

## Project update: November 2023

# On the poorly-known millipedes from the protected Bouda Ndjida National Park (Northern Cameroon) with implications for conservation

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### Objectives of the research

The main objectives of the study are to:

- 1) document the composition, and occurrence of millipede found in the different habitat types;
- 2) assess the influence of habitat types and seasonality on millipede diversity;
- 3) investigate on the status and distribution preferences of the threatened and endemic species;
- 4) develop conservation measures to preserve threatened species and/or habitat.

### Fieldwork

This is a report of a three months (Aug 2023- Oct 2023) field research at Bouba Ndjida National Park (BNNP) on behalf of poorly known millipedes and their conservation plan (Fig. 1). From the 7<sup>th</sup> to 11<sup>th</sup> August 2023 a trip was organized in order to inform the regional delegate, local administration (SDO, Mayor local chiefs and local communities) and conservator to define the specific objectives, and expected outcomes of the project. The launching meeting was held on August 14, 2023 and during which we sensitize the local population about the purpose of our mission and its importance (Fig.2).

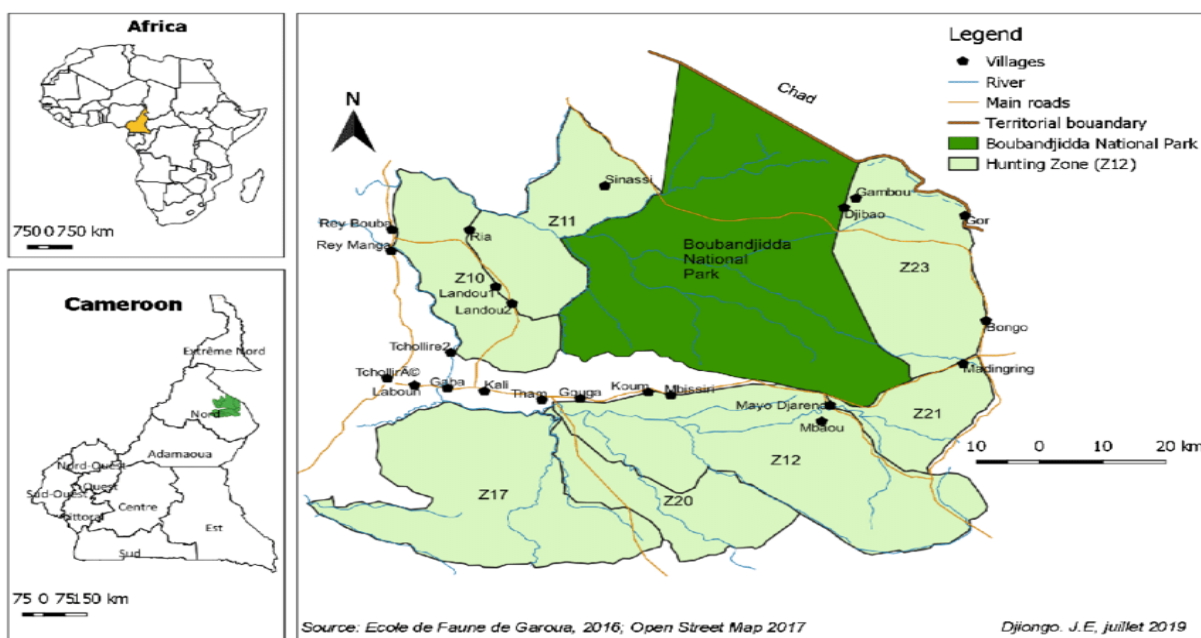


Fig 1: Location site of Bouba Ndjida National Park (8°37'25''N, 14°39'24''E)



Fig 2: Sensitization in the village

The prospective round was done in the afternoon because of their farming activities which obliged us to talk to groups of people when they are back from the farm in the various houses or in small groups.

### Millipedes sampling

During this field research period, four sampling methods were used to collect millipedes which are:

- Hand collecting — Quadrat (1 meter square each) will be set along transect (110 m long and 10 m apart). All suitable shelters or habitat for millipedes including under stones, bark, fallen branches, and layers of leaf litter or directly in soil will be investigated. Millipedes will be collected by two people for 15 minutes in each quadrat.
- Pitfall trapping — Prior to the beginning of trapping, the pitfall traps will be left for 3 days to reduce ‘digging-in’ effects. Pitfall trap will consist of a plastic drinking cup (85 mm top diameter) placed into a buried section of PVC pipe so that the rim of the cup will flush with the ground surface. After, each trap will be filled with c. 75 ml of 50% ethanol and 5% glycerol as a preservative. Each pitfall will be covered by an aluminum roof to prevent rain fall into the traps.
- Litter sifting and Winkler extraction — For the smallest millipedes, a quantity of moist leaf litter (usually all the litter and humus present per 1 sq. m quadrat) will be collected and placed in an extraction apparatus. The litter will be removed from the top of the litter pile to the bottom and put quickly into the sifter. Specimens will be extracted from sifted litter during a 48-hour period in Winkler sacks.
- Beating low vegetation — Low vegetation and arboreal millipedes will be sampled by holding a stretched 1 m x 1 m white nylon platform below the undergrowth and beating the trunk or a branch three times with a stick. The dislodged millipedes will be aspirated and placed in ethanol.



Fig 3: Conservation of collected species in the field.

## Habitats

During this research, we have encountered a total of five habitats: Shrub savannah (a), Tree savannah (b), Wooded savannah (c), Grassy savannah (d), Gallery savannah (e).

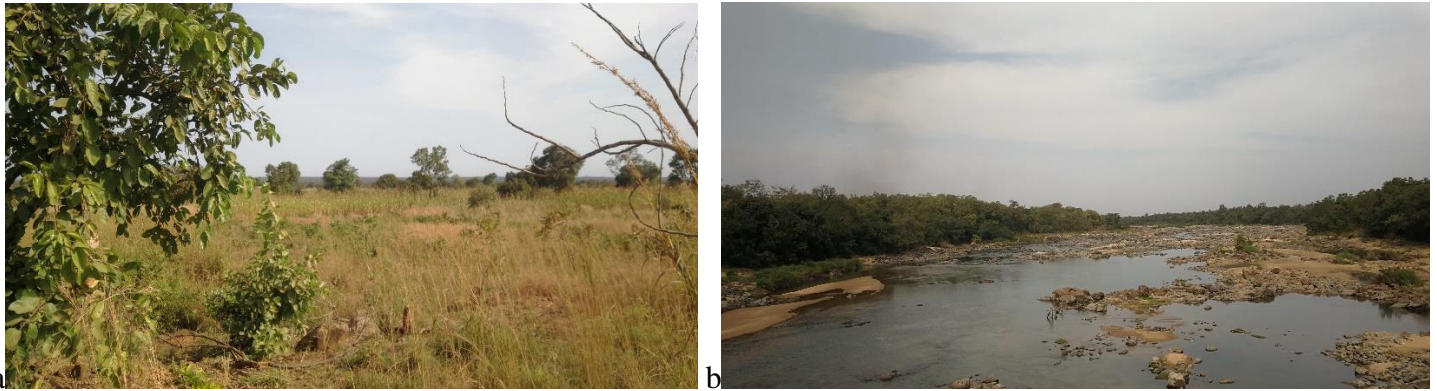


Fig 4: (a) Grassy savannah and (b) Gallery savannah

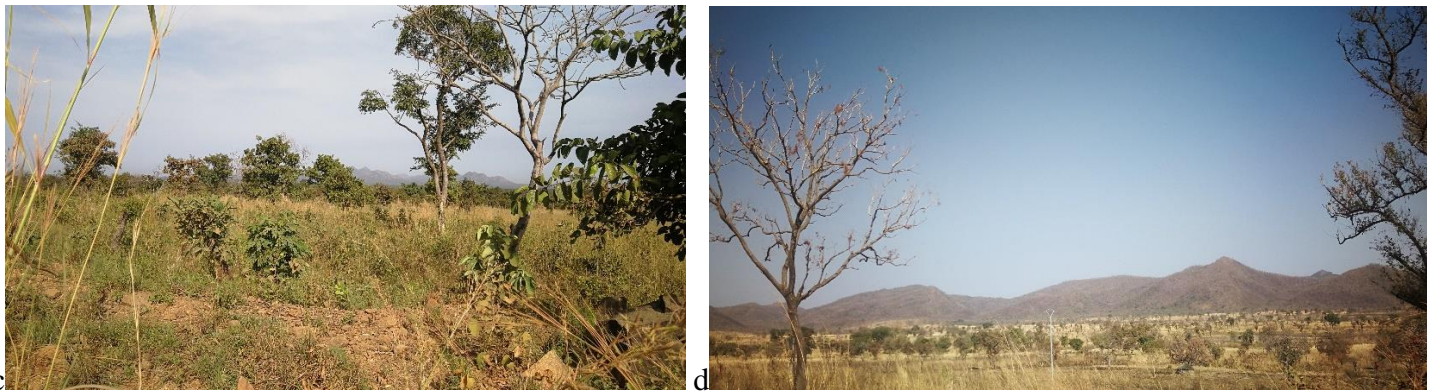


Fig 5: (c) Shrub savannah and (d) wooded savannah

## Results

A total of 101 individuals were collected during this period (raining season) all from the same Family and are clearly identified.

Family	Habitat	Total
Spirotreptidae	Grassy savannah	34
	Wooded savannah	21
	Shrub savannah	25
	Tree savannah	21
	<b>Total</b>	<b>101</b>

## Future plans

- Continue with the sampling and identify the collected specimens.
- Investigate on the status and distribution preferences of the threatened and endemic species.
- Education of the communities about the role of millipedes – especially about their beneficial impact on the ecosystem (ecosystem services).
- Develop conservation measures to preserve threatened species and/or habitat.