

**ARCHAEOLOGY OF THE RAINFOREST IN SIBERUT  
(MENTAWAI ARCHIPELAGO, WEST SUMATRA):  
THE PARADOX OF LITHIC AND VEGETAL TECHNOLOGY  
IN PAST AND PRESENT TIMES**

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**Abstract**

The tropical Rainforest (around 60% of the surface) and clear water swamps, common on the Siberut islands off West Sumatra present a challenge to the Archaeologists and the quest of the Past. The scarcity of raw materials such as flint for tool making meant that Prehistoric populations were obliged to adapt and has also resulted in the rare lithic remains founded in Siberut.

Added to this harsh conditions of the field, the bad state of conservation of objects and the few recent limestone formation without caves with archaeological layers, we propose in this paper to present the first prehistoric remains founded on a open site and a global reflection about the different way of research for understanding the first Austronesian settlement who could displaying a vegetal technology like the "*Flower-Men*" at the present time.

*"Until quite recently, the people who live here retained many  
Stone Age traditions that were exceptionally archaic but  
nevertheless remarkably complex"*  
(Schefold 1996: 170)

**An introduction to the "Forgotten Islands" of West Sumatra**

The prehistory of the islands lying off West Sumatra's coast, in the Indian Ocean, is so poorly known that they can be qualified as "forgotten islands". As a matter of fact, no excavation has been carried on in these islands, except recently in Nias by the PUSBANG and IRD<sup>1</sup> team (Driwantoro *et al.*

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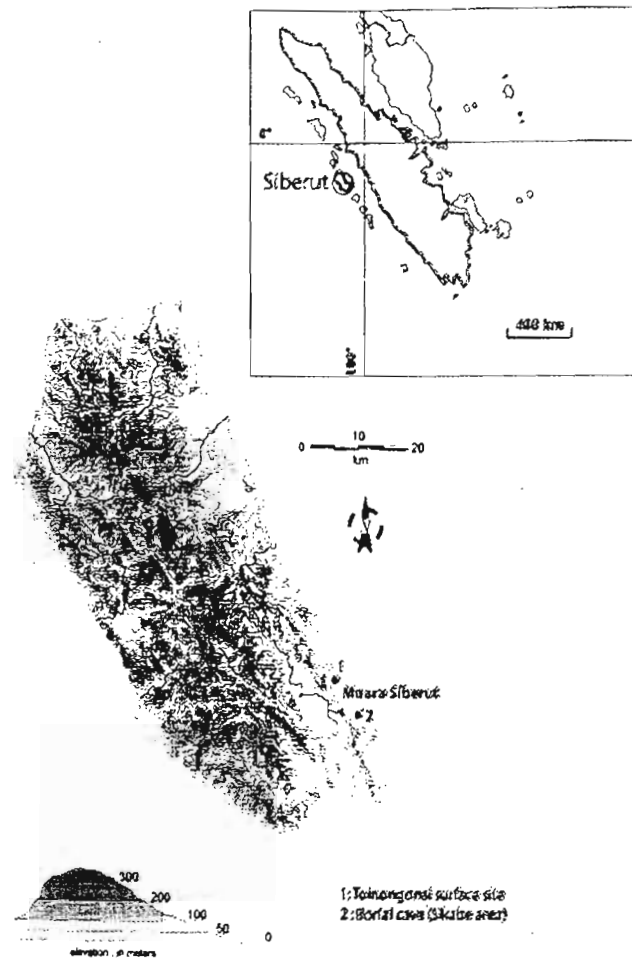
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2004). This excavation of the Tögi Ndrawa cave provided the first clues for the ancient settlements of this non-volcanic chain of islands, dated back to the late upper Pleistocene (around 12,000 years BP for the oldest levels).



Further to the South, our work in Siberut<sup>2</sup> (Figure 1) also provides the very first information concerning the ancient settlement on this island belonging to the Mentawai archipelago. Siberut is renowned for its very particular societies and environment. With its 4500 square km, representing a length of 110 km and a width of 50 km, Siberut is the biggest island of Mentawai. Its hilly centre is covered with primary forest. On the coast, vast areas of rain forest and mangrove swamps stretch inland for several kilometers. The combination of a rather high and steady rainfall (an average of 4,000 mm/year), of a low topography (the altitude reaches a maximum of 300 m), and of an absence of drainage, defines a very muddy and swampy environment, all the more difficult for the archaeological exploration that the landscape is concealed by the vegetation.

The societies are depicted as Austronesian, an observation based on the language, and also on certain characteristic which are typical of these linguistic groups: the cultivation of sago palm (*Metroxylon spp.*) and of tubers such as taro and yams, and the domestication of pigs and dogs. Others cultural traits are also typically Austronesian: shamanism, rituals, tattoos (Schefold 1991; Lindsay *et al.* 1992), long communal houses (here called *uma*), canoes, etc. The island is "covered in dense tropical rainforest with isolated farming settlements scattered along the river valleys" (Schefold 1996:170). Schefold is the only researcher who tried to determine the past of the island (Schefold 1989).

At the beginning of our research, there was no predetermined method for the spotting of prehistoric sites on the island, and the ancient pattern of settlement was absolutely unknown. In this difficult environment, covered for more than 50% by primary rainforest, we had to define a method for the investigation of ancient traces in the landscape.

### **The fieldwork: method, sites and first finds**

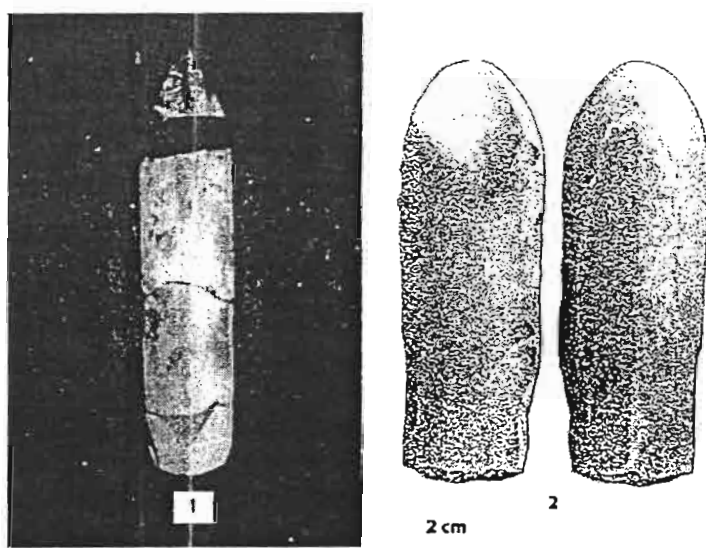
We had the choice between a geological approach, leading to a survey of each karstic area mentioned on the maps, and a human approach based on the oral information given by the inhabitants. We started following the geological angle, but it proved unsatisfying: the available maps were very incomplete, and the limestone formations that were mentioned on them, offering the shelter of caves, were very scarce on the island. Therefore we decided to rely on oral information.

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<sup>2</sup> Siberut belongs to the non-volcanic chain of islands stretching for some 1,200 Km from Enggano in South-East to Simeuleu in the North-West. Located around 100 km off the coasts of West Sumatra, it belongs to the Mentawai Archipelago situated on the Permian subduction zone and composed of the four islands of Siberut, Sipora, Pagai Utara and Pagai Selatan.

Following this method, we investigated several zones lying between the centre of the island and the coast, where we had some clues of ancient settlement.

Near Muara Siberut, we were given a polished stone adze (Figure 2) which had been found near the cave of Boriai (Figure 1), a few kilometers to the East. We visited this cave apparently suitable for human occupation and which is going to be excavated next year (2006). Another adze similar to this one had been given to Schefold a few years ago (1991) and inspired his description of a “*Neolithic-Austronesian culture*”. Other authors (Lelievre 1992; Wiggers *et al.* 1999; Whitten *et al.* 2000; Reeves 2000) also evoke a first colonization of Siberut several thousand years ago, referring to a hypothetical “Neolithic age” to describe it. This first kind of occupation has still to be prospected.



1: Polished stone adze given to us at Muara Siberut in 2004  
2: Polished stone adze (Schefold, 1991)

Figure 2: Two polished stone adzes, Siberut, Mentawai

Another site was spotted at Toinongonai (Figure 1). It consisted in a marine terrace situated 400 m away from the seashore, at an altitude of around 25 m. This surface site is rather enigmatic. Very much altered by erosion due to human activity and deforestation, it presents a mixture of naturally crushed stones (“*geofact*”) and of stone artifacts, produced by man. Some blocks have just been tested by prehistoric people. We have determined with certainty only

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thirty (Figure 3) knapped stones, which are for the most of them massive “plane tools” with an abrupt edge and a thick back (a “rabot à dos épais” in the Western European stone tools typology) and flakes, some in chert but the majority in volcanic rocks. The raw material was taken from unexpected sources, the volcanic rocks found scattered nearby, not far from the coast.

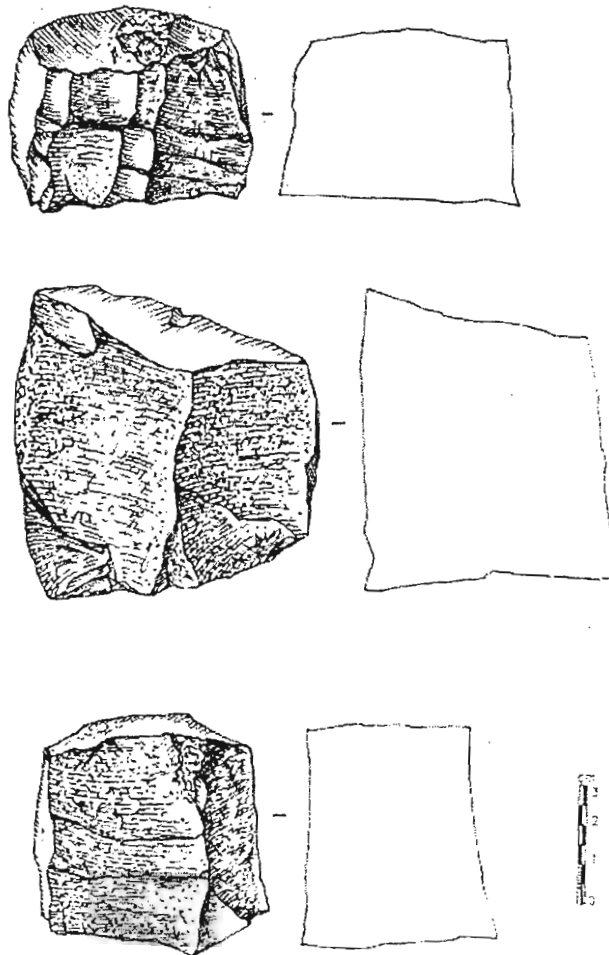


Figure 3: Stone artefacts from Tolnongonal terrace, South Siberut

General hypothesis have established that prehistoric hunters and gatherers used to seek caves or rock shelters, but in that case, without a favorable geological pattern on Siberut, they decided to live in an open-air location. This is the first record of a prehistoric site being a “knapping floor”, in the open-air, on Siberut.

Presently, the Toinongonai terrace site is the most important site we have spotted on the Island. It is difficult to ascribe an age to these marks of an ancient settlement. However they might be correlated to a pre-Austronesian migration, similar to the one found in our excavations in Nias, and which have been dated back between 12,000 BP (for the oldest levels at a depth of 4 meters) and 1,000 BP (for the most recent levels) (Driwantoro *et al.* 2004). The finds from this Tögi-Ndrawa cave (North-Eastern Nias) seem to indicate an exploitation of marine resources, namely seashells and stone raw material (especially pebbles), although other remains confirm an exploitation of the forest (forest fauna, unifacial pebble-tools which resemble the Hoabinhian implements found in the numerous shell-middens on the East Coast of Sumatra, near Medan).

### **The Austronesian connection: a past without traces?**

Obviously, there is no link between this reconstruction of the first occupations in open-air sites and possibly in caves, and the present-day world of villages which lay scattered along the rivers of Siberut, and where the “flower-men” of an Austronesian origin practice activities adapted to the swampy inland environment. We will now deal with what can be said about this more recent wave of settlers, in terms of evolution, adaptation and technical transmission.

Next year, the excavation of the Boriai cave, where one the polished stone adze mentioned above has been found, might provide some insights about the first Austronesian migrations, and about the technology associated to it. However, today’s technology indicates a very exclusive trend towards the use of vegetal materials in all the fields of technology (Forestier 2003). Bamboo, sago bark, different palms (*aren*, coconut), rotan (rattan), ficus and many other plants are used for the making of tools (notably the *rurukkuk* or wooden sago adze) (Figure 4), weapons (bow and arrow), domestic implements, containers (shaman magic boxes and cases), trays, canoes and paddles, all the elements of the houses, fibers and textiles, and so forth. The pictures taken at the beginning of the 20<sup>th</sup> century by Paul Wirz (1929) display people wearing vegetal outfits, including headdresses and ornaments. Present-day behaviours and practices still show the major importance of vegetal technology and resources, emphasizing the role of the plants not only in every day’s life, but also in the myths, symbolism and representations of Mentawaians.

This omnipresent resort to vegetal resources arises from a close adaptation to the forest, which proved to be a necessity in the environment of the island. This adaptation may have provided several benefits in social terms, such as the upholding of the cultivation of sago, allowing a more or less egalitarian system based on the clan, and on the dispersal of the settlements in a context of low density of population. Anyway, this is not the place to discuss the question of the relative impact of natural determinism vs. cultural choices. The important question to be answered here is related to the omnipresence of the vegetal technology, going along with a constant recycling of its perishable products (Figure 4): the objects disappear with time, although the ideas and know-how's related to their production still persist. Accordingly, there is a close relationship between this vegetal technology and the symbols in use in the society, whether they are of a material or of an "ideal" nature (e.g. the constant reference to the forest through the reproduction on wooden panels, in the houses, of images of the forest, such as birds, monkeys, crocodiles, turtles, lizards, etc; the taboos and omens related to this vegetal world, relayed by the *sikerei*, the shamans). In fact, the symbols are the medium for the transmission of knowledge through the generations, and give good insights on the crucial values of the society (Schefold 1979/80). The example of the sago tree flower, used on the walls of the *uma* as a talisman for hunting, shows the close link between man and the forest, between domesticated and wild resources.

But let us go back to the techniques. By contrast, the omnipresence of the vegetal technology questions the existence of harder tools designed to fashion all the items derived from plant materials. In other terms, the soft, flexible and resistant materials provided by the forest can only have been shaped by using harder implements, which were very probably made of stone before the arrival of the Dutch colonists and missionaries in the 19<sup>th</sup> century, or a bit earlier. Those hypothetical "primary" tools, as opposed to the "secondary" vegetal tools they produced, are no longer in use today and have been replaced by metal.

Thus, there is a double gap in our investigation. The first one is the lack of stone implements in the remains of present-day societies; future investigations and excavations have to focus on this kind of artifacts and on their relationship with other existing technologies (for instance, Hoabinhian pebble-tools). The second gap is derived from present day observations. If the complementarities between "lithic" and "lignic" proves also true for earlier times, this gap is due to the absence of a whole set of supposedly vegetal artifacts in the layers ascribed to the early Austronesian or even to the pre-Austronesian settlements. Those ecological artifacts will never be recovered, except, by chance, in an exceptionally well preserved anaerobic environment (swamps).

### Conclusion: new tracks for old questions

In spite of modernity<sup>3</sup> which blurs the data, it is still a stimulating challenge to try to read the echoes of the past in the present-day techniques, societies and landscapes. This leads to a history of the techniques and of the landscapes on the long term. The comparison through time, for instance, has allowed us to discern a new relationship between stone and plant materials, which is not necessarily hierarchical, but is certainly complementary. The plant industry appears today as quantitatively dominant, as reflected in the abundant ethnographic documentation, and has occulted the long-lasting, but rare, hard material (stone or/and shells, bones, etc?). The two polished stone adzes (Figure 2) discovered until now are precious hints to find other similar (or dissimilar) objects, whether they are of an endogenous or exogenous origin. This might help solving the question of the nature, Neolithic or not, of the first Austronesian settlers in Siberut.

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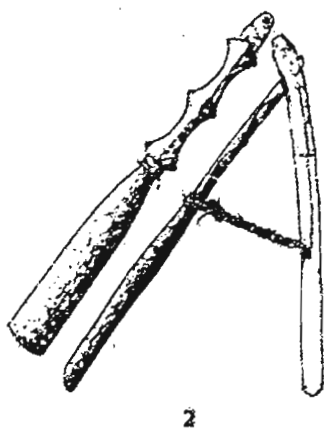
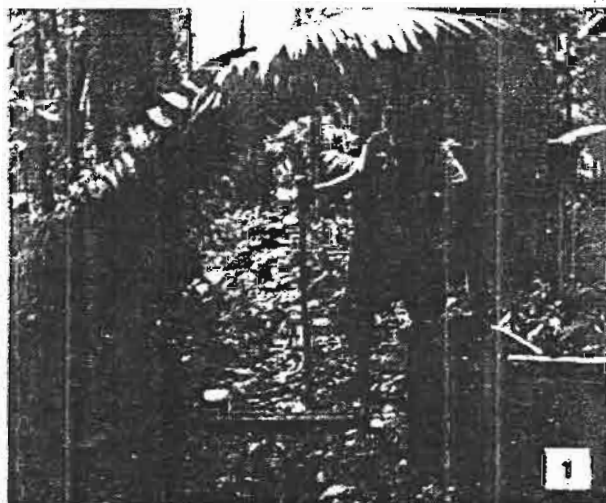
<sup>3</sup> The society of Siberut has indeed undergone many changes in the recent decades, through the generalisation of mechanic engines, tourism, money, the trade and exchange of goods and the apparition of new needs. This demonstrates once again the swiftness of the adaptation process, from life in the forest to integration into the exchange networks.



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**Figure 4: Some examples of the importance of vegetal in the imagination and technical invention in Mentawai life.**  
**1: an "ecological" camp quickly built up during hunting activities far from the village**  
**2: a sago wooden adze, 63 cm (courtesy: R. Schefold, 1991)**

# **AUSTRONESIAN DIASPORA AND THE ETHNOGENESES OF PEOPLE IN INDONESIAN ARCHIPELAGO**

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Truman Simanjuntak  
Ingrid H.E. Pojoh  
Mohammad Hisyam**

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