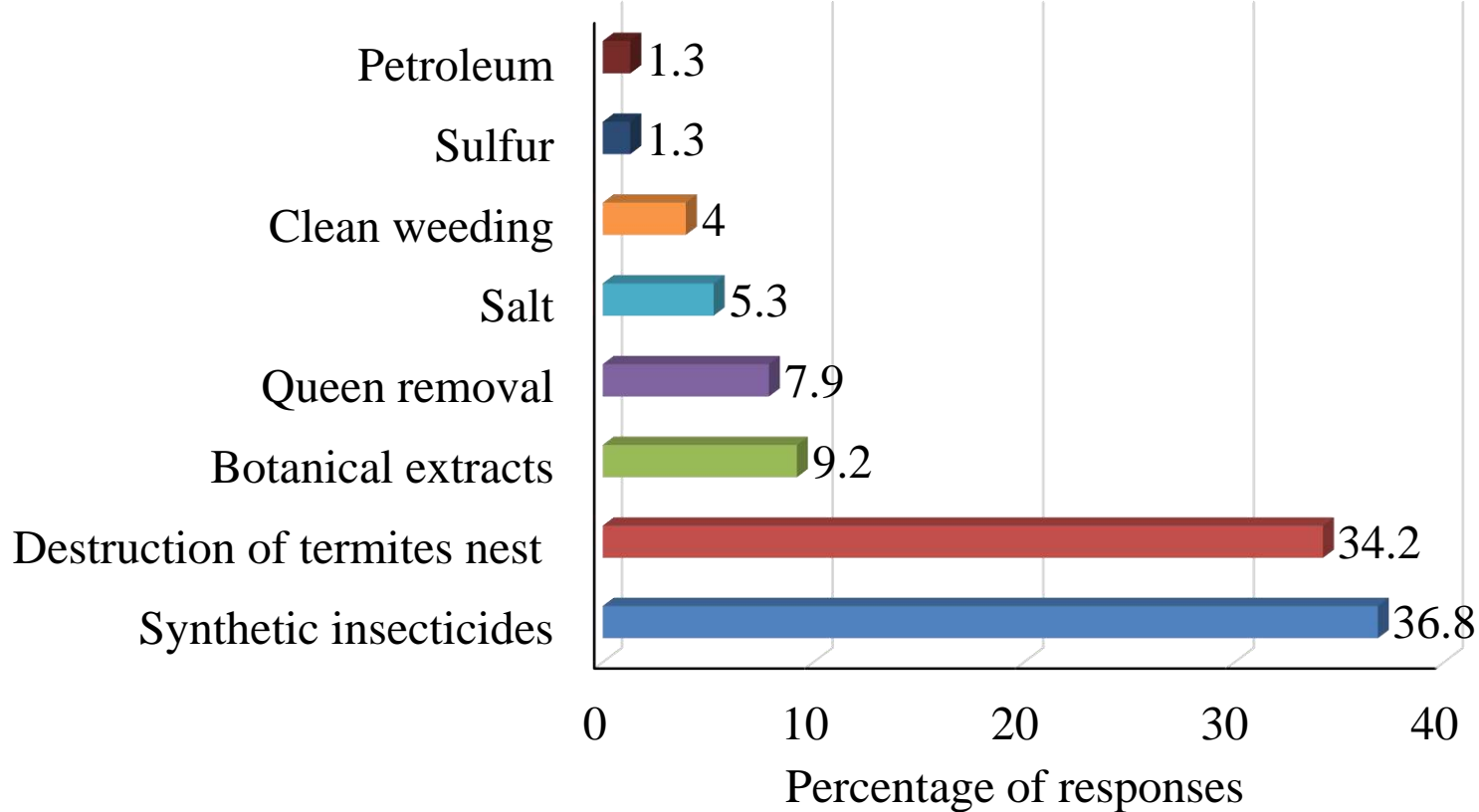


Ancistrotermes cavithorax

Figure 5: Diversity of yam termites pest

RESULTS AND DISCUSSION

Eight strategies to reduce losses due to termites were reported by surveyed farmers (32.5%).



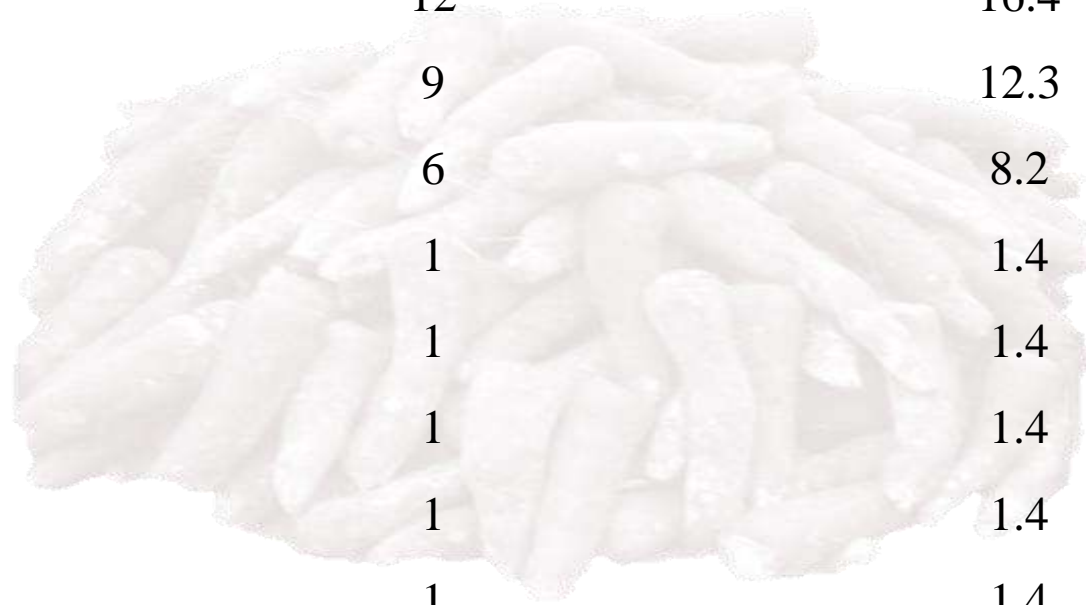
Synthetic insecticides, especially those used for the protection of cotton, such as Cotofan 350EC and Thionex 350EC with the active ingredient endosulfan.

Figure 6 : Farmers' management practices for the control of termites



Table 4: Yam landraces identified by farmers as tolerant to termites (n=73)

Tolerant landraces	Importance (No. of farmers)	% of respondents
Irindou	24	32.8
Karatchi	15	20.5
Gnidou	12	16.4
Alakitcha	9	12.3
Kangni	6	8.2
Tchemélé	1	1.4
Takpadou	1	1.4
Kpété	1	1.4
Kpakata	1	1.4
Kadjeme	1	1.4
Effourou	1	1.4
Kadjim	1	1.4



RESULTS AND DISCUSSION

Throughout the study zone, 12 yam landraces were listed by farmers as tolerant to termite attack.



Remaining activities



Identify termites diversity existing in yam field situated in northern Benin



Identify resistant/ tolerant yam cultivars to termite attacks produced in Benin through participatory evaluation with farmers.



Characterize the identified cultivars using microsatellite molecular markers to determine the possible synonymies.



Assess the resistance of the identified cultivars vis-à-vis of termites for the establishment of a pool of varieties can be used by research (breeding) and development (varietal exchange and introduction).



Sensitization of farmers on the positive act of termite on soil fertilization





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THANKS FOR YOUR ATTENTION

