Preliminary Report of the
Cruz Mayor Rock Art Expedition
To
Papua New Guinea.
May – July, 2008

By
Edmundo Edwards & Nancy Sullivan

An Explorers Club Flag 83 Expedition
Introduction

Papua New Guinea and Australia, were first settled by humans when they were still one sole landmass named Sahul, around 60,000 BP. Its first settlers had to cross the 70 km-wide strait of Timor, in a feat that represents one of mankind’s first great accomplishments. These settlers may have perceived the presence of this landmass by volcanic eruptions in Papua New Guinea, emigrating birds, or by flotsam arriving to the coasts of Timor. Once they settled Sahul, they dispersed and became the forefathers of the Papuans of West Papua, Papua New Guinea, and the Australian aborigines.

Changes in the sea levels triggered by glaciations reached their peak around 30,000 BP, with a 120-meter drop in the sea level. By 18,000 BP, the ocean began to rise again, covering the Arafura plain and gradually separating the island of New Guinea from...
Australia with the invading Torres Straits. From 10,000 BP onwards the rate in which the sea rose was slowing, and reached its highest point around 4,000 BP.

Australian aboriginal rock art, specially painted caves and rock shelters emerged at a very early stage, and although we still do not have a precise date for their antiquity, cave paintings in Kakadu National Park, for example, could have been made 50,000 years ago and because of the closeness of both populations, it is probable that such rock art in the island of PNG could also have great antiquity.

At present many caves and rock shelters covered with rock art have been found and recorded in West Papua, East Timor, and as far west as Kalimantan, in Indonesia. These caves that are the focus of our study, were the first to be found and registered in PNG, and many of their paintings show similar characteristics to those found above, mainly stencils of hands, sometime with an arm or breastplate, and animal footprints as well as geometrical designs. Few of them have been dated so far in these islands, but those from Kalimantan are conservatively dated to 12,500 BP.

In PNG, the existence of a few caves containing rock art located high up in the conglomerate rock escarpments at the foothills of the Central Range, just south of the Sepik River in the Upper Karawari Region, has been known since 1968. Based on colonial administration patrol reports and preliminary archaeological excursions, twelve caves had been recorded to have paintings and stencils, and prior to 2007 it was assumed roughly twenty more existed and were yet to be seen. Since August 2007, however, a team of fieldworkers from Nancy Sullivan & Associates (NSA), led by Nancy Sullivan PhD., have identified another 200 caves containing rock art in the Upper Karawari and Upper Arafundi area. Some of these caves contain large panels of rock art and were apparently used as elaborate men’s houses, others as campsites or semi-permanent habitation. So far, 70 of them have been explored and recorded by the NSA team, which has also gathered ethnographic information concerning the use and function of the rock art. Another 30 of them should be visited in the following months, and similar information retrieved from their present owners.

Dr. Sullivan’s major funding source has been a John Simon Guggenheim Fellowship (from August 2007-July 2008), and two smaller National Geographic exploration grants, plus the assistance provided by Mr. Antonio Cruz-Mayor, reported herewith.

The research continues, and the complete results of this Expedition should be gradually published in the following years.
Expedition Members with the Explorers Club Flag N° 83. From left to right, kneeling; Gonzalo Rojas, Nancy Sullivan (ECF) Nancy Sullivan Jr. Standing; Antonio Cruz Mayor, Yoshua Meraveka, Levai Roland, Mara Riroroko, Sebastian Riroroko, Jonah Wenda, Roberto Forster, Edmundo Edwards and Jaime Riroroko.

1. Participants

This portion of the research project was carried out by a joint team conformed by personnel of Nancy Sullivan and Associates (NSA) and a team of participants coming from Easter Island, Chile. All the ethnographic and archaeological research was videoed in EXDCAM HDV (NTSC), and forms part of a documentary to be released this coming year in an English and Spanish version.

This first session took place between the months of May and July 2008 as can be observed in the accompanied itinerary.

The team was composed by the following members;

Mr. Antonio Cruz Mayor P.
Dr. Nancy Sullivan PhD, anthropologist Divine Word University, Madang, PNG.
Dr. Bassam Ghaleb PhD, geologist, [GEOTO], University of Quebec, Canada
Mr. Joshua Meraveka, assistant anthropologist NSA.
Mr. Cris Dominic, assistant anthropologist NSA.
Mr. Kritoe Keleba, assistant anthropologist NSA.
Mr. Jonah Wenda, assistant anthropologist NSA.
Mr. Edmundo Edwards, archaeologist, research associate, (CEIP), U. of Chile.
Ms. Mara Riroroko, assistant archaeologist.
Mr. Roberto Forster, painter and writer.
Mr. Roberto Glaria, botanist and climber.
Mr. Jaime Riroroko, climber.
Mr. Gonzalo Rojas, videographer.
Mr. Sebastian Riroroko, assistant video & sound.

We also hired help from the Awim village, at times numbering between 20 to 30 personnel to establish our campsites and transport materials to the work sites.

During our stay, this joint team was able to visit 5 caves located in Awim and several smaller caves in the Inyai region of the Upper Karawari, the Simbut and Sikaim region of the Bogopmeri River, and the Imboin area of the Upper Arafundi. As we climbed, part of the NSA team always remained in those villages to collect anthropological and ethnographic information regarding their culture and the use of the caves from their community elders and cave owners.

We also met a handful of Meakambut men, in Imboim, where we sought permission to begin exploring their caves. These semi-nomadic Upper Arafundi people are the most remote of our subject groups, and had not met Europeans until we sat with them. Later they visited us in Awim, and they consented to have us live with them, visit their caves and record their lives and culture next year.

Roberto Glaría, also trained NSA staff in rock climbing safety methods, a sorely needed skill for the fieldworkers. In addition, Sr. Antonio Cruz-Mayor joined us for two weeks, during which we explored Pundumbung cave in Awim one of the major caves in this area.

This whole Expedition and the future publication of the entirety of the research carried out by NSA, shall be financed by Mr. Antonio Cruz Mayor Prendes.

2.- Itinerary

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>4-May-08</td>
<td>Start of Expedition. We leave Easter Island for Tahiti (French Polynesia)</td>
</tr>
<tr>
<td>5-May-08</td>
<td>Arrive in Tahiti</td>
</tr>
<tr>
<td>6-May-08</td>
<td>Tahiti, last minute shopping.</td>
</tr>
<tr>
<td>7-May-08</td>
<td>Board flight to Sidney.</td>
</tr>
<tr>
<td>8-May-08</td>
<td>In Sidney, visit National Museum, meet with Antonio Cruz Mayor.</td>
</tr>
<tr>
<td>9-May-08</td>
<td>In Sydney, Visit to Botanical Gardens and the Opera House.</td>
</tr>
<tr>
<td>10-May-08</td>
<td>Fly from Sidney to Port Moresby - Lae - Mt. Hagen</td>
</tr>
<tr>
<td>11-May-08</td>
<td>In Mt Hagen. Buy supplies, Arrange for charter flights to Karawari</td>
</tr>
<tr>
<td>12-May-08</td>
<td>Fly to Karawari where we canoe up the Arafundi River. Spend night in Yimas 2.</td>
</tr>
<tr>
<td>13-May-08</td>
<td>Leave Yimas 2 by canoe, to Yimas 1 and arrive at Awim our home village.</td>
</tr>
<tr>
<td>14-May-08</td>
<td>Visit to Men’s House. Briefing with NSA researchers &amp; plan future research.</td>
</tr>
</tbody>
</table>
Travel by canoe to Imboin, visit Lombokopo shelter. (10 hrs.)
Go to Imboin, to meet with the Miakambut. (9 hrs.)
Go to Karawari with Antonio, who returns home. Return to Awim. (10 hrs.)
Leave for Chimbut, (6 hrs. by canoe).
Go to Imboin, to meet with the Miakambut. (9 hrs.)
Go to Karawari with Antonio, who returns home. Return to Awim. (10 hrs.)
Leave for Chimbut, (6 hrs. by canoe).
Visit cave. Meet with village authorities in Inai and Sikaim, return to Yimas
Return by canoe to Awim. (9 hrs.)
In Awim, Sunday services. Free
Nancy leaves for the Highlands, work on script, prepare camp in Kambambrum
In Awim, repair equipment (Generators)
In Awim, arrival of Bassam Ghaleb and Yunus Wenda (NSA) (10 hrs.)
Walk to Kambambrum camp, ascend to Aequimyam cave. (10 hrs. walk)
Ascend to Bumdimbum cave. (11 hrs. walk)
Ascend to Kundumbu cave. (10 hrs walk)
Ascend to Kundumbu cave. (10 hrs walk)
Return to Awim, Yosh. returns with supplies from Wewak. (a 1.210 kms. trip by canoe and car).
We video subsistence activities in Awim.
Leave by canoe to Imboim and sleep there. (4 hours by canoe)
Interview Martin Yagumara and his wife. Return to Awim. (10 hrs. by canoe)
In Awim. Visit to Sikaim is suspended (low river)
We leave for Inau in two canoes and sleep there (11 hours)
Ascend to Nombokipoi cave. (3 hour walk+ 2 hours by canoe)
Leave Inai. Interview elders in Sikaim & Yaramat. (10 hrs. by canoe)
Canoeing Karawari to leave Bassan Ghaleb who returns home. (10 hrs.)
In Awim, relax
We leave for Kambambrum camp, ascend to Taguinea Kansa cave (4 hrs. walk)
Ascend to Kumbungang cave and return to y Awim (11 hrs. walk)
In Awim village. Clean and prepare equipment
In Awim village. Make backups of video and photo.
In Awim, videotape village & send canoe to Yaramat to prepare our arrival.
We leave for Yaramat by canoe and spend the night there. (10hrs.)
Leave by canoe to camp in Yabiso. (2 hour by canoe + 2 hour walk)
Send recognizance group to prepare ascension to Imango cave. (10 hrs. walk)
Ascent to Imango cave and return to camp (11 hours walk).
Return by canoe to Yaramat, interview with elders. (6 hrs.)
Leave for Karawari Lodge for supplies, Night at Yimas2 (3 hrs.)
Return to Awim village by canoe through Yimas lakes (7 hours)
Go up hill to film canoe manufacture and transport. (6 hrs. walk)
Spent day in Awim, translating our videoed interviews to English.
Video hauling of canoe downhill. (6 hrs. walk)
Leave by canoe for camp in Pongkaik, on the Makit river. (4 hrs. by canoe)
Ascent to cave in Nantim. Encounter 7 Miakambut on the way to Awim. (12hrs.)
<table>
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<tr>
<th>Date</th>
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<tbody>
<tr>
<td>28-June-08</td>
<td>Special Ceremony held at the Men’s House in Awim.</td>
</tr>
<tr>
<td>29-June-08</td>
<td>We census and photograph every household and its occupants in Awim.</td>
</tr>
<tr>
<td>30-June-08</td>
<td>Spent day in Awim, packing.</td>
</tr>
<tr>
<td>1-July-08</td>
<td>Recorded oral traditions on video in Awim village.</td>
</tr>
<tr>
<td>2-July-08</td>
<td>Leave Awim to Karawari – by air, to Hagen – by car to Madang (21 hrs.)</td>
</tr>
<tr>
<td>3-July-08</td>
<td>Relax in Madang at Nancy Sullivan’s home.</td>
</tr>
<tr>
<td>4-July-08</td>
<td>Work with Nancy Sullivan and her Team</td>
</tr>
<tr>
<td>5-July-08</td>
<td>Visit to Levis Island. Relax. (All day trip)</td>
</tr>
<tr>
<td>6-July-08</td>
<td>Interview Nancy in video.</td>
</tr>
<tr>
<td>7-July-08</td>
<td>Fly from Madang to Port Moresby.</td>
</tr>
<tr>
<td>8-July-08</td>
<td>Fly from Port Moresby to Brisbane – Sidney</td>
</tr>
<tr>
<td>9-July-08</td>
<td>Sydney, Visit National Museum.</td>
</tr>
<tr>
<td>10-July-08</td>
<td>Sydney, Free</td>
</tr>
<tr>
<td>11-July-08</td>
<td>Fly from Sydney to Tahiti</td>
</tr>
<tr>
<td>12-July-08</td>
<td>Tahiti. Free</td>
</tr>
<tr>
<td>13-July-08</td>
<td>Tahiti. Free</td>
</tr>
<tr>
<td>14-July-08</td>
<td>Tahiti. Free</td>
</tr>
<tr>
<td>15-July-08</td>
<td>Tahiti. Free</td>
</tr>
<tr>
<td>16-July-08</td>
<td>Tahiti, board midnight flight to Easter Island</td>
</tr>
<tr>
<td>17-July-08</td>
<td>End of Expedition. Arrive Easter Island. Total time spent: 74 days</td>
</tr>
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**Dr. Nancy Sullivan and her team exploring some of the caves near Awim village**

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1 We are obliged to await for the flight to Easter Island.
The Upper Karawari Region in the East Sepik Province, showing villages, campsites
and those caves located and visited. Scale in kilometers.

2.- General Information About the Upper Karawari Region

The Karawari River is a tributary of the Sepik River that runs from the Central Mountain
Range down to the floodplains on PNG’s north coast and onto the Sepik River itself. This
smaller mountain range was formed many million years ago by tectonic plate movements,
and is composed by a rock conglomerate that probably goes back to the Cretaceous era
60,000,000 years ago. Looking at them today, we can imagine that they formed an intricate
fiord system before the ocean retreated 6,000 years ago. Upon their steep cliff faces
covered with jungle, natural erosion has exposed the rock in places forming a precipice
with a whitish color that varies between 50 to 300 meters in height and dominates the
landscape. Where its composition is softer, erosion has acted faster, forming numerous
rock shelters over which many small waterfalls cascade two or three thousand feet into the
Arafundi and Karawari Rivers, and their tributaries. These are the places said to be first
occupied by the ancestors of its present day inhabitants. They remain the abode of their
gods and ancestor spirits, and are therefore imbued with great symbolism and supernatural
power for their owners.

At the base of the mountains, the lowland environment is carpeted with tropical rainforest
and extensive sago swamp. The most common wet season falls between November and
April, and the dry season between May and October. The temperatures remain fairly
constant throughout the year with an annual daytime mean temperature is 29 C, accompanied by extremely high humidity (82-85%). Wildlife is abundant in this environment, and includes 578 land birds and freshwater species including birds of prey, megapodes, pigeons and doves, cuckoos, owls, lorries and lorikeets, parrots and cockatoos, kingfishers and hornbills, shrikes, thrillers, thrushes, log runners, warblers, fairy-wrens, fantails, monarchs, robins, whistlers, pitohuis, babblers, honeyeaters, finches, starlings, mynahs, orioles, butcherbirds, bowerbirds, and birds of paradise. The largest bird in the area is the double-wattled cassowary, still hunted for their meat, feathers and thighbones (which are made into decorated daggers).

These forests are also the habitat of about 190 species of mammals, including spiny anteaters, bandicoots, wallabies, tree kangaroos, gliders, possums, cuscuses, bats, flying foxes, tree mice and rats of different sizes. Fish are also plentiful, especially where the waters are dark and abundant in nutrients, as in the Yimas lakes and the Karawari River. This is also where estuarine and saltwater crocodiles are to be found, and captured with nets.

Although Papua New Guinea’s forests account for only 1.5 percent of the world’s tropical rainforests, they are outstandingly rich in diversity by global standards, and in this area grows about 1200 plant species, including gingers palms, strangler figs, climbing palms, woody lianas and many orchids. These lowland forests are taller than mountain rainforests and their canopies fuller, rounder, sometimes consisting of three crown layers, with giant emergent trees several hundred to more than a thousand years old that project well above the canopy.

Few species of these plants and animals are considered endangered, but this could be a consequence of incomplete inventory of the area.

According to the oral traditions of its present inhabitants, this area was first settled by their ancestors, arriving from the Highlands many generations ago, as hunter-gatherers. They wandered around the forest at the foothills of the Central Range that borders the Sepik Basin, and did not know how to build boats or swim.

By the twentieth century, the Sepik basin was home to a population of approximately 300,000 to 500,000 people in an area considered one of the most linguistically diverse regions on earth. Its inhabitants speak over 200 languages and at least twice that number of dialects (Laycock 1973:54). The peoples of the Upper Sepik and Upper Karawari have not been intensively studied, therefore the ethnographic research carried out this year by NSA in the villages of Awim, Imboim, Simbut, Inyai and Yarmat is of major importance to the area’s historical record. We do know, however that the Lower Arafundi people comprised, at contact, “that supposed rarity among tropical forest peoples, a group living almost exclusively by hunting and gathering” (Roscoe and Telban 2004:1; cf. Bailey et al. 1989) (see below).
The people of the Upper Karawari consist of three main tribes, the Inyai, the Awim and the Yimas people, all of whom formerly occupied the hills behind the Krosmeri and the Bogapmeri rivers. These mobile human groups formed loose village groups, that until recently occupied the massive rainforest tablelands around the Arafundi and its tributaries. They occupied these rock shelters and caves in seasonal rotation with rough hunting shelters, and would spend longer periods of time in the caves for ceremonial and mortuary purposes. The only group still living this life style, the Meakambut, is composed by 52 individuals belonging to three clans, who inhabit the mountainous region south of Imboim on the Arafundi River. They Meakambut may be the last hunter-gatherers and cave dwellers in PNG, and they are almost certainly the last rock art producing cave dwellers in the Sepik region.

The Arafundi language covers both lower and upper Arafundi peoples, and may be said to be the principle language of the field site. It was once thought to consist of two distinct languages, Alfendio and Meakambut, but these are now considered dialects (ABN 1962:6; Laycock 1973:40). Unrelated to the Sepik River languages just north, Arafundi is more
closely related to the highlands languages of Harwai, Hagahai, and Pina spoken in the mountains at the head-waters of the Yuat River (Roscoe and Telban: Ibid; Foley 1991:7-8).

Local government patrols first made contact with this area peoples in the nineteen sixties. At that time, the population density was as low as one person per 5 km². Wild sago, a palm that grows abundantly in low altitude wet lands, was their main carbohydrate staple. Food gathering was (and still is) a daily occupation, with fish and meat protein obtained by fishing and hunting with dogs to trap wild pigs, possum, rats and tree kangaroo. Other foods include semi-wild plants such as bananas, taro, yams and breadfruit, as well as sago grubs and other insects and small rodents Increasingly, since pacification in the 1930’s, they have been practicing shifting cultivation of sweet potato, yams, taro and banana. As agriculture is still scarcely practiced, the rainforest canopy is largely intact but endangered by encroaching logging projects. Ownership of land is through clans and claims to it are enforced by cooperative actions of the descent system influenced by traditional beliefs that the spirits of the forebears are the ultimate guardians.

The area has not been extensively patrolled, and the first record of exploration comes from the MacGregor Gold Prospecting Expedition, which passed through in 1928. They were followed by several reconnaissance trips carried out by Catholic missionaries as well as Australian military officers during WWII. Missionary influence ended he incessant inter-tribal warfare, and headhunting was eradicated in the late 1960s. As new religious practices were introduced, acculturation increased, and ancient subsistence practices were transformed by the introduction of new crop plants and other foods. (Haberland, E. 1966:44) Nevertheless, few outsiders have yet explored the Upper Arafundi, Karawari or Krosmeri Rivers; and in many places that we visited we were the first Caucasians to be observed by the children, who were afraid of our presence and believed us to be ghosts.

Fire is still lit using traditional methods
Typical Household in an Upper Arafundi hamlet.

The Ethnographic Record

We are indebted in our work to data collected by earlier anthropologists in the general region. Borut Telban’s work on the lower Arafundi Ambonwari, as well as surveys of Awim, Imanmeri, Meakambut, and Wamblamas, represents the most comprehensive ethnographic record of the area to date. We particularly rely upon Telban’s analyses of the ideological constituents of the Lower Arafundi (Ambonwari) people in his 1998 ethnography (Telban 1998) and hope to correlate his material with our findings from the people slightly south of his subject group, in the Upper Arafundi and Karawari villages of Awim, Imboin, Imanmeri, Meakambut, Sikaium, Chimbut, Inyai, Latoma, Kambu, Barapism, Yalmat, Teliva, Danig, Namata and Mariama. We also hope to fill in some of the ethnographic details now lacking from the historical record for this region.

Prior to Telban, Haberland produced a brief ethnography (1966) of the Arafundi people based on a total of five days spent in Awim, Warlamas (or Kapokmeri), Imanmeri, Yamandim, and Imboin in 1961 and 1963. His assessment of the region’s material culture was poor, and he lamented that "It is difficult to collect artifacts that were more than quickly thrown-together bast pieces, little sharpened sticks, or simple baulks of timber" (Haberland 1966:45).
Some documentary evidence of the region can be found in the Angoram and Amboin Patrol post reports and census data of the pre-Independence period. We find from these, for example, that the Upper Arafundi settlements were seen to be dispersed and the people always on the move from one garden to the next (ABN 1962:7, 1963:10). Their houses were more of the highlands variety, it is recorded, built on the ground rather than stilts (ABN 1967a:4).

We also know that sometime before 1960 the Mungkumbay, who now live in the hamlet of Awim village, came down from the mountain caves to settle on the Arafundi River in the hopes of receiving government services (ABN 1966b:6; ANG 1954:n.p., 1961:n.p.; Haberland 1966:38-39). Telban notes that the village of Awim was also composed of two hamlets, Mungkumbay (also called Awim) and Wandukumbay (or Angerat), but by 1991 the village was fissioning into two communities. Wandukumbay was located some distance into the hills behind Mungkumbay and was reportedly fighting with the Pundungay clan from Mungkumbay (Telban and Roscoe 2004:4). Meakambut had two village sites in the sixties (ABN 1966a: map, 1967a:6).

Hunting and sago-processing camps would have been scattered throughout the rainforest, but the residential hamlets themselves would have had populations of between twenty in Meakambut, to 40 in Awim. Each hamlet was comprised of a single patrilineal clan and a men’s house, centrally located in the clan lands (Haberland 1966:39, 60. Land and names descended patrilineally, with brother sharing their inherited land. Postmarital residence was virilocal (i.e. at either spouse’s birth hamlet), and it is probable that these were endogamous sister-exchange unions, which would have knit these scattered clans in many affinal bonds (Ibid; Roscoe and Telban: Ibid).

Throughout the 1960’s government patrols from Amboin pushed into previously uncontacted Upper Arafundi territory, until, in 1966, the Meakambut became the last community
to be met and recorded by the administration (Roscoe and Telban Ibid:3; ABN 1963:2, 1966a:8). Telban records that by 1991 many of these Meakambut had moved to the Yuat River region, leaving a camp of eleven in homes at the base of their mountain rock shelters; but by 2001, when he returned, these people had disappeared. Some, he says, had died, and others had moved south to the Maramuni area in Enga, or to Kansimei Village (Roscoe and Telban Ibid:4).

The Yimas, were the first of the Arafundi groups to settle on the flatlands, and are mixed with migrants from the Sepik and Blackwater river systems to the west. Very little is known about when and from where the ancestors of Inyai-Ewa arrived, or their relationship with the better-known lowland peoples, since both seem to be recent migrants from the caves, and many Inyai-Ewa still live in small mountain villages

**Traditional trade**

One of the most intriguing aspects of these Arafundi and Karawari peoples is how assimilated they have become within the Sepik cultural complex from the north. Haberland (1966:38) records extensive precontact trade and exchange links, through Yimas on the Arafundi rather than lower Karawari villages (Haberland 1966:37). The Lower Arafundi people had extensive trade ties with the Yimas, sending sago, sago grubs, pandanus, aibika, tobacco, betel nut, Piper betel, needles and saws of flying-fox bone, aromatic bark popular for hunting magic, bows and arrows, stone axes and adzes, and canoe-building tree trunks (ABN 1962:6) for Yimas mats, baskets, mosquito bags, fish, kina shells, and lime for chewing betel nut (Foley 1991:13-14; Haberland 1966:57; Haberland and Seyfarth 1974:70, 100, 107; Roscoe and Telban: Ibid). Clay pots and ovens from Aibom and Chambri came through Yimas, but pottery from the Koiwat-Kamangauai area and the Yaul and Dimeri pottery villages to the northeast entered via Kansimei, on the Konmei River to the northeast (Haberland 1966:38, 59), which is probably where shells arrived, from the mouth of the Sepik at Murik Lakes (Roscoe and Telban: Ibid, ABN 1967b:7).

To the south, trade routes ran from the Upper Arafundi/Maramuni River villages of Tungum and Pundugum into Enga, where lime, betel nut, and kina shells were traded for highlands tobacco and string bags (Williams 1995:1-2). From Enga, exchange partners could supply axe blades and other goods from as far south as the Jimi Valley (Roscoe and Telban: Ibid).
Aerial View of the Awim Hamlet in July 2008, our Main Place of Residence.

**Daily life**

The subsistence economy of these study villages relies today, as it did in the past, on men’s hunting for small mammals, lizards and birds, and women’s sago processing and fish trapping. Women also collect firewood, weave sago leaves into thatch, and increasingly, today, plant yam gardens; in the past they also made salt by soaking banana leaves in freshwater pools or burning various leaves. Men’s tasks included warfare, the felling of the sago palms and removing its bark, hunting, and fishing by damming waterways. Traditionally, the Upper Arafundi/Karawari man spends most of his time away from his family, in the men’s house, or in the designated part of the rock shelter that served as the men’s gathering place. Here he would chew betel nut with his friends, discuss important events, including cult life, initiation of younger members and marriage arrangements. These sites were sacred places, taboo to all women and uninitiated men.

Today similar social activities are still carried out at the different kitchen huts in the village, where men meet and discuss house building, canoe making, and clearing land for agricultural purposes. Although the sexes are ritually separated (and a strict separation of the sexes is still observed during the Catholic church services), these are not sexually ‘antagonistic’ societies and men tend to avoid women mainly during menses and pregnancy.
War

According to Haberland (1966:60), and Telban (1997:26), these communities were always in a state of defensive alertness, aware that neighbors could be enemies at any time. The last large-scale fight took place in 1972 when Wamblamas clans allied with Ambonwari and Condiment in attacking Imanmeri (on the Lower Arafundi), and Yuma’s only Arafundi ally was the Awim (Foley 1991:15; Forge 1959b:1; Telban 1998:148).

The main weapon for the Awim was the spear, and they would attack protected behind a shield. The spear bearers would advance as a front line, followed by warriors armed with bows and arrows. Their bows were made from black (limbo) palm with rattan collars to fit the bowstring, much like those used today for hunting. Most arrows were in two sections, with a cane shaft some 120 centimeters long, and a hardwood tip averaging 40 to 55 centimeters. In major battles, the victims’ heads were taken and cooked as a broth for the ritual celebrants and/or young initiates during initiation.

Both Haberland (1966:60) and the Amboin Patrol Post (ABN 1967a:8) report an absence of cannibalism for the Arafundi people, and yet the Awim told Telban they once ate human flesh, and the Wamblamas say the practice was part of their head-hunting ceremony (Roscoe and Telban 2004:5) (discussed below).

Traditional warfare generally took the form of surprise attacks and ambushes on enemy communities. The Arafundi and Karawari would lull opponents into a false security with promises of peace, and then make their strike to kill adult males (primarily) and acquire their heads as trophies. After slicing the heads off with bamboo blades, they would carry these back to the men’s house or rock shelter to triumphant reception of slit gongs and flutes.

The images of the helpful spirits that had propitiated this success were rubbed with the victim’s blood. The captured skull was then cooked in a pot and scraped clean after their skin and brains were boiled off and eaten in a kind of warrior soup. These trophy heads were kept in these caves. We were told that most of them had been thrown down the cliff face because their present owners felt ashamed of their cannibal past. Another cave full of sculls was used as a spirit house.

In some cases, a smaller cave or a recessed overhang in the neighborhood was used too keep the red painted skulls that had belonged to revered warriors. The corpses of great warriors were laid out in the forest, with his hunting dogs that were slain upon his death, and once decay was completed, his bones were cleaned and painted over with red pigment and then placed in these sacred places with his personal belongings, such as his hunting billon, in this case ornamented with the feet of some of his bird and mammal trophies, pig skulls, and the skulls of his hunting dogs, his bow and arrows, sometimes spears.
Death

Various methods were used to divine the cause of death. In the village of Sikaim, they used to have a divination stone (it is unclear whether or not they still do). Sorcery still is the most common direct cause, especially during inter-village tensions, and revenge is taken when the guilty party can be identified. This would happen when the spirit of the stone revealed the offender to someone in a dream.

A corpse was typically left to decompose on a bamboo bed, usually in the bush somewhere. In Awim and Meakambut, the body was placed on a roofed platform in the forest; for the Meakambut, it might then be buried in a sitting position. After decomposition, the bones would be stored in a rock shelter. In some villages, however, a corpse would be suspended in a palm sheath or laid on a bed under the house—for a man, this would be the men’s house. Once decomposed, the head would be brought back to the family house (either with or without the remaining skeletal bones). (Roscoe and Telban Ibid: 11, ABN 1964b:5).

Origin theories

Awim Village was our main residence during this study, centrally located to the cave sites, and at the foot of a hillside where their ancestors are said to have given them life. These ancestral spirits are known as mima or mema (male) and miminam (female), and are said to live in two (tabooed) hamlets in the hills.

The other spirits are bush spirits, or masalai: half-human, half-animal ancestor spirits, typical of the Sepik area, which form totemic relationships with their living descendants (see Telban 1998; cf M. Schuster 1990, G. Schuster 1990). Those masalai associated with pools and streams are called taikia or taykia (male) and taikianam or taykianam (female); those dwelling in mountains are called tangurang; and those associated with ficus trees are yakway. Tewi, the spirits associated with "stone houses" (i.e., rock caves) are intimately associated with the rituals conducted in these caves (discussed below) (Roscoe and Telban Ibid).

According to local tradition, Bundingbang was the place where all languages emanated, and Gorecki and Jones (1978b:6) were told that:

There was a time when the landscape had not been formed; there were no people; there were no names and no languages. Only two sacred bamboo flutes existed, one male and one female, who inhabited this cave. In the time of creation, they formed the landscape, made people, who then were dumb. To distinguish one group of people from another, these two sacred flutes gave languages to certain people and placed them in the landscape, each speaking a different language.
Making men

Male initiation was customary across the Arafundi and Karawari communities. A contemporary resurgence in the practice has drawn Arafundi men to the few Karawari villages that still conduct the full initiation ceremony. In the past, each clan and/or village would initiate their own young men, secluding them, to begin with, for about a week. Awim and Meakambut (and possibly others), would house their initiates in rock shelters where they were taught clan esoterica and special skills, like flute playing, carving and sago bark painting.

In Awim and Meakambut the youths had their penus bled: for Awim boys, by having cane reeds shoved into the urethra. They would cover their palms with the blood and then press their handprints along the cave walls (Sullivan 1998).

In Meakambut, and in Imboin, young boys sat on the ground as initiated males pierced their own penus and splashed the blood over the boys’ backs. More of this blood was wrapped in sago leaf with ginger and salt, and then given to the boys to eat, after which the boys’ own urethra would be pierced to bleed. In Meakambut (where Roscoe and Telban [Ibid:11] report that initiation was still practiced in 1990), the boy's blood was rubbed on his armbands.

In two of the Awim cave sites, (both off limits to women and uninitiated men), there remain extensive bloodstains and smears from what look like blood. These appear to have been made by “piercing the glands of the penis using a bamboo implement and spraying the blood onto the rock in the context of esoteric male ceremonies” (Gorecky and Jones, 1998: 5-6) Until recently the Awim boys would be blindfolded as part of their initiation and have cane reeds shoved down their urethra. Their blood was collected in a clay pot, and mixed with red ocher and water to form a soup that the boy’s mother’s brother would first serve him, then would have him spit over his hand against the wall, to form a stencil. In other cases, boys held their hands to the blood spurting from their penes to make handprints on the wall.

Meakambut is also notable for being amongst one of the few human communities that deny paternity (the Trobriand Islanders are another, for example). Telban reports being told that sex was unconnected with procreation in Meakambut; that babies were formed exclusively of a mother's blood. It is not clear how widespread this belief may have been in the area (Roscoe and Telban 2004:11).
Bark Paintings Decorates the Men’s House in Awim

The bark paintings that decorate the men’s house are associated with male initiation (Haberland 1966:44). They are made from sago trunk leaves, roughly 130 by 40 centimeters, which are flattened and cleaned before being bound by rattan loops to vertical sticks and directly to the house walls. Using charcoal, lime, and brown and white clays, they are elaborate spiral and animal motifs, some more anthropomorphic than others, and each connected with the maker’s clan (Haberland 1966:43-44, Table 13). It is assumed that the designs function as mnemonic devices for clan stories, as is the case for so many Sepik carvings and paintings.

The caves

The cliff faces behind these lowland settlements are riddled with shallow rock shelters. These are mostly long and narrow ledges that are difficult to access and so easy to defend from attack (Gorecki and Jones 1987a; Sullivan 1998). Those shelters with multiple ‘rooms’ may have provided long term habitation for a community during certain hunting seasons, in which case separate alcoves appear to have been reserved for cooking, for sleeping, for burial, and for confinement of male initiates. The Awim and Meakambut in particular seem to have used caves as men’s houses, decorating them with cordyline and bamboo, and even erecting blinds at the cliff edge to block public views. These caves are the most elaborately decorated with paintings and stencils, and so clearly marked for ceremonial significance. Apart from paintings and stencils, there are a few etchings, and until recently, there have been carved wooden statuary as well, primarily commemorative carvings placed with skeletal remains. In one spectacular Awim cave (Pundumbung), for example, more than 60 meters off wall and roof ledge are covered with hundreds of stencils and paintings.

Just prior to Independence, art collectors and missionaries purchased most of the artifacts plundered from these caves by villagers, for negligible amounts of cash. These are the
carvings that can be found in some of the best Oceanic art collections in Basel, New York San Francisco today. Not until 1987 was a research team from the Department of Prehistory at the Australian National University able to document some of the remaining carvings for posterity (ABN 1966b: 7; Gorecki and Jones 1987a, 1987b; Sullivan 1998). But at present, the caves are bereft of wooden artifacts.

**Previous Archaeological Research.**

In 1987, archaeologists Paul Gorecki and Rhys Jones from the Department of Prehistory, Research School of Pacific Studies, of the Australian National University in Canberra, conducted a survey of the area, and identified a series of rock shelters in the high limestone escarpments behind the Awim settlement. Their project was initially conceived to examine the rock shelters and caves and determine whether they warranted further archaeological investigation.

Elsewhere in mainland PNG and its islands there are caves and rock shelters that have been dated back to 40,000 BP; and while Gorecki and Jones noted that the geological formations of the caves in question were not as ancient as this, and were not conducive for the formation of archaeological deposits or middens, they found that most of them were decorated with major rock art friezes sometimes measuring over 60 meters in length that evidently was associated with religious beliefs and other cultural customs. According to Gorecki and Jones, the locals told them that they were the first outsiders to have been shown the Awim caves. Current research carried out by Dr. Sullivan corroborates this statement, as well as the conclusion that important burial carvings, mortuary relics, hunting amulets, and other portable artworks have all been removed to sell over the past 40 years. Today whatever artifacts remain are of no great antiquity, and in poor condition due to weathering. Some of the original cave statuary are now located in the Jolika Collection of the San Francisco De Young Museum, for example, and have been dated by C\textsuperscript{14} to ± 650 - 780 BP (which may be the age of the wood from which they are made).

The present inhabitants still remember the circumstances that led to the making of many of these pictographs and the religious significance of certain images, and during this collaboration, Dr. Sullivan’s team has been recording this material. This represents an important intersection of ethnographic and archaeological data, as we rarely have the chance to learn from a contemporary population the methods and meanings of historic material, whatever its antiquity. We suggest that the caves and their inhabitants represent actors in one of the longest continuing cultural tradition for the South Pacific region.
Some Rock Shelters contain many Ancestral Skeletal Remains and Trophy Heads.

Shelters and Caves with Rock Art and their Use

The rock shelters and caves are formed by the erosion of ancient soft clay deposits interleaved with an extremely hard conglomerate, which formed during the Tertiary era. Typically, these were very long narrow rock shelters in the faces of huge, often vertical exposed cliffs. Access to them was extremely difficult, involving traverses along some very narrow ledges located at the same level of the caves themselves, or by climbing down the cliff face and using ladders of felled trees. A very substantial part of the vertical climbing during this survey could only be managed safely with the use of climbing equipment. In one such site, local access had involved climbing up a long vine of 30 or more meters which had been fastened to a wooden wedge in the cave’s interior—a feat requiring enormous strength.

Today most of the religious taboos surrounding these sites have been relaxed, but cave owners and clansmen say they still feel the presence of guardian bush spirits in the caves. Protocol requires that visitors enter the sites with the legitimate owners, and abide by certain rites to secure safe access as strangers. In Imboin, for example, a brief mock
initiation ceremony is conducted to introduce outsiders to the masalai residing in and around their caves.

Our Team recording Rock Art in one of the shelters.

The rock shelters made excellent habitation sites. They were quite dry, which permitted people to store sago, nets, ceramic bowls and ritual paraphernalia like sacred flutes used during initiation. They might be sunny on mornings or evenings depending on their orientation, and provided wide views of the floodplains below and other inhabited rock shelters. There are small waterfalls conveniently near to several shelters, and cloud cover rolls in during the evening for the highest sites, providing rain and camouflage. During major storms, thunder and lightning will illuminate the landscape, and leave an evaporating mist in the morning that makes the forest glisten.

In addition to hand and foot stencils, Gorecki and Jones describe stencils of material valuables such as: bone spoons and needles; a woven bag (bilum); various plant leaves; shell discs, rings, and nose pegs; belts and ropes with attached shells; and gold lip pearl shells (highlands kina ornaments) that were traded up from the Torres Straits through the Central highlands, and are still used as trade valuables by the Meakambut people today.
In one of the sites, as Gorecki and Jones observed, there was a series of six bone daggers depicted on a wall. These daggers were made out of cassowary tibias and were used to kill enemies. A little over a hundred designs were counted up in four other sites, the bulk depicting abstract geometric shapes such as circles, rows of parallel lines, chevrons, lines radiating from a central point, and stick figures (Gorecki and Jones 1987b: 4).

Gorecki and Jones observe that the motifs depicted in the Awim caves closely resemble some of the northern Australia pictographs, especially those of the Carnavon Gorge region, and they rank these discoveries as one of the top five rock art sites in the whole of Australia/New Guinea area, together with the Australian rock art provinces of Carnavon Gorge (South Queensland), Laura (Cape York), Kakadu (North Territory), and Kimberly (West Australia). It is worth noting that all of the aforementioned Australian sites are National Heritage sites, one of which was also declared a World Heritage site by the UNESCO (Gorecki, and Jones. 1987a).

The extent of the rock art in this region has not yet been established. The survey work carried out by NSA in the Upper Karawari region, now covers from Namata and Imboin in the east, to Kotkot and Inyai to the south-central; Sikaiam, and Latoma on the Bogopmeri River; Kaningara and Governmas on the Blackwater north of the Bogopmeri; with the village of Awim in the center (see map). But it is likely that similar art will be found in other caves on the upper Karawari tributaries to the west, which we also plan to explore in the future.

Recording the Rock Art and oral traditions in a Rock Shelter in the Awim Area.
Shelters surveyed.

Herewith is a short description of those sites visited. A more complete report containing all the records of such sites, together with the ethnographic information pertaining to the rites and ceremonies practiced in them, will be published in a future volume.

Partial view of Bundingbum 65 meter long panel.

a. - The Bundingbum Rock Shelter. (owned by Ronald Kimbisae),

This is one of the mayor rock shelters of the Awim region, measuring over 65 meters in length by between 2 to 6 meters in width. It is located about a five hours walk from the traditional Awim camp of Kamanbrun. At places the hillside became very steep obliging us to use climbing equipment for security reasons. The return was just as difficult and took just as long.

The east end of this shelter, had once an enclosure that was used to seclude young boys during initiation ceremonies, meanwhile young girls were secluded in the other extreme of
the shelter, which served also as a cooking area. The central part was considered a men’s house, and it was there that all the important ceremonies and rituals took place.

The paintings form a continuous panel from one extreme to the next and it has over 560 figures visible, most of them hand stencils panted in red, yellow and white ocher. Other figures such as *kina* shells and shell pectorals are also depicted with a similar technique, and some other unidentified objects are painted in red ocher.

One of the small recesses located in the cliff face above this ledge contained some human skeletal material, plus a human face painted on the west side wall. To access this recess, it was necessary to climb up a branchless vertical tree trunk 9 meters tall, and then jump into the recess about 1.5 meters away.

On other small recesses located upon the main ledge, we encountered some weathered bamboo flutes, and other human skeletal remains, with hunter trophies, clay pots, remains of a *bilum* and many flying fox bones.

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**Stone adzes, shell pectoral and pig jaws found in one of the caves**

**b. - The Aekinyam Rock Shelter.**

This rock shelter is of very difficult access, up a nearly vertical rock face, therefore climbing equipment is necessary. It forms a small ledge measuring 35 meters in length by between 2 to 3.50 meters in width, and the painted panel raises from just above the floor level to 4 meters in height. The great majority of the figures are hand stencils in yellow, red and white ocher, obtained from the nearby riverbed. There are also human skeletal
remains together with those of trophy animals that supposedly this hunter obtained during his lifetime.

c. - The Takinyaekanga Rock Shelter.

This rock shelter as the above one also required climbing equipment to access it. It measures 31.7 meters in length by a width of 3.4 meters at its widest. The painted panel extends all the length of the ledge and is of similar characteristics as those previously described. There are also some human skeletal remains, burial goods and hunter trophies.

d. - The Kundumbu Rock Shelter.

Another very large shelter measuring over 75 meters in length by between 3 and 6 meters in width. The sloping wall of the cliff face shows still some hand stencils, but most of them are quite faded. Apparently this shelter also had once a continuous panel from one extreme to the other. We were told this was also considered a men’s house, and that initiation ceremonies for boys and girls also took place there. Access to it was not as difficult as those above mentioned, although just before arriving to this ledge it became necessary to use ropes for security measures. It lays about a 4-hour walk away from our base camp in Kamambrum.

The Nombokopi Rock shelter with its present owners and guardians.
e. - The Nombokopi Rock Shelter.

A hunter-gatherers campsite measuring 18 in length by 4 meters in width, close to the river bed. A few stenciled handprints are located in the upper part of the shelter, plus some human, pig and other marsupial skulls and grave goods and hunter trophies.

f. - The Kansa Rock Shelter.

A small rock shelter located towards the interior of Inai hamlet. About 2 hours away by canoe if the river is high and another hour and a half walking. It is located upon the alluvial terrace at the foot of the mountains and was used as an occasional camp by the hunter-gatherers and by those exploiting sago palms in the area. This cave has a small midden, several fireplaces, and was probably occupied not long ago. It measures 16 meters in length by 5 meters wide and the roof is covered with hand stencils plus the painted figures of some fish and a yam god using red, yellow and black ochre. We were told these were done as propitiatory magic to catch and collect these species.

![Sacred stone artifact from one of the caves in Sikaim.]

**g and h – The Imango and Kantin Rock Shelters**

Both shelters are located very high up on the cliff face, and climbing equipment was necessary to get to them. They contain many human and animal skeletal remains, grave goods and numerous hand and kina shell stencils.
The Antiquity of the Paintings.

The major methodological limitation in rock art studies is that images can be difficult to date. To be able to have an assessment of their probable antiquity, we invited Dr. Bassam Ghaleb, a renowned world authority on Paleolithic cave art dating from the Center of Geochemistry and Geochronology [GEOTO], of the University of Quebec, to join the expedition. (Dr. Ghaleb has previously dated Altamira, Chauvet and numerous other Paleolithic rock art in France and Spain.)

Dating techniques fall into two broad categories: relative methods such as degree of weathering, superimposition analysis, stylistic analysis and inter-site patterning; and absolute dating methods such as analysis of subjects depicted, dating of stratified deposits and direct dating of the artwork itself. The most convincing dated art sequences are those based on a range of data and the complementary use of relative and absolute methods. Ultimately, our own ethnographic material (regarding the people and their culture) will be combined with the laboratory data and presented in a comprehensive ethnography of the cave region.

Although we have no timeline for these paintings, the Awim, Inyai, Imboi and other cave owners believe that the faded figures were made by their ancestors, and that they were created for the same ritual purposes as they have been recently, in living memory. As this type of conglomerate erodes very fast by the exposure to the elements, Dr. Ghaleb determined that most probably the great majority of the paintings that remain visible today are no older than a couple of hundred years, most probably under a century in most cases. In most shelters, the rock floor was clean of debris, but in others a few stone fragments with paint markings were observed, which indicates that this practice goes back in time. But as none off these scarce middens have been excavated, we cannot determine the antiquity of this tradition. More importantly, because the present owners are not willing to have these middens excavated, any further speculation at present is futile.

In another shelter we observed that some of the hand stencils were not more than a week old, as there was drippings of paint covering some fern leaves that were growing in a recess. In this case, we were told they had been made by children at play. We saw many such stencils that had been made in different contexts, such as decorations on house posts in Chimbut, made to commemorate the visit of friends from another village, and as body paint during a ceremony carried out in the Awim men’s house.
Demonstrating how to make a Hand Stencil in Awim.

Future Research

Nancy Sullivan with her team of fieldworkers and local assistants, has been covering this area for a year now, collecting stories and genealogies pertaining to these sites over a vast region that now ranges from Namata and Imboin in the east (and the Meakambut territory will soon be included), to Kotkot and Inyai in the south-central area; and as far as Sikaaim, and Latoma on the Bogopmeri River; and Kaningara and Governmas on the Blackwater River, north of the Bogopmeri.

Some of the caves are little more than rough ledges, with a bare minimum of rock art, while others offer an impressive panorama of stencils and paintings. Out of a total of approximately 200 caves and rock shelters located, more than seventy caves have been photographed and recorded, and roughly thirty more should be covered by the NSA team before the end of this year. These represent the most culturally significant and/or oldest settlement sites, and so provide a good survey of the dispersal and functions of these sites and their art. The ethnographic data collected also allows us to reconstruct some of the migration histories of the people in these three separate tributary regions, and in this way establish some of the land tenure precepts that can help them defend their rainforest.

The Upper Karawari and Arafundi people have been largely ignored by government and donor agencies for over thirty years, due to their geographical isolation and low population. Recently they have become vulnerable to illegal logging and other resource extraction schemes by Southeast Asian logging companies.

We consider the preservation of these caves and their stories a counter-strategy of sorts, to be able to assist these people and preserve this practically virgin and unstudied tropical rainforest ecosystem. We sincerely hope that we can provide options for these landowners to the kind of capitulation to reckless development that can be seen elsewhere in Papua New Guinea today. Dr. Sullivan and her team has walked the area extensively, and held countless meetings with landowners and their elected officials, describing this research.
project and the possible benefits of being involved. Having a physical presence in the field has somehow demonstrated their commitment, and makes no small difference in areas where no government or private services have ever been introduced. Her team has established three main base camps so far, and brought in basic supplies as well as generators, lights and computers to each. The aim is to create permanent camps for future graduate students, scientists and other cave visitors, whose care will provide an income stream for these villages.

These camps are already provisioned with bedding, mosquito nets, kitchen equipment and pit toilets, and we hope to bring in solar and hydropower sources in the future. Combined with the canoes and the outboard motor purchased for the project, they provide sufficient infrastructure for visitors, and can even function as short-term housing for volunteer teachers or medical staff.

Much more than holding meetings or spending little bits of money in these sites, the camps are raising morale in the region. This subtle change of outlook, from a general despair, to a frenzy of interest in the caves and their histories, has been the most significant impact of the project by far. And it is this optimism that has allowed us to expand this project and look toward obtaining a National Cultural Heritage status for the caves.

It is urgent that we return to study the Meakambut tribe, probably one of the last hunter gatherers groups on earth, which still lives in complete isolation in the Upper Arafundi region, and with whom we established a “first contact” during this expedition. Next April we have planned to go and live with them the time necessary to record and document on video this remarkable culture and their unique way of life. To be able to finance these research projects, we hope to raise funds through the publication of books and video documentaries of this expedition. The help you can provide to attain these goals is deeply appreciated.

For further information on how to collaborate with this project please contact the PACIFIC ISLANDS RESEARCH INSTITUTE, RESEARCH AND EDUCATION FUND a 501c3 non-profit for a tax-deductible donation at:

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Our Arrival at any hamlet was received with great curiosity and interest

Acknowledgements.

All our gratitude and acknowledgement to the Explorers Club, who entrusted us with Flag #83 on this Expedition. It was an honor to carry such an emblem of exploration to such a remote area as the Upper Karawari and Arafundi Regions.

We would like to thank Mr. Antonio Cruz Mayor, for his profound generosity in financing this Expedition, and for his continuing interest in this Project and the future of the Awim people, as well as for his sincere concerns for the fate of the Meakambut, those last hunter gatherers whose lifestyle and culture is now menaced by future logging projects.

We would also like to thank very specially all the inhabitants of the Awim hamlet, and those cave owners, for their assistance and generosity in all our endeavors. Never before had they received such a diverse group of foreigners in their village, so it must have been a challenging experience for them to have us live there, on and off for two months. When time came to leave, we felt that we had mutually developed a profound attachment that we hope to continue when we return next year. Their friendship and love, we keep deep in our hearts, and is unforgettable.

This expedition was not easy to set up and it was possible thanks to the help we received from various persons scattered around the world.
On Easter Island, we are very deeply indebted to Ms. Alexandra Edwards, who was able to finally arrange for our satellite phone to be reconnected when we had given up hope. Without it in such isolation, where the closest hospital lays three days away by canoe, and the only doctor in that area, 2 days away on foot, we would not of felt sure without having a way to communicate with the outside. Due to unforeseen circumstances at the time, your help turned out to be a life saver, so please receive all our gratitude.

In Santiago, Chile, we are indebted to Patricia Vargas and Claudio Cristino, for their continuous assistance regarding archeological matters, and for helping us during our stay in Santiago. Unfortunately the time was not ripe, and they could not join us this time.

In the USA, I have to thank Mr. Robert Lemker, President of the Eastern Pacific Research Foundation, for buying most of the equipment we needed, and then for shipping it to Easter Island and Tahiti. I know this was not an easy job, as we were pressed by time and budgets. Fortunately it all worked out, and we were able to successfully fulfill our work thanks to Bob’s help.

The Karawari Lodge, was twice our salvation, and we have to thank its manager and friend Anne Marie for her help and assistance. She provided us twice with those bare essential foodstuffs, such as sugar, tea, and coffee and salt, which made a great change in our diet and in our hearts.

In Madang, the Easter Island Team, had the luck to meet a few of Nancy Sullivan’s friends and guests, who did everything possible to make our stay agreeable. To all of them our profound gratitude, and we look forward to meet with them again. To Nellie and her sister, many thanks. Their cooking was as good as their beauty and intelligence.

Last but not least, everything that was accomplished, was thanks to the conscientious work carried out by our team, who worked without complaint even when conditions were difficult or dangerous. We did not miss humor, and we were able to laugh about our small miseries, which is of utmost importance when living in such extreme circumstances. We now share an unforgettable experience, so rich and varied because the places and people we encountered, as well as because of our different interests in life and professions. During the time we spent together our friendship prospered and bloomed as did our appreciation of life. In such isolation we learned to accept with a greater humbleness and gratitude our short passage through this world and to try and provide all the help possible to make it more enjoyable for all. To all of you our deepest appreciation and thanks, and we sincerely hope that we will be back together in Awim next year.
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[1] Confidential Report to the PNG Government