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Forests and rivers: The archaeology of the north eastern Congo

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ABSTRACT

The Central African Rainforest was long thought to be a green desert. Intensive archaeological research during the last decades has shown the contrary. The rainforest of the Congo basin has a long and rich history, but its heavy vegetation cover made it difficult to find evidence of human settlements. Indeed, an overview of archaeological collections held at the RMCA (Royal Museum for Central Africa), shows that, before the 1980's, very few sites were reported for the Rainforest area of DRC (Democratic Republic of Congo). Since then a series of river-born reconnaissance have shown that there were sites aplenty in the Inner Congo Basin. Latter surveys along the Congo River and its tributaries further East, between Bumba and Kisangani (DRC), indicate that this is also true in the North-Eastern part of the Congo River. Our results show that the region's archaeological record consists primarily of pottery finds associated with old soil horizons or pottery arranged in pit-structures, with lithic assemblages being relatively rare. This work offers a first assessment of the past 2000 years of human occupation in a region that was an archaeological *terra incognita*. In the process, we also confirm a powerful research strategy, combining forestry inventories with systematic archaeological sampling. Recent work in forestry showed that there was not a single primeval rainforest, but rather a patchwork of forests. This approach allowed us to access inter-fluvial portions of a dense rainforest environment and provided essential data for the regional chrono-stratigraphy.

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1. Introduction

Despite its central position within the African continent, the peopling and history of the central African rainforest, of which almost half lies in the Democratic Republic of Congo (DRC), remained virtually unknown until the end of the 1970's. Indeed, a review of the literature and an ongoing review of the archaeological collections and archives of the Royal Museum for Central Africa (RMCA, Belgium) show that those few excavated sites in the DRC

before 1960 were situated outside or at the edge of the rain forest. Most of the surface finds in the north-eastern part of the rainforest consist of stone artefacts. Surveys of the Inner Congo Basin and the northern tributaries of the Congo River produced no stone artefacts and very few pottery finds. Thus this area of Central Africa was virtually an archaeological *terra incognita*, lending support to the assumption that the rainforest was 'hostile' to human occupation (the debate concerning living conditions in the rainforest is discussed in detail by Eggert, 2014).

These assumptions were seriously challenged through a series of surveys undertaken during the *River Reconnaissance Project* (RRP) between 1977 and 1987 conducted in the Inner Congo Basin, under the general direction of Manfred Eggert. This research revealed that people have lived in the forest of central Africa for at least the last

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2500 years, demonstrating that the lack of archaeological data was essentially reflecting the lack of archaeological survey. The research strategy was to navigate as far as possible upstream on various rivers, conducting short surveys and enquiries in villages. Test pits were excavated at the most promising locations during the downstream return (Eggert, 1980, 1984, 1987, 1992, 2014; Wotzka, 1993, 1995). Eggert, however, stressed right from the beginning that using rivers to survey the rainforest introduces a bias in archaeological site patterning, as it only takes into account occupations on or near riverbanks, leaving the interfluvies unexplored. The vast interfluvies, with their dense forest cover, offered none of the cuts and erosion surfaces needed for archaeological surveys making it difficult to identify ancient sites using conventional archaeological methods.

One way to move beyond this limitation is to use patterns of vegetation composition as a guideline to identify forest stands that are recovering from past trauma. The central African rainforest is a dynamic environment, where anthropogenic and climatic factors play a role in modifying forest composition and extent (Brncic et al., 2009, 2007; White, 2001; White and Oates, 1999). The successional status of forest stands is reflected in species composition and forest dynamics. Small patches of regenerating forest, resulting from natural events such as windstorms or lightning strikes, are normal in tropical ecosystems. However, large stands of regenerating forest species can very often be related to human disturbance such as slash-and burn practices (e.g. Bourland et al., 2015; Muller-Landau, 2009). A good example is the presence of large, sometimes monodominant, stands of *Aucoumea klaineana* that were used to locate human occupation sites in the Chaillu massif in Gabon (Oslisly and White, 2003:82; White et al., 2000). These large stands of regenerating forest species may indicate formerly forested areas that have been cleared, burned, used for agriculture, abandoned and finally recolonized by fast-growing pioneer trees. At a later stage, these short-lived fast colonizers are replaced by long-lived light-demanding pioneers (e.g. Bourland et al., 2015). Apart from using forest composition as an indicator for archaeological surveys, understanding forest history is also crucial to develop policies for sustainable forest management. In order to reconstruct past rainforest dynamics and confirm the role of humans in the process, various configurations of archaeological and anthracological surveys were tested in the central African rainforest (Dechamps et al., 1988; Hart et al., 1996; Hubau et al., 2015; Morin-Rivat et al., 2016). Furthermore, systematic forest inventories indicate the location of large stands of long-lived pioneers. As such, combining forest inventories with archaeological surveying and anthracological analysis, will significantly improve our understanding of past human rainforest occupation. Today, forest inventories are becoming standard practice in tropical forest research (e.g. Lewis et al., 2009) and management (e.g. Gourlet-Fleury et al., 2013), and they constitute a crucial tool for the selection of areas of archaeological interest in tropical forests.

In this paper, we present the first archaeological framework for the north-eastern Congo bend using data collected during three separate expeditions. First, in 2010 during the Boyekoli Ebale Congo River expedition, an archaeological survey was made on a series of tributaries of the Congo River, the lower Lomami, Itimbiri and Aruwimi rivers (Livingstone Smith et al., 2011). Second, during a follow-up field-work in 2013, an archaeological survey was made on the Lindi-river north of Kisangani (Cornelissen et al., 2013). Finally, we also use the data collected during an anthracological and archaeological sampling on a forest inventory transect in the Yangambi National Reserve inland from the Congo River (Isangi Territory, Tshopo District, Oriental Province of D.R.C.). As no archaeological research had ever been done in this area of Central Africa, we offer a first chrono-cultural sequence based on three

pottery phases (Early, Middle and Recent), each composed of several styles. The presence/absence of archaeological material, pottery assemblages and, if present, stone artefacts, are briefly described for each site and then discussed in more detail. In doing so, we fill another gap in past human occupation of the central African rainforest. We also confirm the usefulness of a combined botanical and archaeological approach to tropical forest vegetation history.

2. Materials and methods

2.1. Sampling method 1: archaeological excavations during riverine surveys (2010, 2013)

The international project of *Boyekoli Ebale Congo (2010)* involved an interdisciplinary team of 67 zoologists, botanists, hydrologists, geologists, cartographers and also two archaeologists and two linguists. The river expedition aimed at documenting biodiversity and human impact along a stretch of the Congo River between Kisangani in the East and Engengele in the West. For the riverine archaeological exploration, villages were points of departure. Surveys started from basecamps that were successively put up at Yaekela on the Congo River, facing the Lomami, at Koni on the Itimbiri, at Bomane Yangwa on the Aruwimi and at Lieki on the Lomami river (Fig. 2) (Livingstone Smith et al., 2011). From there, the surroundings were explored by pirogue. A smaller survey took place in 2013 from a basecamp at Badilé exploring the riverbanks of the Lindi by motorcycle (Cornelissen et al., 2013).

During the riverine survey, whenever higher riverbanks were spotted from the water, enquiries on the local history for identifying old and abandoned areas were conducted in the village. Eroded surfaces or freshly dug pits were surveyed. After auger-drillings, test pits of 1 m² proceeding in shovel-large spits of 25 cm were dug, and artefacts were hand-picked. In the event of interesting archaeological finds, an additional test pit of 1 m² was excavated in 10 cm-spits. All the excavated material was wet sieved down to 2 mm. Charcoal was retrieved for environmental reconstruction and dating. In the Yaekela pit-structures land snails and freshwater shells were found, but as expected in the acid soils under forest cover, no bone material was retrieved on any of the sites.

2.2. Sampling method 2: forest survey (2015)

In 2015 as part of a forest survey transect in the *Xyladate* project, pottery was collected in two pits dug for environmental reconstructions. The test-pits were 2 m × 1 m and excavated by 10 cm spits. Charcoal and artefact samples were hand-picked following the same procedures as Hubau et al. (2013, 2012).

2.3. Pottery analysis

As pottery has never been described in the area, we use the pottery sequence established by Hans-Peter Wotzka (1995) for the neighbouring Inner Congo Basin as background reference. Style attributions are made on the basis of the shapes (base, body shoulder and neck), the decoration (ornamental tools and techniques) and the fabric (macroscopic characteristics of the matrix and non-plastic inclusions) of vessels found in distinct contexts. We also refer briefly to pottery building techniques, as observed by *macrotraces* - but this part of the study is at a preliminary stage (for a general description of the method, see for instance: Livingstone Smith, 1999, 2001, 2010; Livingstone Smith and Vysserias, 2010). The stratigraphic distribution allows us to sort these styles into three successive chronological stages, the Early, Middle and Late

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