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# "Spirits Fly Slow" (pahapahad no anito) : Traditional Ecological Knowledge and Cultural Revivalism in Lan-Yu*

**Jackson Hu****

## ABSTRACT

This paper attempts to widen the relational discourse regime of traditional ecological knowledge (TEK) research in Taiwan, and deepen the socio-cultural analysis using local narratives of species and places to illuminate the contemporary environmental practices that result from emic cultural insights of ancestry. The Yami people on the island of Lan-Yu employ various plants and animals, via an association with spiritual symbolism, to manifest their visualizations of an ancestral power. Past Yami TEK referred to ancestral ownership or group privilege through landscape remembrance in a sense of the genealogical institution regime, and expressed the intimate feelings that occurred when they encountered the diverse species and places of the island, especially those which served as remembrances of ancestral acts and/or the manifestations of spiritual beings. After the introduction of many national projects during the last century, the once fertile traditional harvest of the forest and ocean vanished for decades, resulting in cultural schism between generations, as exemplified by the frustration, melancholy, and a sense of loss pervading the Yami elders in their effort to convey a cultural heritage to the younger generation, a heritage that remains based on an environment that is no longer visible. Villagers mourn their sacred groves where vanishing species and barren rock indicate the long-term absence of intimate interactions with ancestry once found in the "golden days of old". The revival of interests in TEK among the islanders is considered a desirable and venerable tool in their efforts to combat landscape degradation. Moreover, the re-focused TEK discourse in the tribal conservation was persistently used by Yami to "heal" landscape through the reconnection of ancestor-offspring relations. After commercial exploitation of an endemic species, the Golden Butterfly, a recovery project was initiated in the 2000s, and serves to demonstrate how the Yami TEK of a culturally trivialized species has been successfully over-emphasized in a contemporary tribal revitalization of ancestral ecological views as means to preserve an endangered species.

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Although governmental funding stopped since 2004 due to the tight budget, the indigenous self-sustaining landscape management employed by the Yami operates autonomously until now. It has greatly encouraged local *Iranmeylek* villagers that their landscape care is as good or better than those of the scientifically minded professionals representing the Taiwan's conservation bureaucracy. Moreover, it exemplifies a spiritually empowered community development strategy that may prove to be widely applicable in the indigenous societies. Although global economic integration has significantly marginalized the locally subsistent Yami communities, recent tribal highlights of ancestry follow the ethos of TEK, articulating the global conservation paradigm with the ancestral embodiments embedded on the landscape. Contemporary TEK unveil a renewing strategy, also as an ultimate goal of cultural struggle, to experience ancestry at large which exemplifies how local Yami interact with the globalization process through their landscape practice.

**Keywords:** traditional ecological knowledge, ancestry, landscape, cultural revival, place names, environmental experience, butterfly conservation, Yami, Lan-Yu（Orchid Island）



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# 「如祖靈慢慢飛翔」(*pahapahad no anito*)：傳統生態知識與蘭嶼文化復振

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## 摘　要

本研究嘗試補充台灣原住民族傳統生態知識的以往研究，在原有的制度管理面向之外，利用當地物種和地方知識的語料推論其關係性論述的一面。此一社會文化分析同時也闡明了蘭嶼雅美族人的當代環境實作深受文化核心觀念 *anito* 的影響：作為南島語族原住民，雅美人利用多樣的動植物知識記憶以彰顯文化主位觀點對於祖先靈力的想像，深刻地連接上當地的靈物象徵系統。雅美傳統生態知識常常一方面透過物與景的名字記憶指涉祖先所有權和家族權利以遂行世襲制度管理，另一方面更強調透過祖傳物種和地點追憶，以體驗過往行動和相關靈物之感動傳承。然而上一世紀當國家計畫的引進衝撞擠壓了傳統山海收成，導致雅美族人當代的文化失落感、怨懟和懷舊。特別是在最近，族人面對退化地景而要重返自主豐饒生產的欲求日益熱切。村人在追撫昔日黃金年代的神聖農園記憶時，總是感懷逝去的山海樹石及過去的親密互動。這襯托出當前族人所提倡的傳統生態知識，藉由部落保育行動與祖先靈力的連結，更像是對大地療傷止痛的作為。從 2000 年以後蘭嶼生態文化保育協會開始復育濫捕殆盡的珠光鳳蝶，即便在國家補助經費中斷多年後族人自主復育依然持續。以往族人生活周邊不起眼的鳳蝶，藉由當地文化復振重新彰顯出祖物「如祖靈慢慢飛翔」(原語直譯)的親近感懷，而不只是為順應發展計畫項目所提出的折衷妥協。鳳蝶山林圈所隱喻的自主地景管理，更被視為一種社區發展的新策略，而且對環境經營的土地感情更勝科學保育社群。對雅美族人來說，多年來全球經濟整合的潮流雖然邊緣化了傳統社會的生計體系，而傳統生態知識復振既是社區發展的特色策略、也是原住民族文化奮戰之終極目的，企圖讓當代環境行動重新體驗祖物的感懷，也讓現代地景實踐煥發出對全球化過程的積極回應。

**關鍵字**：傳統生態知識、祖性、地景、文化復振、地名、環境經驗、蝴蝶保育、雅美族、蘭嶼

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## INTRODUCTION

Traditional ecological knowledge (TEK) among contemporary Yami people of Lan-Yu (Orchid Island) Taiwan is a locally empowered approach of community development, suggesting that local development strategy should be rooted in indigenous knowledge based on long-term observation, established management practices, and cultural beliefs. Through local TEK, the systems of place remembering have historically served as reminders of how ancestors lived with their land, and what species they had used or seen. Yami TEK had not only been employed as an indigenous mapping of natural resources such as giant rocks and sacred forests, but also remembered particularly when species become signs of ancestral embodiments (Li, 1960). Rather than perceiving TEK only as a memory of resource management knowledge, TEK may well-represent a valuable source for experiencing the relationship between Yami and ancestry.

Beginning in the 1970's, Taiwanese government policies and national projects attempted to manage the native species and people of Lan-Yu, profoundly impacting both the landscape and indigenous social life. In the face of large-scale landscape projects, such as resource extraction and village relocation, local TEK serves not only as a reservoir of environmental resource knowledge, but also as a bastion in the cultural struggle against both national and globalization agendas.

This study on Yami environmental experience examines the contemporary changes related to biological diversity, and indigenous cultural expressions of the ancestral landscape and associated species. The objective of this study is to widen the scope of anthropogenic environmental research, especially with an emphasis on applying TEK in the contemporary political struggles of indigenous people--a central issue in sustainable development. This ecological ethnography recognizes indigenous genealogical institutions and mystical relational discourse, as it is being retold using the variety of scenes and species around landscape. The Yami cases, as well as recently reported many Austronesian examples (Guo, 2001, 2009; Taiban, 2006, 2009; Kuan and Lin, 2009), illuminate how local actions provide a needed connection between ancestral spirits and the more recent emphasis of ecological knowledge



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containing emotional, moral, and economic meanings embedded within the local landscape.

## THEORETICAL REVIEW ON TEK

Anthropology has a long-term theoretical heritage of documenting Traditional Ecological Knowledge (TEK) from a wide range of diversified ethnologies. The early primers of TEK study are in human ecology and ethno-science (chiefly ethno-botany), featuring the identification of species or landscape features as used by different indigenous groups. (Barrows, 1900; Levy-Bruhl, 1935; Leenhardt, 1947; Conklin, 1955) After the structuralists, the functionalists of cultural ecology, like Julian Steward, argued that social organization is a cultural act based on human adaptive processes in relation to local environments. (Steward 1955) Following the discussion of adaptive management of natural resource, TEK was portrayed empirically as a whole set of regulatory systems in which indigenous institutions efficiently and effectively maintain the resilience of a human ecosystem. (Berkes et al., 1999) Berkes then has followed this view and summarized traditional ecological knowledge as "a cumulative body of knowledge, practices, and beliefs, as evolved by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment." In this memory-based knowledge, that I refer to as the “**genealogical institution regime**” (cf. Ingold, 2000:139), wherein social organizations serve as cultural determinants, the adaptive nature of traditional institutions for managing common property has become the dominant nexus, even though indigenous cultures do not necessarily balance well with environments.

Since the 1960s, TEK was strategically displaced by alternatives, such as indigenous knowledge (IK), local knowledge (LK), indigenous science, and indigenous technical knowledge. (Johnson and Ruttan, 1991; Johnson, 1992; Berkes, 1999a, 1999b; Snively and Corsiglia, 2001) This diverse reflection witnessed the significant influence of global ecological politics in treating environmental experiences as social movements. One of the most profound political impacts of



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global environmental experience was to legitimize the co-management capabilities of TEK within the global environmental experience arena, as seen in political documentation such as *Our Common Future*, the 1987 report by the World Commission on Environment and Development. The report employed the term TEK as being useful in development projects focused on resource management and sustainability. Since that time, the practices of global political ecology have suggested that specific TEK is a cultural phenomenon, and the rich narratives it embodies require more discursive consideration among non-government organizations (NGOs) and international societies.

In the wave of deconstructionist literature on TEK and environmental experience scholars have argued the definition of the term "traditional", and widened the discussion of indigenousness-landscape relationships into a "relational discourse regime." According to Ingold (2000:132-151), ancestral embodiments could be defined as "ancestral ongoing engagement with the land and with the beings (human and nonhuman) that dwell therein. Ancestry is embedded in life-historical narratives of predecessors, of their movements and emplacement." Instead of highly focusing solely on the exercise of power in tribal conflicts between genealogical institutions and their applicable co-management via systematically documented TEK , the relational discourse regime can be described in Kay Milton's terms (1996) as, "consisting of perceptions and interpretation… encompassing the full range of emotions, assumptions, values, facts, ideas, norms, theories, and so on through which people make sense of their experience… interacting with their environment." (Milton, 1996:66) This essay emphasizes the relational configuration of TEK as it redefines the contemporary human-ancestry connection in a central theme of indigenous self-empowerment (Antweiler, 1998). Community development cases rooted in encompassing the indigenous sense of ancestry in TEK have been rarely reported in recent ecological ethnographies (cf. Tsing, 1993, 2005; Stewart and Strathern, 2000).

*TEK cases in Taiwan:* When western scholars argued about the nature of TEK, whether it was fundamentally adaptive or discursive, the result was a gradual paradigm shift from the genealogical institution regime (with related topics such as



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*Indigenous Rights, Trust, Common Property, Co-management,* and *Memory*) toward the relational discourse regime (keywords such as *Moral, Ethic, Visions, Aesthetic, Chapter Myth, Emotion, Practice, Movement, Embodiment, Emplacement,* and *Enactment*). The uses and analyses of TEK ideas in Taiwan echoed the international discourse, although they occurred somewhat later (cf. Lin, 2004, 2007). In a review article of classic ethno-ecology in Taiwan, Liu (2000) summarized more than 60 articles of TEK studies in the last century in which anthropologists or ethnologists surveyed indigenous cultures and their interactions with the environment. In opposition to the persistent stereotype of aboriginal people as wildlife killers or ecological destroyers, indigenous TEKs have gradually become praised by scholars and the media as valid models of conservation. Scholars frequently describe the benefits found in indigenous regulation of common resources such as game species and fishery pools. They advocate co-managing ethnic traditional territory, and using TEK for empirical support and sometimes as a deterrent in resisting Western-styled management of uninhabited protected areas. (cf. Lu, 2004)

The genealogical institution regime of TEK initially contributed to a functionalist understanding of indigenous adaptive management, and pinpointed that common goods require institutionalized norms of regulation to avoid public tragedies of commons. In the famous case of the Rukai society in southern Taiwan, Lu (2006) described that hunting memory in Wutai has been “one kind of livelihood and honor” since hunting groups performed rituals within their historic territory. Taiban (2006, 2009) further reported the genealogical memory of Rukai hunting in details, including their spatial and seasonal regulations for different game species, such as goat, wild boar, muntjac, and sambar deer, conveying the rich and interwoven dynamics of Austronesian symbolism and use of economic resources. Rooted in this rich TEK regarding Rukai hunting is the safeguarding of traditional territory and meat sharing that help to sustain historically significant areas with a spiritual ethos of adaptive management aimed at dealing with the ecological uncertainty found in the large-scale Wutai landscape. TEK can be seen as a series of contemporary practices that perpetuate religious metaphors; protect sacred territory, birds or dream augur; and share communal ethics for hunting. Rukai hunters have come to welcome



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scientific research and governmental administrative assistance, trading these off for legal permits and the trust of civilian outsiders. (Pei and Luo, 1996; Taiban, 2006)

In contrast is the case of the Tsou society, whose Saviki villagers in 1989 established tribal conservation rules and embraced other types of community-based measures in the recovery of an endangered fish species. In order to recover their ancestral fish resource, the villagers founded tribal patrol teams based on their traditional hierarchical institution, and prohibited the exploitative methods of outsiders such as netting and poisoning. Tribal-backed eco-tourism embraced the rare fish species for conservation, meanwhile rejecting scientific surveillance and governmental projects. When the Saviki successfully ran their own Danayiku (達娜伊谷), a natural ecological park, to benefit tribal finance, Lu (2004:12-13) characterized their small-scale development projects as being in the manner of "community participation, local knowledge, and common-pool resource management".

*Problematics:* The admirable success of the conservation method mentioned above happens best in a hierarchical society with strong remembrances of genealogical co-management, wherein TEK can be effectively deployed within traditional institutions that facilitate the tribal mobilization. Utilizing re-activated tribal institutions according to TEK is an effective, and often necessary, means to fulfill contemporary resource management within the big process of global conservation. This is particularly true in making better use of beneficial game species, such as the fish and big mammals noted in the Tsou and Rukei cases, respectively.

However, both of these cases situate in patrilineal societies with strong hierarchical co-management traditions, as well as exhibit a notable disparity between native views of TEK and the views of contemporary wildlife surveillance and fish eco-tourism. To evaluate the inhabitants' roles as resource managers, stakeholders, or cultural brokers, it is important to learn how the Austronesians sense environments through TEK, and how new NGOs might persist or fail during adjustments from other weak co-management traditions in egalitarian societies. This carefully selected study of the Yami, which concerns a non-hierarchical genealogy in a bilateral society



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in combination with their landscape-based traditions of *anito* animism, should greatly benefit academic discussion and understanding of an indigenous community-based conservationism. In a mix of genealogical institution regime and relational discourse regime, it targets a self-empowered subjectivity that has allowed villagers to slowly and subtly develop environmental consensus through tribal traditions regarding differential ancestry and landscape perspectives as opposed their having been pushed by a strong interest in repeating the examples set by the Tsou and Rukei cases that wherein TEK was utilized for a quick application in conservation under an external techno-scientific framework. (Lin, 2004:8)

Specifically, this article seeks to unveil three themes: 1) How the memory and feeling of the Yami TEK is operated among villagers; 2) How the Yami re-connect with an ancestral power existing in the landscape during the revival of TEK; and 3) How the locals transformed a cultural trivialized species into a highly regarded conservation sign by emphasizing its associated ancestral embodiments as an intimate environmental experience.

*Note on this cultural analysis of TEK:* This article does neither intend to challenge the conservation effort of the Yami NGOs, nor to document the systematic body of Yami TEK and its recent performance. Rather, the research focus is to situate local landscape practice and resource management within its embedded cultural context in regards to places and species of ancestry. It explores how the cultural core, like *anito* symbolism, links to the recent indigenous struggle against imposed modern policy contradictions, complex economics, and potential conflicts with inner tribal subgroups or external bureaucracy. Readers who are interested in the power dynamics among the several institutions in *Iranmeylek* that have held different values and interests can refer to the Appendix 1, as well as other rich literature on the subject found in Chi (1998) and Chung (2003) for more information.

## FIELD SITE AND RESEARCH METHOD

The study site, Lan-Yu, is a typical tropical island of 46 square kilometers, lying 75 km off the southernmost tip of Taiwan, and 110 km north of the Batan Islands of



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the Philippines. Its well-developed tropical forests have largely remained intact upon a hilly topography that includes eight mountains rising more than 400 meters above sea level. Because of the tropical and humid climate[1], most of the central mountainous area of Lan-Yu is covered by primary rain forest, which islanders view as wilderness and use only as an occasional lumber source.

Lan-Yu is populated by the indigenous Malayo-Polynesian speaking "Yami" people. Geographically isolated, the Yami people live in six scattered villages—*Iraraley* (north), *Iranmeylek, Ivarino* (east), *Imorod, Iratay* (southwest), and *Yayo* (west) (Figure 1). In 2008, the entire human population on Lan-Yu was approximately 3,800. As early as the end of the 19th century, Lan-Yu began to attract biologists and anthropologists interested in its abundant biodiversity[2], unique boat-fishing culture and their primitive subsistence economy. Japanese researcher Torii in 1887 first called the people on Lan-Yu "Yami", while the Yami called themselves "*Tao*" (both of them are the pronunciation of "human being" or "people"), and refer to their island as "*Pongso no Tao*" (i.e., island of humans) or *Irara* (Benedek, 1987). During the Japanese occupation, almost all anthropologists working in Taiwan paid some attention to Yami studies (Yu, 1991). For example, the ethnographic work of Kano and Segawa (1956) contained more than 1000 pictures of Yami physical features and material culture (e.g., taro agriculture, fishing, architecture, craft, etc.).

This study first observed the Yami landscape management, and then used interviews to elicit local narratives on the recent use or expression of TEK. Frequently mentioned themes of ancestral embodiments expressed their strong emotional attachment to places and species. The interviews with Yami people were conducted during several distinct periods, totaling ten months: June, July, September and November of 2001, February and April of 2002, January and February of 2003, October and November of 2006, July of 2007, and November of 2008. Open questions about traditional names for species and places were employed in identifying informants who were willing to talk about their TEK remembrances. More than eighty field contacts were made, and thirty-one key informants were invited to talk, including youth and adults from all six villages. Most informants were between 30 and 60 years of age. All interviews were conducted in



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Chinese language, with the aid of Yami translators. Field notes were written in Chinese immediately after finishing each interview, and narrative details regarding specific species and places were typed after the fieldwork.

In addition to the mentioned individual-oriented approach to surveying Yami TEK, this researcher participated in environmental actions or collective activities of contemporary NGOs on Lan-Yu during 2003, 2007 and 2008; these included the “Community Associations of Sustainable Development” (社區永續發展協會) and the “Ecological and Cultural Conservation Association” (ECCA, 蘭嶼生態文化保育協會). (Appendix 1) Using the methodology employed in tracking the game-species cases of the Rukai and the Tsou, a Yami conservation project of a non-game species was tracked over a lengthy period to provide specific information on their recent expression of TEK and contemporary highlights on ancestry. I have participated in their internal meetings, fieldwork, and public activities, particularly the recovery of the endangered golden butterfly in the vicinity of the *Iranmeylek* village (東清村). This has led to an understanding of how they experience ancestry as represented in their TEK narratives and contemporary landscape management. This in-depth case study illuminates that, although once a culturally trivialized species in the Yami TEK, the recovery of a rare butterfly species has promoted a reconnection with the ancestral power within the landscape. This revival is particularly noticeable when vivid Yami TEK recalls the intimate relationships with their ancestry that has existed for millennia.

This story begins with the dramatic changes of landscape on Lan-Yu initiated by numerous national development projects since 1958 (Yu and Dong, 1998). Recently, Yami people recognized that they have been incorporated into the market economy of Taiwan because of Taiwan’s increasing dependence on foreign investment and tourism, diffusion of common institutional models, and implementation of central government-based administrative programs. The consequences of modern societal development, such as rising unemployment, landlessness, poverty and cultural dissolution, have entailed a number of environmental conflicts that have been devoid of indigenous autonomous solutions. Fading TEK and disappointing land production



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reflect rapid social change, unbalanced economic development, and increasing social inequality. An increasing number of scholarly critiques have focused on the dissolved local customs (Guan, 1989; Chen, 1995), weakened traditional social institutions (Dong, 1997; Yu 2004), diminished use of native language (Rau and Dong, 2006), and fading ritual life (Hsü, 1982). Such a dramatic transformation is also reflected in the ecological history of Yami landscape. A great number of national projects, aimed at resource management and land use regulation, have been deployed among the local farmers' gardens. This exploitive development agenda has to a great extent disturbed the long-existing Yami ecological productivity and cultural landscape.

## ANCESTRY I: ANCESTRAL MOVEMENT AND ITS ASSOCIATED SPECIES

In the beginning, this study tracked the recent TEK status of Yami inhabitants, chiefly ancestral markers of fishing and gathering upon landscape, by collecting more than 1000 place names, many associated with rich narratives (Hu and Yu, 2007) (Figure 2). Fertility of animals, plants, and land has both economic and symbolic significance in human social life, and is a common TEK theme in a variety of oral narratives, such as historic memory (Cheng 2004, Kao 2004), origin myth (Chen 1987) and daily conversation. A great number of past ecological remembrances, up to 208 sites over 1000 places, were documented in interviews and in archival study, including four major categories: rock, terrestrial animals, fish, and plants. According to its significance, Yami refer to their landscape by subsistence plants (116 sites, the majority of ecological memory), magic animals (boars, goats, birds and wildlife; 34 sites), fishing activities (27 sites), subsistent sea life (shellfish and crabs; 12 sites), and spiritual rock (14 sites). (Figure 3) The common themes of these TEK were vivid images of a natural richness, seemingly found everywhere, including plants and animals having ritual and economic significance in the past. (Table 1)

*Ancestral ownership and privilege:* Yami TEK of place remembering witness group ownership and use privilege at large. Group-owned territory is continuously marked and maintained by family members through the erecting of stone piles and



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the cutting of live plants. Both activities require constant patrol and routine management. Thus, an acquaintance with local land marks indicates an unusual personal capacity to obtain sufficient harvest of food and subsistence, as well as a learned power to narrate the familiar landscape.

In Table 2, I list 100 sites with rich plant memories, in which the recalling of staples, fruits and other “useful” resources has been always compelling. First, native farmers usually remembered their ancestors who cultivated lush taro and millet, particularly with the assistance of ancestral spirits in farm. (Table 2, item 1 and 2) Their highly abundant past was often mentioned in recent conversation, ritual singing and folk lore. For example, the elder, Syaman Jagalit, has surprisingly recalled the wonderful plant diversity in an ancestral site of *Imorod* village. He recalled the fertile grove of *Ji-Lbeng* in which *Imorod* ancestors identified at least 183 plant varieties for their offspring subsistence, including 138 plants and 14 cultivated species with 36 variations (Appendix 2).

Second, each Yami family group (*sira do*…, cf. Hu 2007b) has to maintain their ancestral groves in order to sustain a local fruit supply, such as *pali*, *vineveh*, *kamala* and *payin*, that are all unique wild fruit trees rarely found on the main island of Taiwan. (Table 2, item 3-6) Harvests of diverse endemic fruits are used as special seasonal gifts for kin and good friends. My close friends used to be proud to say, “We have no fewer fruits than the Taiwanese,” and “The fruits you have in Taiwan are the ones we already have had here.” It is clear that their endemic fruits in subsistence production had given them the sense of having a more abundant material life in comparison to the industrialized cities in Taiwan.

Third, the Yami TEK also marked other non-endemic plants explicitly for their unique utilitarian value, including *kaoy*, *kawalan, anyoy*, *gaod*, *vocid*, *aramey* and *vivyas*. (Table 2, item 7-34) Many villagers emphasize the advantage of getting these natural resources for “free,” simply from their kin-shared forest gardens. The ancestral heritage of natural resources had precluded villagers from engaging in outside cash trades and market competition. The Yami emphasized that the self-sustained ancestral landscape requires “daily attention to land care and forest



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maintenance". The results of working hard in maintaining gardens make an explicit announcement of family achievement in the ancestral heritage of "co-management". For example, the betel pepper (*Piper betle*, *gaod* in Yami dialects) is a forest by-product chewed together with betel nuts. It is only gathered in "untouched wilderness by hard-workers". Fuel grass *(vocid)* and goat fodder *(vivyas)* are often noted as being "obtained joyfully from ancestral land". Hu (2007a, b) already reported that the Yami are good at employing ecological metaphors to link their own lives and ancestral images. Such dialectic connects ancestral remembering to their offspring's recent harvests, an essential component of Yami land ethics.

When an elder told me "a fruit is more than a fruit," what he meant was that "species can talk if we see the Yami landscape through their eyes". Ancestral species have long been the production nexus in Yami history, serving as spiritual devices that transmit ancestral care and the intimate past interactions with other spirit beings. For example, the large, solid and beautiful wood of *cai* tree (*Pometia pinnata* Forst.) has been preferred by the Yami for house construction and boat building. The harvests of *cai* fruits are highly desirable, and represent an "ancestral blessing of the forest gardens". Yami people credited the abundant *cai* harvest to the successful assistance of ancestral spirits as a result of seasonal rituals being properly performed in their patchy forest openings. They also blamed a poor harvest of *cai* fruits to certain inter-group conflicts and a possibility of associated consequential curses in an unexpected drought of 2003. Thus, the TEK of ancestral ownership and group privilege can be actively used in recent social consolidation to avoid disharmony between local groups.

As a result of the national reforestation project during 1973-1984 (Figure 4), the *cai* tree that contemporary Yami have strived to preserve has witnessed a deprecating transformation from being a sacred plant to being a poorly self-regenerated species after logging a large area of mother forests. Patchy cultivation of *cai* trees was not favored by the national grassland expansion project that attempted to make the island a cattle farm after the 1970s. *Cai* then became a target of stripped logging and bush clearance when the national reforestation project superficially promoted "exotic fast



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production”. Yami TEK then included a long-standing grievance about the government’s disrespect and take-over of the indigenous *cai* production. For example, many *Yayo* villagers still recall the “fierce mobbing during the reforestation project” in the 1970s. The angry villagers, armed with conventional weapons, protested large-scaled forest logging in the watersheds of the *Yaro* stream. In the face of their fierce resistance, the Forest Bureau officially gave up the regional logging, and many villagers remain very proud of “having saved the *cai* land of their ancestors”.

However, the Yami told me that they still seemingly “breathed the fragrant smell full of ancestral *cai* mountains”. There has developed a contemporary nostalgia in Yami environmental narratives, now embedded within their TEK, resulting from the displacement of natural species, severe environmental degradation, and the outcomes of government policy failures. Within recent times, the deleterious socio-ecological changes have been impressive; local places were renamed to attract tourists, native trees were replaced by exotic and culturally meaningless species, and many ancestral plants and animals are now nearing extinction after commercial over-harvesting.

Material displacement of ancestral species and places is evident throughout the island. As examples: farming conducted by prisoners since the 1960s has destroyed a significant number of ancestral fields; ecological degradation has followed the logging and regeneration projects; concrete-banked channels have replaced traditional waterways; tribal water sources were redirected to government water towers; and government re-housing projects in all 6 villages in 1966-79 directly destroyed the ritual sites used for ancestral worship and sacred water gathering, along with the adjacent neighborhood of traditional houses (*vahay*). Contemporary development for an “advanced” cement-based landscape have modified roadside rock and wiped out primary vegetation. The development of paved roads, concrete buildings, a cement bay area, and a channeled watershed has dumped a large amount of building waste onto nearby coastlines. Moreover, during the period 1958-1979, the allocation of land for military and government purposes has taken large areas from Yami agro-forestry to serve as new army camps and prison farming. These actions have changed the land cover and water supplies on previously arable Yami land,



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precluding any local use. This has been particularly harmful in the areas polluted by toxic wastes from the national nuclear waste dumpsite, and such extreme damage is likely to last for hundreds of years. Although some of the army-reserved regions were abandoned and returned to Yami people in the 1980s, this study found that most indigenous plants and animals in these sites were either absent for a long time or left in such limited numbers that they were only known by tribal elders.

*Recalling the fading biodiversity in the landscape:* Instead of as a static memory warehouse, contemporary "TEK" actively absorbs recent attached emotion and collective experience impacted by modern development. For example, water taro (*Colocasia esculenta* (L.) Schott), *soli*, is the major staple of the Yami daily meals and ritual feasts. The Yami used to distinguish various taro cultivars according to taste and texture based on the local *tana*, a classification system relying on soil quality. Common taro strains known in Yami TEK include *ararung, kararou, uban, patong, masubu, minisipul, minakasuli, uranururu*, and *maseveh*. (Table 2, item 1) Most villagers admit that "*maseveh* is the most fertile cultivar with a sweat taste and unique texture". An *Ivarino* elder, Syapen Kotan (born in 1946), commented about the vanishing cultivars near the place called *Do-Kaoran*, a previously fertile land. He recalled that in *Do-Kaoran* there was "plenty of plain paddy (*ora*) as flat as the frontal ground of the Yami traditional house". It became unproductive recently, due to damage sustained during road construction. He went on to describe the difficulties of recent farming:

> *What can we do for taro now? We don't have money to buy fertilizers from Taiwan. I miss the great harvests in the days of my father and uncle. It didn't cost them any money! They simply cleaned out the mud blocking the ancestral irrigation channel. They found good stream water from the deep mountains. They also found sweet spring water to produce large fertile taro here. But, look at me. I paid a lot of cash to connect the plastic pipes from upstream, near the government water tower, but got nothing good in return. Every day when I walk through my farm, I wonder, "How can I still do as good a job as my ancestors?"*



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*It seems that nobody here can do it any more!*

This loss of fertile cultivars has thus become a new irritant in the Yami TEK. Upon the decades-long disappearance of fertile land and desirable cultivars, there is an everyday complaint in common conversations about the increased dependency on market economics and imported goods from Taiwan. They also trace recent human poverty back to the lack of an embodiment of ancestral spiritual power in contemporary land use. For example, an *Iratay* elder stated that their cultural dissolution resulted from difficulty to host traditional feasts for ceremonies during a house or boat inauguration; many gift supplies, such as crop cultivars and wildlife harvest, ran short for such a long time. To the Yami, nature-based poverty indicates an ancestor-offspring alienation that also triggers a fundamental social anxiety as they are now missing the associated ancestral reminders.

In contrast to the traditional grand ritual feasts in the memory of TEK, a contemporary party needs a different set of preparations, such as imported meats of pigs and goats (instead of endemic miniature species), as well as commercial cultivars of taro, yams, and sweet potatoes from Taiwan. Today, there is a stable import of these commodities, because the most sacred foods for Yami ancestral gods, including millet (*kaday*) and indigenous giant taro (*maseveh*), can only be harvested occasionally upon the deteriorating habitat. This further makes TEK memories of fertile harvests a sign of past glory. Consequently, the new style of preparing a ritual feast summons a widespread nostalgia, which frequently refers to the ancient fertile land. For example, once when Yami ceremonial hosts ritually sang traditional songs in the overnight party (*mikaryag*), an elder in the *Ivarino* village recalled the great sacred millet in the mythical time.

*inawi karana tokonakuan*
wish you I said (Wish you to see , I said)
*vaci namen na makaikailien*
grind millet our village ((we) ground millet in our village.)
*oya rana mina vonas jiyamen*
already lost we (However,we already lost (the millet ).)



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*ya namen* *rana rarakeapuan*
now we already become old (We are already too old to see (the millet).)
(Lu and Guo 2007:153)

Vivid remembering follows the biological metaphors concerning ancestry found in Yami TEK. The ancestral traces of past harvests are sharply inscribed on many other cases of Austronesian landscape (cf. Fox, 1996; Fox and Sather, 1996; Guo 2001, 2008; Taiban, 2006, 2008; Kuan and Lin 2008). Without much difficulty, the villagers in *Yayo* and *Ivarino* can point out the "ancestral bay full of fertile millets" in the sacred sites of *Do-Vanoa no Kadai*. Also, three sites in Lan-Yu named *Do-Kamasevehan* have been strongly recalled for having the best cultivars production, one in which abundant and clean springs supplied water ever since ancestors founded their artificial waterways. The nostalgia of the fertile past is pervasive in many important ceremonies that were once used by inauguration hosts to demonstrate rich harvests of plants and animals. Following the many national projects that destroyed the indigenous landscape, the Yami more frequently mentioned the ancestral acts and the associated species, referring to the degraded environment as a silent monument. Clearly, some natural goods are gone forever, and villagers merely recall these ancestral species with a poignant and softly vague reminiscence. In the contemporary recalling of TEK, identifying vanishing cultivars in past ecological hotspots works as an irony, underscored by grieving at the lack of ancestral embodiments. It is vague and poignant, because only a few villagers can still recall the fertile species that were once upon these sites, and the sense of loss overshadows the glory of the past harvests. What was once a reality is transforming into legend. The remaining TEK of multiple rich places is clearly important to their vivid images of the ancestral movement, and yet the disappearing fertility haunts them.

## ANCESTRY II: ANITO SPIRITS UPON LANDSCAPE

*The "golden days of old":* The vivid themes of the past ancestral acts, signs, and movement among Yami have been finally expanded into a mystic package of spiritual sphere, the *anito* Otherland. In recalling the past fertile landscape, the Yami elders



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allegorically described a mystic time, “golden days of old” (literally translated from *kamoamoona do inlaid kop jims Apo jimazinio*, i.e. many generations ago while attracting gold from others). Many mystic places (even in the underground world) were said to have surprising spirits of plants and animals for people to see, to harvest, or to encounter. These *anito* spirits are rather plants and animals associated with past ancestral movement, instead of villagers’ direct ancestors. In the well-known mythology of *Iranmeylek, Irataу*, and *Imorod*, there is a traditional legend about the village founder having married an “Angel-Wife” (literally, *tazak* in Yami dialects) in happiness blessed by mystic nonhuman spirits (Liu 1980). In illustrating the ancestral management of spiritual things between coastal villages and upstream hills, the story symbolizes an ideal deployment of TEK by the Yami household (i.e. man and angel-wife in the legendary time). Since ancient times, such TEK has consolidated and taught villagers how to sustain a rich material life in the lowland human world, one in which their ancestral spirits co-exist, and even assist, with the production of a biologically diverse subsistence.

From upstream springs to the downstream wetland, the sacred landscape extends as far as the “deep mountains,” *tokotokon.* Household elders have often recalled this traditional territory by using references to the spirits in the ancestral time that have resided there amongst specific things. According to the Yami TEK for managing “deep mountains,” people who use the land have to maintain necessary rituals and taboos in order to respect spirits, *anito*. Such Yami animism is compelling not only for human ancestors (Li, 1960), but also for nonhuman entities or ancestral things. Moreover, local place memory of TEK usually requires different sets of prohibition against disordered acts. The “Angel-Wife” legend holds that, by managing the spiritual landscape properly and following the moral lessons outlined in Yami TEK, benevolent *anito* spirits would bring forth the richness of ecological production, and feed families with “fertile taro, millet, and various fish, as an improvement over solely eating Taiwanese rice.” (Liu 1980) If undisrupted, the ancestral things in “deep mountains” have been shown to supply an abundance of staples (*kanen*), along with supplements of meat (*yakan*) such as boar, goat and fish. The TEK for these various sacred resources are is commonly applied in Yami secular daily life when traversing



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ancestral sites, signs, and trails in the surrounding landscape.

*Ancestral acts, spiritual being:* The Yami place names represent a system of changing cultural knowledge of TEK used to describe, organize, and manipulate the spirits found upon their island. In the modern era, the landscape and its flora and fauna are changing rapidly, forcing the Yami TEK system to struggle in keeping up with this process instead of serving as a smooth storage of knowledge. The Yami TEK found by this place-name survey is replete with recent mourning of their changing landscape and its associated spiritual beings. Villagers use a familiar story-telling mode that they have used for ancestral migration (Hu, 2004) to recall a series of trivialized plants and animals, often packing their recent experiences into the yarns. Most rich narratives linked to past groves and ancestral trails are still memorable nowadays. Sometimes, villagers have forgotten the details of old stories when they had difficulty tracing the spiritual landscape, because the referenced rock or boundary trunks had disappeared. With their memories disrupted, villagers refer to particular "empty" groves that were once very productive in the past.

This legendary ancient time has thus become an idealized model that attempts to rectify the present ecological poverty and resource depletion. This massive erasure of the "golden days of old" was recognizable in the activities of two major policies of displacement, i.e. reforestation and tourism. The fading of TEK exhibits a significant geographical overlap with these national projects and their detrimental impacts that began in the 1970s. The reforestation projects had taken over a large area of Lan-Yu from 1973 to 1984. (Figure 4) Likewise, from the 1970s until the present, the indigenous landscape has been rudely renamed for the convenience of tourism. Renamed local scenery along coastal roads has probably had the most significant impact on the Yami's spiritual landscape, particularly when permanent marks of new Chinese place names for tourist snapshots have now become part of villagers' everyday experience. (Table 3) Replacing Yami names with those of the Chinese signified the new policy of landscape management and a new sovereign power that ignored the important connotations of native ideas. This disruption has become a source of cultural frustration for many young people who are unable to connect their



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contemporary activities with the culturally important ancestral landscape.

Documenting recent Yami TEK, many Yami villagers expressed unhappy reminiscences and even satirical comparisons about their lost groves and unfertile land. Accordingly, many sites of past richness are no longer viable. Many areas of previously productive landscape now evoke lamentations of lost plants, animals and sea life. The missing aura of lost ecological fertility, as well as the poignant loss of subsistent resources for the natives, triggers nostalgia for the “golden days of old”. TEK embedded in the Yami landscape thus is left as a symbolic monument in their degraded mountains and ocean. The features are no longer there, but the people know the silence is unusual, even unnatural, in their scattered matrix of alienation, erasure and displacement.

## ANCESTRAL EMBODIMENTS EMPOWERS CONTEMPORARY NGOS

The Yami not only remember TEK details for tracking the recent ecological degradation that frequently invites complaints, but also prefer to use biological metaphors in TEK, involving ancestral movements and associated species since the ancient time, to emphasize ancestry in order to legitimate their grassroots institutions, which are community or environmental institutions that do not fully depend on genealogical consanguinity. Yami people are good at taking TEK to construct metaphors regarding their ancestral enactments or associated ecological traces, even while encountering modern adversity. The following case exemplifies this conflation in a rumor that was spread during the public hearing when the government planned to establish the “Lan-Yu National Park” in 1988. The Yami worried that the national park would eventually take over their land stewardship for tourist development, and displace their *cai* forests with unfamiliar imported exotics. A villager recalled the manner in which the Yami see *cai* as themselves:

> *Do you know why we don’t like the Taiwanese national park project? Because of a fruit, cai! We don’t want the national park here, just like we don’t want the nuclear waste dumpsite on Lan-Yu. They [the*



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*government] took all the land from our hands and from our ancestors' hands. They said this was beneficial for us because we needed money to rise from poverty. But we don't want it at all, and they can keep it in Taiwan!* [5]

*....*

*We are not poor at all! Look at this juicy cai! You didn't come here during the mid-summer season. This June we had the sweetest cai I had ever eaten! You cannot buy such a good fruit in Taiwan, because your ancestors didn't work hard. Look at the valley over there. It is a cai forest now, but it started from nothing. The initial valley was full of bush and weed, nothing edible. However our ancestors had learnt much from the Upper Grandfather. They traveled a great distance through dark jungles, and brought the cai seeds from deep in the mountains. Our ancestors worked hard in maintaining our cai gardens along our streams. Now, it is our turn to keep this forest fruitful. The Taiwanese have no use for us or the cai. The cai trees are the best cared for by the Yami.*

Similar metaphoric sentences regarding the "Upper Grandfather (*akay-do-to*)" are commonly heard both in traditional lyrics and contemporary environmental movements, such as the anti-nuclear-waste movement. This reference to the spiritual power and emotional motivation of ancestry, indicating both ancestral human groups and the associated supernatural beings upon landscape, has risen as a great symbol for the contemporary Yami. In the famous origin myth of "Yami Genesis", when Yami ancestors faced a big flood, they called for the help of "Upper Grandfather" to get a live rat (*karam*), and then, in a magic act, this ancestral species that had an intimate contact with human life ultimately sacrificed itself, pacified the disaster, and brought salvation to the human world. Similar spiritual empowerments were seen in many aggressive protests in the past three decades. Recently, all these mentioned modern projects, including the national park, reforested hills, pastoral farms, and army camps have been abandoned and returned to the Yami, the former managers since the "golden days of old". Embedded within their nostalgic TEK, the species and



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places are always a vivid source of stimulation to the villagers’ desires to reconnect to ancestry, and also serve as a strong cultural inner driver after long-term dual dissolution of Culture and Nature.

*ECCA as a modern institution:* Local involvement in a cultural revival began popping up in the late 1990s, with a theme of sustainable development and ecological conservation. The Yami elites had created many new issue-oriented NGOs to make their voices heard, instead of only relying traditional genealogy-based institutions such as fishing groups (*kakavang*) and their unique kin groups (*itetenguan*). As early as October of 1996, *Iraraley* villagers first founded their local “Community Association of Sustainable Development” (社區永續發展協會). Then, the *Iratay, Iranmeylek* and *Imorod* villages followed suit, announcing the establishment of their own associations in December 1996, November 1997, and July 1999, respectively. They also formally registered with the Taiwanese government as legal civilian organizations in order to pursue their own purposes. These community organizations formed a compelling and driving force that has inundated the island in a wave of “cultural revitalization”.

Among these tribal NGOs, the most active one is the “Ecological and Cultural Conservation Association” (ECCA, 蘭嶼生態文化保育協會). ECCA was founded in 2001 by Syaman Mamzat of the *Iranmeylek* village, but its influence extended across six villages of Lan-Yu as a result of its cross-territory conservation affairs, such as the forest patrol. This new association is organizing local conservation plans in order to “earn a living from our land, and rebuild dignity for Yami culture.” The same youth and adults worked in ECCA for recovering the degraded landscape and resolving ecological crises of endangered species; while they ran other miscellaneous operations in their community association of sustainable development in *Iranmeylek* (Appendix 1). They have successfully gained government cooperation and support to host several public hearings and national conferences since 2001, and have discussed a variety of local environmental issues, such as financial supplements to resident local experts for land recovery, conflicts between tourist development and tribal life, and conservation projects for endangered species. ECCA also developed and



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maintains a series of local introductory programs on “cultural tourism” and “natural tourism” guided by trained native interpreters. By 2004, ECCA granted at least 39 certificates for these “ecological interpreters”. As an alternative to staying in the Taiwanese-invested hotels, small groups of tourists are welcome to dine in local home-stay inns that are connected with ECCA. The ECCA thus emphasizes the unique “indigenous meals” by marketing their ritual feasts, local seafood, and ethno-botanical dishes.

*Transformed butterflies, changing cultural knowledge:* An examination of the most famous and aggressive acts of ECCA, as seen in their endemic butterfly conservation, illuminates how ECCA members use and perform TEK to facilitate indigenous conservation, either in practice or in discourse. ECCA members recalled that the *Iranmeylek* villagers were shocked when a culturally trivialized species once became a valuable commodity in the 1950s. Many Chinese commercial businessmen desired to catch *Troides magellanus* (C. and R. Felder) (Figure 5a). It is also called Birdwing Butterfly in English, as well as 珠光鳳蝶, 珠光黃裳鳳蝶, 蘭嶼翼鳳蝶, or 螢光裳鳳蝶 in Chinese. This rare Papilionidae species is extremely large and beautiful, with a wingspan up to 25 cm, roughly the size of a small bird. It is locally referred to as the “golden butterfly（金鳳蝶）” from the Chinese Han people, so named for its yellow body accompanied by golden-hued shining post-wings. When specimen collections and paste-crafted decorations were the primary exports from Taiwan, Orchid Island was one of the most highly exploited areas in producing extensive butterfly collections. The annual exports peaked at 5,000-10,000 golden butterflies to Taiwanese factories (Hu 2007a). In 1978, due to this massive commercial harvest, Taiwan declared it an endangered species; and in 1983, the International Union for the Conservation of Nature and Natural Resources (IUCN) declared the Papilionidae butterfly populations endangered in the Philippines and adjacent regions.

The butterflies had been extirpated for a long time. Since 1993, scientific professionals, such as Dr. Fang, and the governmental conservation bureau (Taiwan Endemic Species Research Institute (TESRI)), have focused on surveying this



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treasured species under the top conservation category as an endemic and endangered butterfly in Taiwan. Before 2000, some youth of *Iranmeylek* contacted the scientific research team, and were hired to investigate the rare feed plants for golden butterflies, *Aristolochia zollin-geriana* (港口馬兜鈴), in the wilderness, as well as transplanting seedlings of the butterfly feed plants from Taiwan to *Iranmeylek* for future field recovery.

After the establishment of ECCA in 2001, *Iranmeylek* villagers found such an external link to conservation researchers was not only beneficial, but also meaningful to local community development. Using the honored umbrella of preserving this “flagship” species, the ECCA worked diligently in its behalf by articulating its shifting cultural highlights. The natives track rich meanings from its Yami names of butterflies, calling it *pahanito* or *pahapahad no anito*, which is literally translated as “the soul of *anito*” or “like ancestral spirits fly slow”. To many *Iranmeylek* elders, golden butterflies and other species were tabooed because they often occurred near *Kanitowan no Iranmeylek*, (Figure 5b) the traditional cemetery that hosts ancestral spirits *anito* within the primary coastal forest. I interviewed Si Machi, an experienced butterfly harvester in the past, now working for the ECCA conservation project. In the summer of 2001 he commented about the conventional taboo on the butterflies, as he held a sweep net under a flowered coastal canopy of butterfly honey plants, looking for specimens to catch.

> *There used to be many butterflies before. In my childhood, I saw them often in groups, by roadsides, at school, and in our village. They were common. But we did not like this butterfly too much; because it is an embodiment of anito.*

Many Yami adults still recall that in their junior high school years, they were hired to capture this *anito*-associated species, but had little fear in doing so due to the fading of the taboo expressed by Si Machi. Recently, this butterfly has been less emphasized for the avoidance of dangerous spirits, and has become a trivialized ancestral species and an intimate figure told in ancestral lessons during Yami childhood. In explaining a common misunderstanding of Yami traditions, ECCA



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members re-state that “many coastal butterflies are NOT the polluted dirty things of evil spirits” that traditionally make villagers sick. In fact, they specified that “it is pollution in the cemetery dirt and coral sand that bring misfortune to villagers, rather than the butterflies flying about them”. They pinpoint that the most common use of these butterflies in conversation is an allegoric symbolism of TEK in “teaching for children”. Syaman Misiva recalled that his father Syapen Manaik in his childhood often used butterflies of *kazenkazencin* as examples to alert him and his brother to go to bed at night in time for avoiding encounters with unpredicted things.

> *Oh, we Yami all know that the golden butterflies pahapahad no anito are slow fliers. They are so light and their giant wings cannot move fast. My father used to teach kids to hurry up in order to return home, instead of wandering outside like slow-moving butterflies which often get lost their way home. My father also mentioned these big butterfly kazenkazencin holds an important lesson that all kids must learn. Kazen refers to flying away like a butterfly. If a kid’s father in our village is gone, we say his father has become kazen and will never return home. My father says this is because we don’t want kids to wander around. He once said to us, “You kids do not have parents running away, so you should not idle outside”. Only the kids without parents wander outside like these butterflies. By spotting these slow-flying butterflies near villages, they see themselves as wanderers without parents, like lightly-flying spirits anito. These butterflies make people miss their families, and are used to call parents not go away as a comfort to relatives.*

Both of the aforementioned species of coastal Papilionidae, the golden butterfly, (locally called *pahapahad no anito,* or *kazenkazencin* equally) serve as ancestral reminders, and the associated contemporary use of TEK is rather metaphoric in family institutional teaching for emic cultural insights regarding human-ancestry relations. Although, generally speaking, the Yami might not particularly favor these ancestral species, the butterflies did recover gradually through the varied efforts of the ECCA. Since the year 2000, the ECCA’s butterflies have become a well-known



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sign around the whole island, and have consolidated their NGO identity in mobilizing more youths in *Iranmeylek* to participate in ECCA activities. On July 24, 2001, the headline of the nation-wide newspaper United Daily declared: “Yami people save the extinct golden butterfly! In a dramatic increase, last-year’s survey saw 200 individuals!” Many ECCA youth always mentioned it when I said hello to them after my arrival in *Iranmeylek.*

In July 2002, with the support from the national authority on conservation funds and recovery techniques of TESRI, the ECCA began to practice to reproduce the golden butterflies artificially in their farm as conservation gardens. The founder, Syaman Mamzat, also donated a parcel of inherited land in the outskirts of *Iranmeylek* to establish ECCA’s “recovery garden”. (Figure 5b) In 2002, the ECCA fully handled various local practices of butterfly restoration that included cultivating seedlings of food plants for its larvae, replanting them in the inland wilderness in accordance with recollections of past rich places in TEK, monitoring the survival of eggs and pupa in iron-fenced greenhouses, and releasing reproductive adult butterflies in chosen tourism hotspots. It is clear in the public’s mind that the fate of the endemic butterfly is tightly associated with local daily manipulation of ECCA. Despite the fact that governmental funding stopped in 2004 due to tightening budgets, during my residence between 2006 and 2008, the leading cadre members of ECCA hadn’t ceased cultivating feed plants and butterfly larvae. (Figure 5b, 5c)

*TEK as powerful pedagogy re-connecting to ancestry:* Local TEK is an evolving repertoire and a continuously re-focusing knowledge used by the Yami through daily landscape practice, organizing their social relations through differentially articulating connections to their ancestry. The golden butterflies, *pahapahad no anito* or *kazenkazencin*, among other ancestral species, not only traditionally condense a symbolic avoidance with less utilitarian value in regards to Yami subsistence, but also were an ancestral embodiment serving as a reminder of an intimate interaction with the past. Recently, the villagers express a sense of loss as either recalling *pahapahad no anito* to ask “ancestral spirits fly slow”, or pronouncing *kazenkazencin* to imply that “parents do not go away so soon”. Although the golden butterfly remains a



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culturally trivialized species in comparison to more sacred talismans such as the meat of flying fish *alibangbang*, its shift of inner-cultural interpretation is significantly meaningful. Different uses and metaphoric expressions of the butterfly indicate a transformation of TEK, from a weak avoidance of the tabooed species to an enlightened emphasis on its ancestral embodiment expressed by tribal youth as they frequently see them flying in recovery gardens throughout the year.

Villagers mourn their sacred groves where vanishing species and barren rock indicate the long-term absence of intimate interactions with ancestry once found in the "golden days of old". ECCA cadres actively weaved vivid images of ancestral species and encountering *anito* to re-order the sacred landscape, and to finetune the social relationship within. The following is a summary of contemporary "TEK" perspectives of the landscape expressed by ECCA members during interviews conducted in 2007 and 2008: (1) organized sacred landscape, and (2) inter-connecting ancestral spirits.

First, Yami sacred landscape is continuously organized by TEK according to its implicit cosmology. Elder couples often mentioned that "a healthy Yami household always has woman planting, weeding and harvesting in many of the inherited and scattered gardens near the village, while man is taking care of the distant resource-gathering trails, especially those that are highly tabooed territory for women, in order to prevent any disturbance from *anito* spirits". Their presence and practice in field are an organized action to represent their social relationships for a good husband or wife. As a social person, the Yami envision that their family roles, social status and spiritual capacity are intimately linked to detailed portions of sacred landscape.

This explained the symbolic meaning of TEK that Yami always deployed with many ancestral species to mimic the ontology of Yami personhood. In a common metaphor from Yami lyrics regarding "freshwater spring", upstream mountains are the place to connect to the mystic ancestry at an original source of human social and biological life. This is also the very place in which Yami ancestors were empowered by the "Upper Grandfather" in the origin myth of "Yami Genesis". This organized sacred landscape, along with its embedded TEK, is essential to a family as they seek



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to cultivate fertile staples in the clean water of the uplands for worship rituals and their livelihood. For example, an elder mentioned the founding status of the “springing water (*Do bobzokan no ranom*) as an important taro paddy where descendants inherit the blessing and the right to use it from their ancestors”. Similar passage that special capable people go upstream to use springing water is also found in traditional songs of the overnight *mikaryag* party (Lu and Guo 2007):

*oya ko masanib a talainepen*
this I often dream (I often dream of this image:)
*o yako kapililiyo do gazawagaw*
I enter cave (I enter a cave with no end.)
*am waranay o ili da do bo ito*
surprising village they under there (It is surprising that spirits live there.)
*to ningii no misalag-so-song*
appear canine (There are abundant pigs with big canines.)
*a akma ori o kakayowen-so-ozong*
like that wood horn (There are abundant goats with big horns.)
*no maseveh ta* ***do bobzokan no ranom***
fertile taro we flowing place water (There is giant taro in spring water.)

Yami landscape is re-ordered by emphasizing a series of place names in order to differentiate ownership and privileges according to their intimate connection to ancestry. Villagers in *Iranmeylek* have mentioned the sacred upland hills and streams for specific kin groups, including *Jimalaau* and *Pannupuyan* for *Sira do Denoranom*, *Manukzwan* and *Vindona* for *Sira do Kasawalan*, *Do Vintazak for Sira do Goran*, etc. Sacred uplands are not the only area of importance in tracking the connecting dynamics between descendents and ancestors embedded in their relation with Yami landscape. The Yami perceive that a recovered sacred ecology is more than the return of plants and animals; it signifies “the resurrection of Yami culture”, a refreshing of “golden days of old.” When asked of an ECCA member how they go about building an orchard in a downstream field near the butterfly recovery gardens in *Iranmeylek*,



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she mentioned that she particularly picked seeds of *vazit* (*Calamus siphonospathus* Mart. var. sublaevis Becc.) “from the deep mountains upstream, *tokotokon*, while there checking upon ancestral gardens”. She recalled the working experience with her mother when she was young, and emphasized that “she followed parental pathways to participate in ancestral practices and remembrances”. She told me that when the seedlings of such a favorite food *vazit* (for its delicious stem) in the downstream were mature, she always moved them back to the upstream groves as a means to gain the blessings of her parents. Memory and metaphor of ancestry in Yami TEK are always at the cultural core, and performing tasks while reading the ancient landscape can regenerate social and spiritual relationships between the contemporary Yami and their ancestors.

Second, there are inter-connecting spirits *anito* existing upon the landscape since ancient times, including ancestral souls, associated species, and other nonhuman spirits. To the Yami, TEK is the compelling cultural means to sense, feel, understand and interact with the spiritual landscape as a communicative system, metaphorically. TEK inscribes ancestral things and their acts upon landscape memory, such as group-owned trees replanted by talented ancestors for the benefit of their offspring. This tradition is strongly strengthened during past grassroots protests of environmental movements by the Yami, who have relied on summoning ancestors to empower them, particularly during the period 1987-1996, when they opposed the national nuclear waste dumpsite[3] (Dong, 1997; Yu and Dong, 1998). Similarly, the visions of their cultural landscape, with its embedded connections between ancestry and daily activities, continues to serve as a pivotal point during contemporary TEK discourses riding on the new wave of recent cultural revitalization. The ancestral species used for recovering a rich landscape has become the foundation of collective desires, and at the same time propagates the revitalization of refocused traditional knowledge.

I found it is a convenient means to experience the ancestral things in the Yami sacred landscape by participating patrols conducted by the ECCA. One trip in 2001 was fully terrestrial, as the members of ECCA traced and rediscovered an ancient trail from *Ivarino* village to the famous caldera lake, called “Tian Chi” (天池) in Chinese,



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in the central mountain range of Lan-Yu. (Figure 6) The ECCA members alerted us that this beautiful lake and its surrounding were a spiritual landscape. They called it *Do-Mawawa* (meaning “spiritual sea”), because “the winds sweeping through the forest make the trees undulate like waves upon the ocean, symbolizing the invisible motion found in ancestral embodiments of *anito* spirits”. To visit the island’s most difficult to access landscape that lies within the sacred mountains, the patrols’ pathway requires an entire day to traverse a seemingly inaccessible primitive jungle. In doing so, they move quietly in respect, listening to each particular sound in the forests, and examining signs on possible tree trunks as indicators of their ancestral visitations. In a summary, ancestral spirits have long been marked and ritually manipulated by Yami TEK, and are believed to inhabit the ordered sacred landscape, connecting a wide-ranged ancestral things within traditional territory to village neighborhood.

The second sojourn, with ECCA’s assistance in 2001, was primarily oceanic, as we took Syaman Mamzat’s boat to land on the sacred uninhabited island, *Ji-Magaod* (meaning “tough place to reach like gathering betel pepper, *gaod*). By Yami convention based on their taboos, this trip has historically excluded any female members. Upon our arrival offshore of the island, we had to anchor the boat and then swim 500-meters across the sea to reach the sacred shore, a famous and mythical site in many Yami legends. Without the rope-pulling assistance of the ECCA guides, any poor swimmer definitely could not have made it. In a coordinated effort by the ECCA and TESRI to engage in a field survey, the main purpose of this difficult journey was to search for any isolated population of the golden butterflies. Although the TESRI specialists did not spot any individuals of the species, they succeeded in locating a great number of the rare feed plants, suggesting that the sacred island might support the butterfly population during other seasons (Figure 7). One of the ECCA survey members mentioned, “There should be more trips like this in order to see the golden butterflies, and to better understand how our ancestors used knowledge to make the barren island a cultural haven”. The following is the other way to put TEK as a cultural means to package ancestry within Yami sacred landscape, documented by Lu and Guo (2007:179) in the *anonod* songs of *mikaryag*.



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*angey rana macipeysey tana*
go return we split (Return to the place split.)
*takmadey peysangaen na sawalan*
we are alike split irrigation channels (We are like split irrigation channels.)
*onongan da o pinasosowan sya*
search milk (Search for ancestry like mother's milk.)
*payok ori no tao jilbon*
ancestor man Ji-Lbeng (Our ancestors (began to split) in Ji-Lbeng.)
*jikamalapiyapisi nowawan*
not often years (Years after years, (we) never)
*piya ta jimo ngaowawan no naken*
you forget blessing (forget your blessing.)
*talinga no pongso da to marala*
ear island Lan-Yu (Natural things in the island)
*paraporapongan ko sokaoranan*
exemplify my property (can be exemplified as my property.)
*mangey rana mamatokad do vanowa*
go already live bay areas (Go to the bay area we live,)
*adana cinarok no inapo namen*
original inhabitants ancestor our (since our ancestors are the original.)

These ECCA trips further resemble the eco-tourism landscape journeys, as they, too, mention mythical metaphors while following the pathways of ancient legends. Tourism participants usually have a long journey in a car or a boat, and finally reach places with vistas of the ancestral landscape. The guides ask participants to honor Yami "superstitions" by respecting roadside rocks, plants, and animals, announcing the presence of each in a mystical tone. These kinds of trips intend to connect persons with past ancestral embodiments found among the various landscapes by retelling ancient tales of TEK. During such journeys, the ECCA members often refer to the



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ancient tales of TEK. During such journeys, the ECCA members often refer to the surrounding places with ecological nostalgia, and identify specific signs of ancestry, including birds, insects, civets and rats, which were intimate with human life in mystic legends. This type of journey across the spiritual landscape is very common among different contemporary NGO groups, serving a similar purpose in linking a contemporary action of participants to the ancestral embodiment.

## DISCUSSION: TEK, ANCESTRY, LANDSCAPE

Yami TEK has long served as local motivation, and more recently as a spill-over outcome of indigenous environmental actions. The propagation and validation of TEK found in contemporary institutions can not only be an on-going source of encouragement, but might also be seen as the ultimate purpose of the villagers. The ECCA performs a variety of conservation activities associated with ancestral landscape management, such as revisiting ancestral sites, weeding ancient trails to scenic spots, and patrolling for the ancestral species. These typically tough journeys track through the scattered sacred groves located throughout the spiritual landscape which ancestors marked and modified, and intentionally recall the self-sustained world of the mythical past that is now referred to as the “golden days of old”. Their expressed nostalgia for a return to the ancient richness fuels the indigenous cognition with a desire to fortify ecological and political autonomy. In the modern era, these activities of patrols and revisiting assist the Yami in consolidating group identities and maintaining their dialectics among local host, government, and other cultural brokers who now insist that all land use changes have to follow TEK and respect ancient inscriptions made on the sacred landscape. In the local dialects, “to do conservation in the Yami way” is a truism for their emic community development strategy, one in which the natives build future possibilities based upon their own cultural contexts of ancestry as connected to ancestors, associated species, and spirituality. Environmental imagination is rooted in their inner power configuration. This “slow-flying” strategy enables the Yami to negotiate the dangers of using TEK in an impatient manner that directly mirrors Western-styled conservation tactics. (cf.



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Lin, 2004:7-8)

There is a discursive diversity of Yami TEK applications in effect among their villagers and tribal leaders. To paraphrase the *Irataу* opinion leader, Si Malaos has proposed to have more social and economic interactions with their ancestors' start-off landscape, Batan Island, instead of Taiwan. In his comments at a public hearing in 2002, he suggested a "Lanyu-Batan Cultural Sphere" that Yami people should seek to sustain "a self-supporting sphere, a life circle of humans and species in *cai* forests, instead of treating everything as a resource to sell." In contrast to the claimed big framework of a political-economic autonomy rooted in the *cai* metaphor, the ECCA decrees the deployment of ancestry and landscape perspectives in their cultural revitalization projects. These different plays on various localized stories, actions and discourses of TEK can portray the revival of ancestral embodiments on ecological configurations as a significant part of a Yami cultural renaissance. Such contemporary constructs and re-focused practices of TEK, notably in the case of the ECCA, offer a response to Yih-ren Lin's (2004, 2007) questions about whether TEK can serve in differentiating power positions related to cultural concepts and inner/external links. There is no simple representation of Yami TEK among different tribal institutions and subgroups. However, the advocating of knowledge heterogeneity and over-competitiveness triggered and catalyzed local observance and outside stewardship in co-management, which in turn have together greatly empower the contemporary Yami environmental consciousness. The cooperative experiences with outsiders (e.g., TESRI) have further consolidated a local honor among the ECCA membership, and their bond with the ancestral landscape, one in which they express confidence when requesting outside funding and resources from afar, thus fulfilling their dream of a self-sustained and autonomous sphere of influence, rather than setting for a marginalized survival fraught with a lack of food and cash under global economic integration. Nevertheless, the external professionals and bureaucracy still, to some extent, lack the sufficient cultural sensibility needed to accept the intrinsic value of Yami TEK, and continue in their attempts to over-ride it by enforcing their professionalized techno-scientific superiority.



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It is reasonable to suggest that the ECCA first pursue a recovered landscape for the Yami in a probing of ancestral politics, and as a means to “earn back their cultural dignity.” This focus makes the leadership of the ECCA replete with symbolic gestures of self-sustainability, particularly when the leading local partners retell stories of places and species bearing the names assigned in TEK narratives. Through the recently re-invented conservation practice of recalling ancestry, the manifestations of Yami TEK and the re-staged ancestry have encouraged an autonomous social life in a self-sustained subsistence sphere that has become strong enough to stand up against government and market interruptions.

The TEK cases in Lan-Yu ultimately rejected the common stereotype of directly applying TEK using western conservation methods, ones in which TEK is systematically documented and set tautologically as “useful” in a simplistic adaptive functionalism supported by the central government bureaucracy and techno-scientific explanations (cf. Lin 2004:7-8). In contrast, the seemingly beneficial TEK restrictions imposed by the rather rigid regulatory norms of genealogical institutions, as happened in the Rukai and Tsou cases; align well with the discussion of Lan-Yu ancestral species recovery presented in this article, as they allow a further exploration of how a series of Austronesian notations, local discomforts triggered by landmark memory, personal emotions embedded in sacred ecology, and tribal mythic metaphors have been instrumental in rebuilding the landscape-ancestry relationship amid the imposing influences of globalization. In maintaining an anthropological viewpoint, this article’s discourse on the Yami landscape experience is not only based on social norms and the genealogical institution regime, but refers to various cultural perspectives that have fine-tuned past imaginations, and supported recent bodily movements in reconnecting the Yami ancestry through their articulation of TEK. This interpretation of Yami re-focused TEK recognizes the keystone contribution of indigenous participants to holistic ecological health, particularly in pointing out the conceptual framework of landscape experience that links their Austronesian ancestry to recent environmental practices through inscriptive movements, such as weeding, patrolling and gardening.



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The environmental actions of a contemporary Yami institution in their butterfly recovery efforts included re-reviving native vocabulary and ethno-ecological metaphors associate with landscape memories as a means to strengthen tribal consolidation and traditional common property management. (cf. Lin et al., 2007) However, instead of seeking to preserve a game species for commercial benefits or the protection of a species whose significance was integral to traditional social life, the conservation target of the Yami (a trivial butterfly species) was developed primarily along spiritually empowered motives. Furthermore, this grassroots organization focused more on the allegorical terminology applied to the ancestral landscape, rather than on any direct economic or tourism benefit. This may best exemplify the cultural roots of social change within an indigenous community development.

## CONCLUSION

Yami contemporary TEK expresses symbolic memories of the “golden days of old”, and its reminders of the ancient landscape and species contain significant ancestral embodiments of an indigenous autonomous sphere. Despite contemporary land degradation, the Yami have rebuilt their own emic connectedness by linking their unique ecology with ancestral embodiments. Recalling and restoring the sacred fertility of land and species from the Yami past is a highly-rewarding direction to take in saving the intimate contacts with their ancestors that had nearly faded away through acculturation.

The revitalized and re-focused TEK fulfill Yami cultural needs in a way that encourages traditional self-subsistence without focusing too much on any immediate economic pressure to earn cash and pay off-island merchants. This is particularly visible when Yami adults become jobless in urban Taiwan, and choose to return to their homeland. Through participation in recovery projects, such as the given example of butterfly conservation, the contemporary Yami have welcomed a resurrection of ecological figures, and become re-connected to their ancestral spirituality and historical memories in a viable and vividly expressed form of



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landscape, offer a guiding example to others, while the Yami’s contemporary conservation practices and applications of TEK have proven to be particularly powerful in reacting to, and negotiating with nationalist development projects and globalization processes.

## NOTES

1. According to the record statistics of Lan-yu Weather Satiation at National Weather Bureau from 1942 to 1970, the tropical wet climate in Lan-Yu has a 22.4 Census degree (72F) of mean annual temperature, and 260 cm precipitation for mean annual rainfall. Beside the heavy rain and relatively high moisture (90% relative humidity for annual mean), Lan-yu is very windy. The day number of windstorms (wind speed is over 10 meter per second) is as high as 275 days annually.
2. From a bio-geographical viewpoint, Lan-yu shared biodiversity heritage from two adjacent zoogeographical regions: Oriental and Australian zones. Huxley’s line in 1868 passes Lan-yu because of its mixed fauna of both nearby areas; while Wallace's line in 1880 is apart from Lan-yu and classifies it in Oriental zones based on mammal discontinuity.
3. The Yami refused the “comfort money” from the national nuclear waste dumpsite from 1997 to 2001. The amount of comfort money finally offered in July 2001 was about 220,000,000 New Taiwan Dollars (roughly 7 million US Dollars). This is an unfathomably huge amount of money for a small ethnic group with only 3800 members who survive in the mode of a subsistent economy. After 2002, each village could apply for a maximum of 2 million New Taiwan Dollars each year from the NNWS funds deposited in the Lan-Yu county government to support approved public construction and tribal cultural activities. The dissimilar wills of groups concerned with how to use this NNWS compensation often evoked inner conflicts between local institutions and development projects. See more details in Appendix 1.



臺灣大學學術期刊資料庫

## REFERENCES CITED

Antweiler, C.

1998 Local Knowledge and Local Knowing - An Anthropological Analysis of Contested "Cultural Products" in the Context of Development. Anthropos 93 (4-6): 469-494.

Asai, Erin(淺井惠倫)

1936 A Study of the Yami Language: An Indonesian Language Spoken on Botel Tobago Island. Ph.D. dissertation, Leiden University.

Barrows, David Prescott

1900 The Ethno-Botany of the Coahuilla Indians of Southern California. AMS Press.

Benedek, Dezso(白德澤)

1987 A Comparative Study of the Bashiic Cultures of Irala, Ivatan, and Itbayat. Ph.D. dissertation, The Pennsylvania State University.

Berkes, Fikret

1999a Sacred Ecology: Traditional Ecological Knowledge and Resource Management. Philadelphia, PA: Taylor & Francis, USA. 209pp.

1999b Role and Significance of "Tradition" in Indigenous Knowledge. Indigenous Knowledge and Development Monitor 7(1): 19.

Berkes, F., Colding, J. and Folke, C.

1999 Rediscovery of Traditional Ecological Knowledge as Adaptive Management. Ecological Applications 10(5): 1251-1262.

Chen, Min-hwei (陳敏慧)

1987 Cong xushi xingshi kan Lanyu Hongtou shizu chuanshuo zhong de tuibianguan (〈從敘事形式看蘭嶼紅頭始祖傳說中的蛻變觀〉) [A Formalist Study of the Yami Origin Myth at *Imorud* on Lan-Yu]. Zhongyangyanjiuyuan Minzuxueyanjiusuo jikan (《中央研究院民族學研究所集刊》) [Bulletin of the Institute of Ethnology, Academia Sinica] 63: 133-193.

Chen, Yu-mei(陳玉美)

1995 Fuqi, jiawu yu juluo—Lanyu Yameizu de kongjianguannian(〈夫妻、家屋與聚落-蘭嶼雅美族的空間觀念〉) [Husband-Wife, Household, and Village: Spatial Notion of Yami people, Lan-Yu]. In Kongjian, li yu shehui (《空間、力與社會》) [Space, Power and Society]. Ying-kuei Huang (黃應貴) ed. Pp. 133-166. Taipei:



臺灣大學學術期刊資料庫

Institute of Ethnology, Academia Sinica（台北：中央研究院民族學研究所）.

Cheng, Han-wen(鄭漢文)

2004 Lanyu Yamei dachuan wenhua de panrao—dachuan wenhua de shehui xianxiang tanjiu（《蘭嶼雅美大船文化的盤繞---大船文化的社會現象探究》）[The Convoluted Change on Lan-Yu of Yami Boat Culture: An Inquiry into Social Phenomenon of Big-Boat Culture]. M.A. thesis. Institute of Ethnic Relations and Culture, National Dong Hwa University（國立東華大學族群關係與文化研究所碩士論文）.

Chi, Chun-chieh(紀駿傑)

1998 Lanyu guojiagongyuan—xinhuanjing zhimin huo xinqiji(〈蘭嶼國家公園--新環境殖民或新契機？〉) [Lan-Yu National Park: The New Environmental Colonialism or New Opportunity?]. In Shouwang dongtaiwan yantaohui lunwenji(《守望東台灣研討會論文集》) [Essay Collection of Watching Eastern Taiwan]. Pp.123-142. Taipei: The Culture Foundation of the United Daily News (台北：聯合報系文化基金會).

Chung, Ching-yu(鍾京佑)

2003 Quanqiu zhili yu gongmin shehui: Taiwan feizhengfu zuzhi canyu guoji shehui de guandian（〈全球治理與公民社會：臺灣非政府組織參與國際社會的觀點〉）[Global Governance and Civil Society: Participant in International Society of Perspective of Non-Governmental Organization in Taiwan]. Zhengzhi kexue luncong（《政治科學論叢》) [Essays on Political Science] 18: 23-52.

Conklin, Groff

1955 Invaders of Earth: The Greatest Tertian. Pocket Books.

Dong, Sen-yung(董森永)

1997 Yameizu Yurenbuluo suishijiyi（《雅美族漁人部落歲時祭儀》）[Seasonal Rituals of the *Iratay* Tribe, among Yami People]. Nantou: Literature Committee of Taiwan Province (南投: 臺灣省文獻委員會).

Fox, James J. ed.

1996 Origins, Ancestry and Alliance: Explorations in Austronesian Ethnography. Canberra, Australia: Department of Anthropology in Association with the Comparative Austronesian Project, Research School of Pacific and Asian Studies,



臺灣大學學術期刊資料庫

Australian National University.

Fox, James J. and Clifford Sather, eds.

1996 Origins, Ancestry and Alliance: Explorations in Austronesian Ethnography. Canberra: Department of Anthropology, Australian National University.

Guo, Pei-yi(郭佩宜)

2001 Landscape, History and Migration among the Langalanga, Solomon Islands. Ph.D. dissertation, Department of Anthropology, University of Pittsburgh.

2008 Dang dijing yudao falv: shilun Suoluomenqundao tudi de falvhua ji qi kunjing (〈當地景遇到法律：試論所羅門群島土地的法律化及其困境〉) [When Landscape Encounters the Law: The Legalization of Land and its Quandary in Solomon Islands]. Kaogurenleixuekan (《考古人類學刊》) [Journal of Archaeology and Anthropology] 69 : 143-182.

Guang, Hua-shan(關華山)

1989 Yameizu de shenghuo shizhi huanjing yu zongjiao linian (〈雅美族的生活實質環境與宗教理念〉)〔The Physical Environment and Religious Thought among the Yami〕. Zhongyangyanjiuyuan Minzuxueyanjiusuo jikan (《中央研究院民族學研究所集刊》) [Bulletin of the Institute of Ethnology, Academia Sinica] 67:143-175.

Hsü, Ying-chou(徐瀛洲)

1982 Yami Fishing Practices - Migratory Fish. Taipei: Southern Materials Center (台北：南天).

Hu, Cheng-heng(胡正恆)

2004 Lanyu shizu qianyi jiyi zhong de puyun cuoshang (〈蘭嶼始祖遷移記憶中的卜運磋商〉) [Divinatory Negotiation in the Remembering of Ancestral Migration on Lan-Yu]. Dongtaiwan yanjiu (《東台灣研究》) [Journal of East Taiwan Study ] 9: 1-105.

2007a The Articulation of Modern Fetishisms and Indigenous Species. Taiwan Journal of Anthropology 5(1): 19-62.

2007b Lishi dijinghua yu xingxianghua: lun Dawuren jiatuan chuangshi jiyi ji qi dangdai quanshi(〈歷史地景化與形象化：論達悟人家團創始記憶及其當代詮釋〉) [Landscape and Image-Making of History – Kin Group Founding Memory and its



臺灣大學學術期刊資料庫

Contemporary Interpretation]. In Kuanrong de renleixue jingshen: Liu Pin-hsiung xiansheng jinian lunwenji (《寬容的人類學精神：劉斌雄先生紀念論文集》) [Memorial Essay Collection of Liu, Pin-hsiung]. Mei-rong Lin(林美容), Pei-yi Guo(郭佩宜) and Chih-huei. Huang (黃智慧), eds. Pp.199-232. Taipei: Institute of Ethnology, Academia Sinica（台北：中央研究院民族學研究所）.

Hu, Cheng-heng(胡正恆) and Guang-hong Yu (余光弘)

2007 Lanyu de diming—Lanyu dizhi ziliaoku jieshao(〈蘭嶼的地名—蘭嶼地誌資料庫介紹〉) [Place Naming on Lan-Yu – An Introduction of Lan-Yu Topogeny Database]. Zhongyangyanjiuyuan Minzuxueyanjiusuo ziliaohuibian (《中央研究院民族學研究所資料彙編》) [Field Materials, Institute of Ethnology, Academia Sinica] 20: 185-244.

Ingold, Tim

2000 The Perception of the Environment: Essays on Livelihood, Dwelling and Skill. London and New York: Routledge.

Johnson, M. ed.

1992 Lore: Capturing Traditional Environmental Knowledge. Ottawa: The Dene Cultural Institute and the International Development Research Centre.

Johnson, M., and Ruttan, R.

1991 Dene Traditional Environmental Knowledge: Pilot Project. Hay River, NWT, Canada: Dene Cultural Institute.

Kano, Tadao(鹿野忠雄) and Segawa, Kokichi(瀨川孝吉)

1956 An Illustrated Ethnography of Formosan Aborigines, Vol. 1: The Yami. Tokyo: Mazuren Company.

Kao, Shin-jie(高信傑)

2004 Yameizu ‘yu de fenlei wenti’de zaishikao (〈雅美族「魚的分類問題」的再思考〉)〔Revisiting the Yami Fish Classification〕. Zhongyangyanjiuyuan Minzuxueyanjiusuo ziliaohuibian (《中央研究院民族學研究所資料彙編》) [Field Materials, Institute of Ethnology, Academia Sinica] 18: 93-147.

Kuan, Da-wei(官大偉) and Yih-ren Lin (林益仁)

2008 Shenme chuantong? Shui de lingyu? Cong Taiyazu Maliguang liuyu chuantong lingyu diaocha jingyan tan kongjian zhishi de zhuanyi, (〈什麼傳統？誰的領



臺灣大學學術期刊資料庫

域？：從泰雅族馬里光流域傳統領域調查經驗談空間知識的轉譯〉) [ What Tradition? Whose Territory? : A Critical Review to the Indigenous Traditional Territory Survey and the Translation of Spatial Knowledge in Marqwang Case, Taiwan]. Kaogurenleixuekan（《考古人類學刊》）[Journal of Archaeology and Anthropology] 69: 109-141.

Leenhardt, Maurice

1979 [1947] Do Kamo: Person and Myth in the Melanesian World. Translated by Basia Miller Gulati tran. Chicago: University of Chicago Press.

Levy-Bruhl, Lucien

1983 [1935] Primitive Mythology: The Mythic World of the Australian and Papuan Natives. Brian Elliott tran. St. Lucia: University of Queensland Press.

Li, Yih-yuan (李亦園)

1960 *Anito* de shehui gongneng—Yameizu linghun xinyang de shehui xinlixue yanjiu (〈*Anito*的社會功能—雅美族靈魂信仰的社會心理學研究〉) [Social Functioning of *Anito* — The Socio-Psychological Research of the Yami Spiritual Beliefs]. Zhongyangyanjiuyuan Minzuxueyanjiusuo jikan（《中央研究院民族學研究所集刊》）[Bulletin of the Institute of Ethnology, Academia Sinica] 10: 41-56.

Lin, Yih-ren(林益仁)

2004 Taiyazu shengtai zhihui zhi tantao—yi Xuejian weili (《泰雅族生態智慧之探討以雪見為例》) [The Study of Ecological Wisdom among Atayal—Cases of Xuejian Region].Naizhengbu yingjianshu Xueba guojiagongyuan guanlichu weituo yanjiu baogao (內政部營建署雪霸國家公園管理處委託研究報告).〔Report of Shei-Pa National Park, Taiwan〕.

2007 The Chief Seattlization of Nature Conservation in Taiwan: A Radical Perspective on Indigenous Traditional Ecological Knowledge. Chungwai zachi (《中外雜誌》) [Chung Wai Literary Quarterly] 36(3): 15-62.

Lin, Yih-ren (林益仁), Lahuy Icyh (拉互依・倚岕), and Da-wei Kwan (Daya)(官大偉)

2007 Indigenous Language–Informed Participatory Policy in Taiwan: A Socio-Political Perspective. Language Documentation and Conservation, Vol. Special Publication, No. 1. Pp.134-161.



臺灣大學學術期刊資料庫

Liu, Chiung-si(劉炯錫), ed.

2000 Dongtaiwan yuanzhumin minzu shengtaixue lunwenji (《東台灣原住民民族生態學論文集》) [Ethno-Ecology Essay Collection of Eastern Taiwan's Indigenous Peoples]. Taitung: East Taiwan Study Association (台東：東台灣研究會).

Liu, Pin-hsiung(劉斌雄)

1980 Lanyu Yurenshe dachuan luocheng lige（〈蘭嶼漁人社大船落成禮歌〉) [Yami Text: Tarak Myth]. Zhongyangyanjiuyuan Minzuxueyanjiusuo jikan（《中央研究院民族學研究所集刊》）[Bulletin of Institute of Ethnology, Academia Sinica] 50: 111-169.

Lu, Dau-jye(盧道杰)

2004 Taiwan shequ baoyu de fazhan—jinnianlai guonei sange gean de fenxi (〈台灣社區保育的發展－近年來國內三個個案的分析〉) [The Development of Community-Based Conservation in Taiwan-A Review of Three Recent Cases]. Dili xuebao (《地理學報》) [Journal of Geographical Science] 37: 1-25.

Lu, Dau-jye(盧道杰), Wen-ching Wu (吳雯菁), K. Jai-chyi Pei (裴家騏), and Sasala Taiban (台邦・撒沙勒)

2006 Jiangou shequ baoyu, yuanzhumin shoulie yu yesheng dongwu jingying guanlijian de lianjie (〈建構社區保育、原住民狩獵與野生動物經營管理間的連結〉) [Establishment of the Links Among Community-Based Conservation, Indigenous Hunting and Wildlife Management]. Dilixuebao (《地理學報》) [Journal of Geographical Science] 46: 1-29.

Lu, Yu-sau(呂鈺秀), and Jian-ping Guo (郭建平)

2007 Lanyu yinyue yeyan: Dawuzu de paishougehui (《蘭嶼音樂夜宴：達悟族的拍手歌會》) [Musical Night Rituals in Lan-Yu: Clapping and Singing Party of Tao People]. Taipei: Southern Materials Cente (台北：南天).

Milton, Kay

1996 Environmental Experience and Cultural Theory: Exploring the Role of Anthropology in Environmental Discourse. London and New York: Routledge.

Pei, Jai-chyi(裴家騏), and Fang-ming Luo (羅方明)

1996 Lukaizu de yongxu shoulie jizhi (〈魯凱族的永續狩獵機制〉) [Sustainable Hunting Institution of the Rukai People]. Yeshengdongwu baoyuhuibao ji tongxun



臺灣大學學術期刊資料庫

(《野生動物保育彙報及通訊》) [Note and Newsletter of Wildlifers] 4(4): 5-10.

Snively, G., and Corsiglia, J.

2001 Discovering Indigenous Science: Implications for Science Education. Science Education 85: 6-34.

Steward, Julian H.

1955 Theory of Culture Change: The Methodology of Multilinear Evolution. Urbana: University of Illinois Press. Pp. 30-42.

Stewart, Pamela J., and Strathern, Andrew

2000 Naming Places: Duna Evocations of Landscape in Papua New Guinea. People and Culture in Oceania 16: 87-107.

Rau, Der-hwa V.(何德華), and Maa-neu Dong (董瑪女)

2006 Dawuyu: yuliao, cankao yufa ji cihui (《達悟語：語料、參考語法、及詞彙》) [Yami Texts with Reference, Grammar and Dictionary]. Taipei: Institute of Linguistics, Academia Sinica（台北：中央研究院語言學研究所）.

Taiban, Sasala(台邦・撒沙勒)

2006 The Lost Lily: State, Sociocultural Change and the Decline of Hunting Culture in Kaochapogan, Taiwan. Ph.D. dissertation, Department of Anthropology, University of Washington.

2008 Chuantong de liejie yu chonggou: Kucapungae renditupu yu kongjian bianqian de zaijianshi (〈傳統的裂解與重構：kucapungae人地圖譜與空間變遷的再檢視〉) [The Division and Re-Construct of Traditional Territory: Re-Examining Human-Land Configuration and Spatial Change of Kucapungane]. Kaogurenleixuekan (《考古人類學刊》) [Journal of Archaeology and Anthropology] 69: 9-44.

Tsing, Anna Lowenhaupt

1993 The Realm of the Diamond Queen Marginality in an Out-of-the-Way Place. Princeton, N.J.: Princeton University Press.

2005 Friction: An Ethnography of Global Connection. Princeton, N.J.: Princeton University Press.

Wei, Hwei-lin(衛惠林), and Pin-hsiung Liu (劉斌雄)

1962 Lanyu Yameizu de shehui zhushi (《蘭嶼雅美族的社會組織》)〔Social Structure of the Yami, Botel Tobago〕. Zhongyangyanjiuyuan Minzuxueyanjiusuo



臺灣大學學術期刊資料庫

zhuankan zhiyi (中央研究院民族學研究所專刊之一) [Monograph] No.1. Taipei: Institute of Ethnology, Academia Sinica（台北：中央研究院民族學研究所）.

Yu, Guang-hong(余光弘), and Sen-yung Dong (董森永)

1998 Taiwan yuanzhuminshi, Yameizu pian (《臺灣原住民史，雅美族篇》)〔Indigenous History of Taiwan: The Yami〕. Nantou: Taiwan Archive Committee (南投：臺灣省文獻委員會).

Yu, Guang-hong (余光弘)

1991 Ritual, Society and Culture among the Yami. Ph.D. dissertation. Department of Anthropology, University of Michigan.

2004 Yameizu (《雅美族》)〔The Yami People〕. Taipei: Shanmin (台北：三民).



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**Table 1** Recent TEK memory of Yami cultural landscape. These TEK highlights include 208 places with rich narratives in terms of rocks, plants, fish, and animals. See detailed locations in Hu and Yu (2007).

| no. | TEK category | local TEK theme (native name) | place # | place examples (landscape memory) |
|---|---|---|---|---|
| 1 | rock | stone (vato, mao) | 12 | Ji-Katedtedan, Do-Mao (stone) , Do-Malavang a Mao (white), Ji-Rako a Mao (big), Do-Maing a Mao (echo), Do-Cinalologan no Mao (rolling), Do-Matapia Mao (flat) |
| 2 | | live rock (lalitan) | 6 | Ji-Davavzidan, Do-Vahay no Pangalitan, Do-Lalitan |
| 3 | | coral (ahan) | 1 | Do-Kahahanen |
| 4 | animal | boar (korang) | 9 | Ji-Mina Korang, Ji-Mina Liengben no Korang |
| 5 | | bird | 7 | Ji-Mina Govat (erget), Do-Makakzed (eagle), Ji-Voit (dove) |
| 6 | | crab | 7 | Do-Paganaman no Tatos, Ji-Panatosan (coconut crab) , Do-Pamsan so Omang (helmet crab), Do-Vahay no Kanatoy (crab), Do-Vahay no Kotat (crab) |
| 7 | | sea life, shellfish | 5 | Do-Paranawan, Do-Karanawan, Ji-Sinapat no Kazab, Do-Karamayan |
| 8 | | goat (kagling) | 4 | Do-Vahay no Kagling, Ji-Gisigisan no Kagling |
| 9 | | chicken (manok) | 4 | Ji-Mina Manok |
| 10 | | snake (volay) | 4 | Do-Vahay no Volay, Do-Ninasan no Volay |
| 11 | | ant (vahao) | 4 | Ji-Ahahod, Ji-Pinadon no Vahao |
| 12 | | frog (tozatoza) | 1 | Do-Vahay no Tozatoza |
| 13 | | civet (vovo) | 1 | Do-Dovovoen |
| 14 | fish | coral reef fish | 24 | Ji-Vaoknong, Do-Panisisan so Aknasey, Do-Vahay no Oresan , Do-Vahay no Veza, Do-Vahay no Kakaray, Do-Li Amonwan so Cilat, Do-Vahay no Ilek, Ji-Akmi Oresan |
| 15 | | migratory fish | 3 | Do-Tokosen no Arayo, Do-Vanoa Si-Mina Vahatan |
| 16 | plant | terrestrial plants | 100 | (Table 2) |
| 17 | | general vegetation | 12 | Ji-Taoy (lush), Do-Liptan (twist), Do-Cibciban (weeding), Ji-Kamoamoan (cultivation), Ji-Cazizyongan (floating log), Do-Yamot (root) |
| 18 | | algae (agiva, omot) | 4 | Do-Vahay no Agiva, Do-Kaomomotan, Do-Kakayingoen, Ji-Mina Omot |
| | **total** | | **208** | |



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**Table 2** Within 208 TEK sites over more than 1000 places across Yami landscape, 100 sites are inscribed for 34 plant species. Many ethno-botanical terms are recently faded in villagers’ landscape memory.

| no. | TEK category | site# | *Yami* ethno-botany (parts, place) | scientific name | Chinese common name |
|---|---|---|---|---|---|
| 1 | major staples | 9 | *soli, apa (stem) {9 strains：ararung, kararou, uban, patong, masubu, minisipul, minakasuli, uranururu, maseveh}* | Colocasia esculenta (L.) Schott | 水芋 |
| 2 | | 2 | *kadai, kadayi {12 strains：arai, richai, raga, borok…}* | Setaria italica (L.) P. Beauv. | 小米 |
| 3 | supplemental fruits | 7 | *pali, pari* | Syzygium taiwanicum Chang & Miau | 台灣棒花蒲桃 |
| 4 | | 6 | *sang, vineveh* | Musa insularimontana Hayata | 蘭嶼芭蕉 |
| 5 | | 4 | *payin, paiin, pa(y)in* | Ardisia elliptica Thunb. | 蘭嶼樹杞 |
| 6 | | 3 | *kamala, kamara, kamali* | Diospyros philippensis (Desr.) Gurke | 毛柿，台灣黑檀 |
| 7 | subsistence resource | 7 | *varok, barok, varok no korang, balok, kolan, vavalatanna* | Zanthoxylum integrifoliolum (Merr.) Merr. | 蘭嶼花椒 |
| 8 | | 7 | *kokoay, kaoy* | Bambusa pachinensis Hayata | 八芝蘭竹 |
| 9 | | 7 | *vocid, vuchid* | Imperata cylindrica (L.) P. Beauv. var. major (Nees) C. E. Hubb. ex Hubb. & Vaughan | 白茅 |
| 10 | | 6 | *anyoy, nyuyi* | Cocos nucifera L. | 椰子 |
| 11 | | 4 | *aramey* | Pipturus arborescens | 落尾麻 |
| 12 | | 3 | *gaod, gawod (Imorod), gawed (Iraralay), vowon (leaf), mozo (fruit, Iranumelik)* | Piper betle L. | 荖葉 |
| 13 | | 2 | *gago, nibikk, gago no koran* | Myristica cagayanensis Merr. | 蘭嶼肉豆蔻 |
| 14 | | 2 | *nonok* | Maytenus emarginata (Willd.) Ding Hou | 蘭嶼裸實 |
| 15 | | 2 | *vivyas, viyos, aviyos, vutunon, avyas (Imorod), aviyas (Iraralay)* | Acalypha caturus Blume | 蘭嶼鐵莧 |
| 16 | | 1 | *mazingas, malinges* | Litsea garciae Vidal | 蘭嶼木薑子 |
| 17 | | 1 | *vanai* | Murraya paniculata (L.) Jack. var. omphalocarpa (Hayata) Swingle | 長果月橘 |
| 18 | | 1 | *masiasiaten, masiyasiyaten, masyasyaten* | Euonymus cochinchinensis Pierre | 交趾衛矛 |
| 19 | ritual or magic materials | 4 | *pazangapang, parangapan, parparengen, parparngen, ngapa, rangapan* | Clerodendrum inerme (L.) Gaertn. | 苦林盤 |
| 20 | | 2 | *kawalan, anaran, dawalan, analan* | Bambusa vulgaris Schard. ex Wendl. | 泰山竹 |



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| | | | | | |
|---|---|---|---|---|---|
| 21 | | 2 | *savilog, savirog, malog, sabilog* | Terminalia catappa L. | 欖仁 |
| 22 | | 1 | *anokoh, anoku, anokou* | Poikilospermum acuminata (Trecul) Merr. | 錐頭麻 |
| 23 | | 1 | *avyao, aviau, aviawo* | Miscanthus sinensis Andersson var. condensatus (Hack.) Makino | 八丈芒 |
| 24 | vegetative markers | 3 | *tehey, tegei, tugui, pinagavuyu, tsungui* | Bischofia javanica Blume | 茄冬 |
| 25 | | 2 | *paptok* | Angiopteris palmiformis (Cav.) C. Chr. | 蘭嶼觀音座蓮 |
| 26 | | 2 | *tapa* | Ficus benjamina L. | 白榕 |
| 27 | | 2 | *hango, uhango, wago, ango* | Pandanus odoratissimus L. f. var. sinensis (Warb.) Kanehira | 林投 |
| 28 | | 1 | *varici, varichi, valici (Imorod)* | Ficus caulocarpa (Miq.) Miq. | 大葉雀榕 |
| 29 | | 1 | *tabedeh* | Ficus superba (Miq.) Miq. var. japonica Miq. | 雀榕 |
| 30 | | 1 | *ipeh, ipo, ipu, eypaw* | Mucuna membranacea Hayata | 蘭嶼血藤 |
| 31 | | 1 | *ingas, igas, engas* | Semecarpus gigantifolia Vidal | 台東漆 |
| 32 | | 1 | *valino* | Ipomoea pes-caprae (L.) R. Brown subsp. brasiliensis (L.) Ooststt. | 馬鞍藤 |
| 33 | | 1 | *balangbang, apat, varanvan, tobo* | Cyclosorus acuminatus (Houtt.) Nakai ex H. Ito | 小毛蕨 |
| 34 | | 1 | *labney, labneuey, ravunui, yabnoy, labnoy* | Ficus septica Burm. f. | 稜果榕 |
| | **total** | **100** | sites within 1000+ place names | | |



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**Table 3** The renamed scenic areas of northern Lan-yu (in one of the most famous tourism regions) and their indigenous place memory. Check important places in Figure 3, and see detailed locations in Hu and Yu (2007:194-203).

| | English translations from Chinese place names | Chinese name for tourism | Yami place name | Yami place memory (verbal meaning) |
|---|---|---|---|---|
| 1 | crocodile rock | 鱷魚岩 | *Do-Vahay no Manok* | home of chicken |
| 2 | tank rock | 坦克岩 | *Ji-Paneytayan* | The sacred stones got wet and then became human ancestors. |
| 3 | five caves, no. 1 | 五孔洞第 1 洞 | *Ji-Karahem* | a place in the deep cave connecting to the distant mountains |
| 4 | five caves, no. 2 | 五孔洞第 2 洞 | *Ji-Alisosan* | a place for taking a rest |
| 5 | five caves, no. 3 | 五孔洞第 3 洞 | *Do-Trasan* | the resting and campfire place for the night fishing |
| 6 | five caves, no. 4 | 五孔洞第 4 洞 | *Do-Pangengsadan* | Ancestors ground millets in wooden mortars for the harvest rituals. |
| 7 | five caves, no. 5 | 五孔洞第 5 洞 | *Do-Vahay no Vonko* | home of demons |
| 8 | jade-lady rock | 玉女岩 | *Ji-Mitazizik* | The rock’s shape is like a bundle of grass, especially as viewed from the sea. |
| 9 | small bread hill, no. 1 | 小饅頭山 1 | *Do-Piapia Igang* | rock of good burial |
| 10 | small bread hill, no. 2 | 小饅頭山 2 | *Do-Malahet a Igang* | rock of poor burial |
| 11 | little Ye-Liou * | 小野柳 | *Do-Pangengmwan* | a celebrating place for ritual dance |
| 12 | hen rock | 母雞岩 | *Ji-Mina Manok* | having chicken (similar place names between native and Chinese names) |
| 13 | two-lion rocks | 雙獅岩 | *Ji-Panatosan* | many coconut crabs (or robber crabs), *Birgus latro* |
| 14 | marine fleet rock, camel rock | 軍艦岩, 駱駝岩 | *Ji-Ahaod* | a place with strong sea flow, where landing is as hard as gathering betel pepper *gaod* |
| 15 | white sand, shell sand | 白砂, 貝殼砂 | *Ji-Mazakanay* | purely white sands |
| 16 | moral-promoting prison, new settlement of Jie-Shr long-life | 勵德班, 介壽新村 | *Ji-Payin* | a fruit tree, *Ardisia elliptica* Thunb. |
| 17 | lion cape | 獅子角 | *Do-Makangin* | causing typhoon if capturing *tingi* crab here |
| 18 | lover's cave, one-line sky, moon cave | 情人洞, 一線天, 月洞 | *Do-Movon* | elongated as a boat head |
| 19 | ghost cave, nipple hill | 鬼洞, 乳頭山 | *Do-Vahay no Miwam* | home of male boars or goats |

* Ye-Liou is one famous tourism hotspot that has a number of strange sharp reefs.



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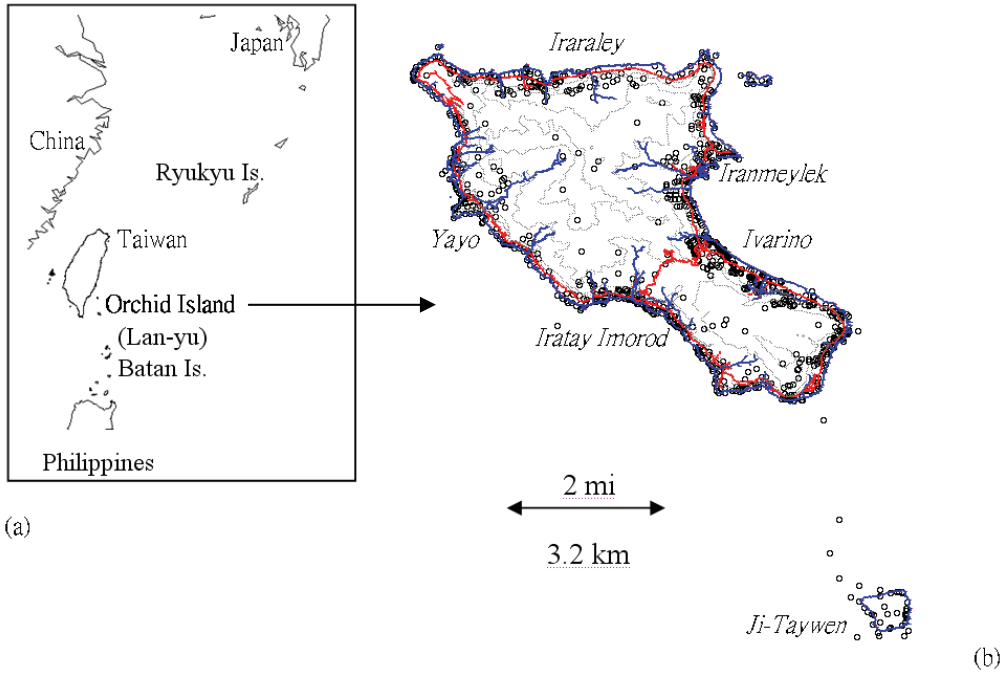



**Figure 1** Lan-yu (Orchid Island) landscape with the key political boundaries of six villages, streams, and a total 1000+ place names documented in this study of 2008. Most place memory of TEK is located on the coastal plains. Island-wide isoclines indicate 20, 50, 200 and 400 meter in elevations, respectively.



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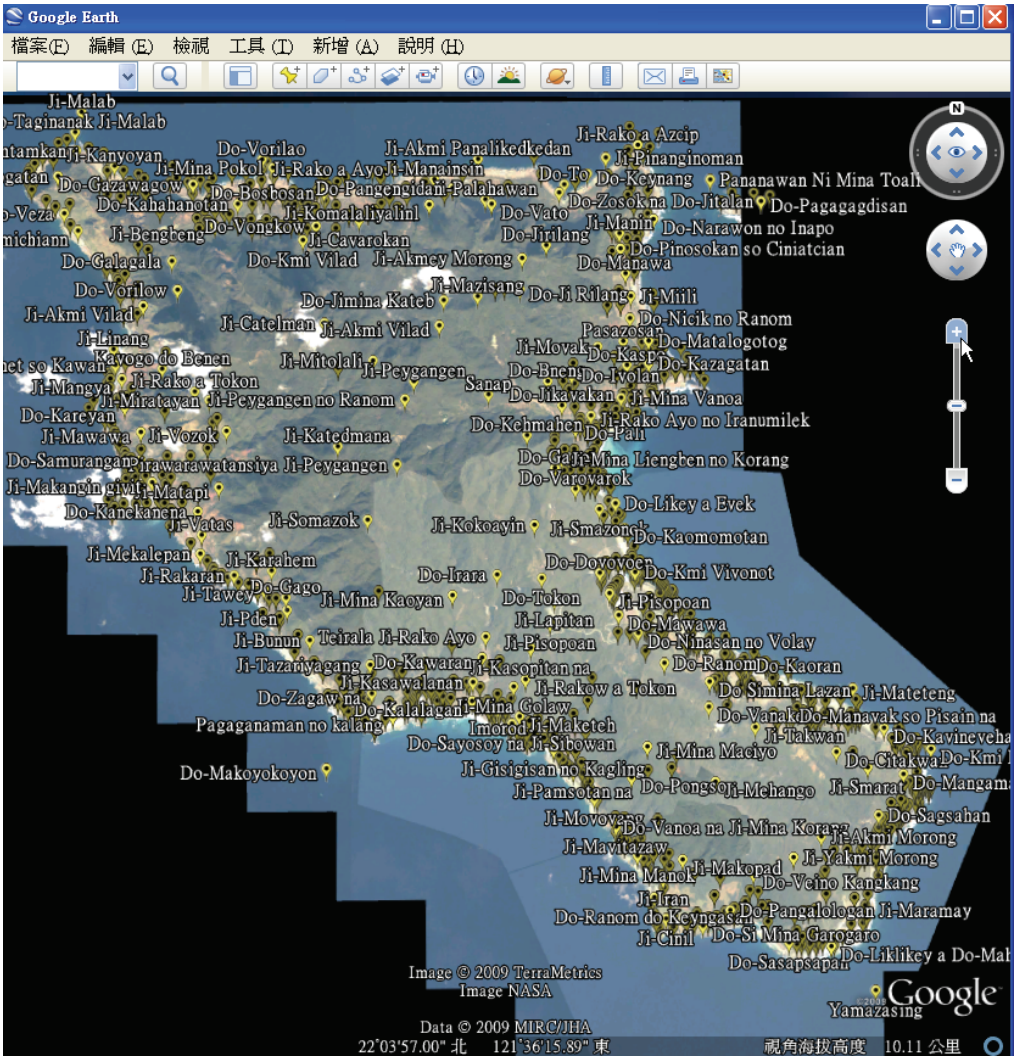



**Figure 2** Yami TEK can be best visualized in a series of ancestral markers of fishing and gathering upon landscape, including more than 1000 place names, many associated with rich stories. (Hu and Yu, 2007) This is the Lan-Yu Topogeny Database in the format of Google Earth (v5), with the bottom-layer Ikonos satellite image of 2001.



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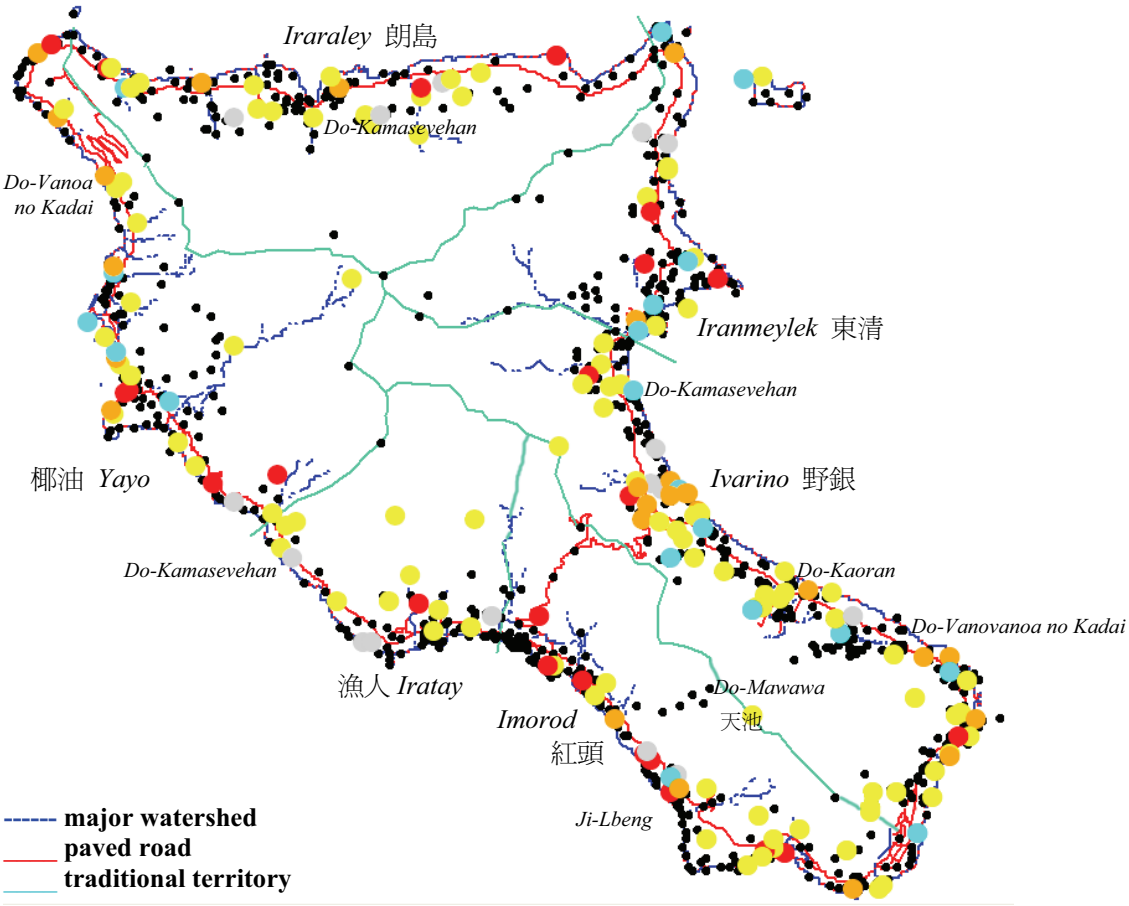
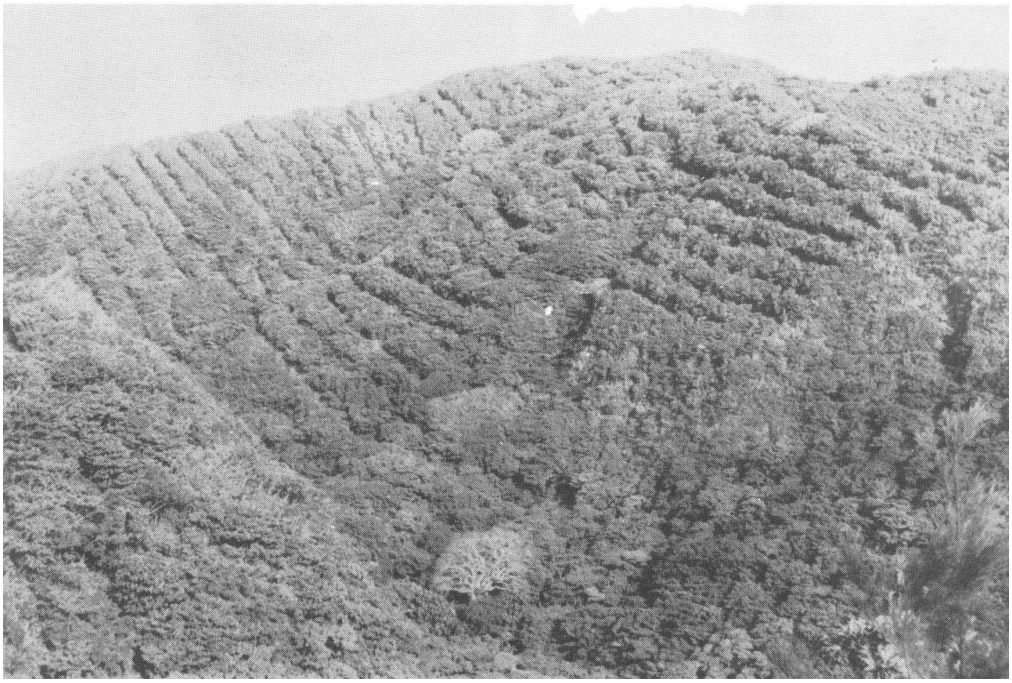



**Figure 3** TEK is embedded in the landscape**, s**erving as an indication of ancestral movements and associated species. My four TEK categories of 208 place names include rocks, animals, fish, (Table 1) and plants (Table 2). Many indigenous species are believed useful or influential to human social life. Larger light spots indicate these 208 places in reference to TEK terms; small dots are the other 792 places in this study (total=1000). Yami refer to these places by spiritual rock (14 sites, red), subsistence plants (116 sites, yellow), magic animals (boars, goats, birds and wildlife; 34 sites, orange), subsistent sea life (shellfish and crabs; 12 sites, blue), as well as particular fishing activities (27 sites, gray). See detailed locations in Hu and Yu (2007).



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(a)

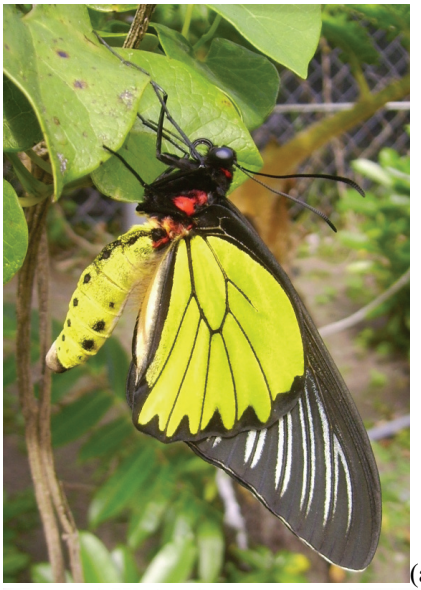


(b)

**Figure 4** National reforestation projects had modified Yami ancestral landscape with wide areas of stripped logging from 1973 to 1984. One region with intense logging and replanting was located around the caldera lake, *Do-Mawawa*.



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(a)



(b)



(c)

**Figure 5** (a) The endemic and endangered butterfly, *Troides magellanus* (C. and R. Felder). It is referred to locally as the "golden butterfly（金鳳蝶）", Birdwing Butterfly in English, as well as 珠光鳳蝶 in Chinese. This rare Papilionidae species is extremely large and beautiful, with a wingspan up to 25 cm, like a bird. The case of the golden butterfly, *pahapahad no anito* (literally translated from the Yami dialect as "like ancestral spirits fly slow"), or *kazenkazencin* equally (implying that "parents do not go away so soon"), demonstrates how the Yami refocused the TEK of a culturally trivialized species, and successfully over-emphasized it in a contemporary tribal revitalization through ancestral embodiment.

(b) In the recovery gardens, the ECCA cadre members cultivated many honey plants for the golden butterflies, and a specific rare feed plant for its larvae (***Aristolochia zollin-geriana***, 港口馬兜鈴) (c).



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(a)



(b)

**Figure 6** Photos taken in 2002, during the journey in which ECCA members patrolled the region of *Do-Mawawa*, the previous logging zone of national reforestation in 1973-1984. (a) The perfect vista has always invited elders to talk about “golden days of old” while gazing at ancestral plains, which had been returned from the national pastoralism projects. (b) A forest recovered from strip-logging near *Do-Mawawa.*



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(a)



(b)

**Figure 7** (a) During 2002, in the region of *Do-Mawawa,* the ECCA maintained and weeded a new pathway to patrol the healthy recovery growth of butterfly feed plants. Invited tourists are required to take guides from ECCA with them while trespassing this sacred hilly region.

(b) Sacred islet, *Ji-Teywen,* taken from Syaman Jian's boat in May of 2002. This parking site, *Do-Dokdokan*, was well known for the Yami as "ancestor's first place to arrive". TESRI staffs were guided by ECCA members to explore nearby habitats of the golden butterflies. Following the ECCA's advice, the butterfly survey was restricted to the northern slope, *Do-Mawo*, where ancestral spirits can bless them.



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## Appendix 1. Major activities between the “Ecological and Cultural Conservation Association” in Lan-Yu (ECCA, 蘭嶼生態文化保育協會) and other associated inner/external institutions, 1997-2008

### 1997

Iranmeylek Community Development Association (東清社區發展協會, ICDA) was established in November 1997, transformed from a primer institution, the Youth Association of Iranmeylek (YA), in which the leaders were Syaman Mazengan (Si Jarapiz) and Syanan Jipengaya. They ultimately became the core cadres of ICDA. This became a source of conflicts between ICDA and YA.

Web pages of ICDA: http://iranmeylek.myweb.hinet.net/

### 2001

Syaman Mamzat (Si Makokoz) was appointed as the Chairman of ICDA, and also founded a derived conservation-oriented institution, the Ecological and Cultural Conservation Association in Lan-Yu (蘭嶼生態文化保育協會, ECCA) in order to have an alternative channel to obtain governmental funds in support of community development projects. Although the ECCA, founded in 2001, was designed to be cross-tribal, its main working personnel were still the young cadres of ICDA from Iranmeylek in 2008. This was the source of conflicts between ICDA and ECCA. Syaman Mamzat's term in office had finished in 2006, and then Syaman Ngawowoed (Si Pogat) took over the operations of ECCA.

### 2002

During Syaman Mamzat’s term as the chairman of ICDA, younger members from Iranmeylek, such as Si Namet and Syanan Jipengaya, were introduced into ICDA for keystone cadres serving to assist the chairman, and to execute governmental projects more effectively. National Nuclear Waste Dumpsite also funded 2 million dollars per



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year for each community as “comfort money” a compensation directed towards community development in 2001-2008. In addition to external connections like NNWS, Taitung Sustainable Development Association (台東縣永續發展協會, TSDA) also serves a key role in continuously fueling financial support and conservation projects such as investigations and patrols. Local social workers are concerned about conflicts of interest existing between traditional kin groups regarding the ICDA’s affinity when receiving the NNWS money, as well as ECCA’s affinity to external techno-scientific links when participating in the TSDA projects.

### 2002.7

Instead of receiving compensation money from NNWS, ECCA had to be specified as being involved in local conservation affairs, in contrast to the social work and community service performed by ICDA. In the external financial and technological support of Taiwan Endemic Species Research Institute (TESRI), ECCA facilitated a series of training programs on butterfly conservation for local volunteers in Iranmeylek and other native interpreters of ecological tourism form 2002 to2004. ECCA also surveyed the butterfly fauna across village territories in Lan-Yu, and reported 21 individuals of the rare feed plant species in the field, an occurrence that was indicative of an environment suitable for future recovery of the golden butterflies near Iranmeylek.

### 2002.11

ECCA planted the rare feed plants for golden butterflies, *Aristolochia zollin-geriana* (港口馬兜鈴), in the uplands and at the abandoned prison farm of Iranmeylek during three replanting seasons. The tribal conservation gardens reproduced and provided 145 locally cultivated seedlings of *Aristolochia zollin-geriana* for future wilderness recovery, although the vast majority of the 1250 replanted feed plants was provided by TESRI. These were cultivated in Taiwan first and then transplanted into Lan-Yu in order to speed up the recovery of both populations: the golden butterflies and their feed plants.



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### 2003

ECCA and ICDA hosted a public hearing together to discuss local environmental issues, such as financial supplements to resident, local contribution for land recovery, impacts upon tribal daily life by the increase in tourism, and conservation projects for endangered species.

### 2004

Syaman Ngawowoed (Si Pogat) was elected as the Chairman of ICDA, and is a very close relative of ECCA’s chairman, Syaman Mamzat. Due to the traditional facilitative relationship of Yami marriage relatives (*zipos*), during their chairman terms in office in 2004-2005, their intimate institutions in Iranmeylek frequently experienced mutually supportive cooperation. Syaman Ngawowoed’s term in office was also 2 years.

### 2005

**ECCA:** Although the governmental funds for butterfly conservation stopped, leading to a budget cut for local patrols of the rare source of butterfly feed plants, Syaman Mamzat as ECCA’s **c**hairman continued his own commitment to butterfly recovery by caring for feed plant seedlings and emerging butterflies in the remainder of the old facility’s net room and conservation garden.

### ICDA:

1. ICDA chiefly focused on the construction of a new beach balcony and cylindrical landmark beside the village road.
2. The local young artist, Mr. Huang Qingwen, was commissioned to take charge of a sculpture project at the main entrance of the Iranmeylek village.
3. ICDA mobilized young members to built two traditional pavilions, and concrete fences for sweet potato gardens.
4. Through “Tribal Revival Architecture” funding, the ICDA facilitated paying all



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participant members who had helped to build the underground house (*vahay*) as a sign of cultural revitalization. .

## 2006

Syaman Jazmoon (Si Lavotan) was elected as the Chairman of ICDA, and served a one-year term in office. Many ideas about building public properties were raised in meetings, including water service improvements, drainage facilities, a yacht/boat harbor, a paddy farm bank, paved roads, parking lots, an activity center, etc. ICDA was further funded for NT$ 1.9 million by the Council of Indigenous Peoples, Executive Yuan of Taiwan in order to build a novel underground house (*vahay*) beside the ECCA's butterfly conservation garden and the net room for feed plant recovery in the historically abandoned prison farm to the north of Iranmeylek. This new spot of cultural revival was set to combine eco-tourism and cultural sightseeing for a comprehensive trip in which tourists could visualize the art of the Yami in building traditional housing and in home-garden landscaping. ICDA also insisted on the transfer of traditional knowledge during the cooperation between tribal elders and youths. They built this traditionally-styled house by following ancient customs, and 70 percent of the wooden construction materials should be either made in situ or reproduced locally, while the purchase of commercial items from Taiwan made up only 30 percent. In this cooperative project, both ICDA and ECCA attempted to develop a Yami cultural park and a conservation garden side by side.

## 2007

Syaman Gazyak (the previous chairman's (Syaman Jazmoon) elderly brother) was elected as the Chairman of ICDA in 2007-2008. In additional to public property construction, ICDA continued to host many community activities, such as a jogging game, an elder care night party (led by YA), many rounds of community clean-up by local environmental volunteers, etc.



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## 2008

ECCA hosted a forum titled “Sustainable Development Summit” in October 2008, sponsored by external funding of TSDA. The conference was attended by outside Han-Chinese scholars, many ECCA/ICDA core members, invited local scholars who worked on indigenous cultural history, and eco-tourism participants across villages. The main purpose of this forum was: “to strengthen consensus between development and eco-tourism, to enhance the indigenous awareness of environmental conservation, and to describe the status of ecological sights and cultural tourism”.



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## Appendix 2. Syaman Jagalit's Ethno-botanic Impression in Ji-Lbeng

Syaman Jagalit mentioned 183 plant varieties (138 plants and 14 cultivated species with 36 variations) as recalling pasts in *Ji-Lbeng*, in the form of "this is a …" (Asai 1936: 53-54). The sequence of plants that he narrated was the following:

*wawu, valinu, gaju, vucid, savilug nu manuk, kuwasi, gulu, kalalangi, sagapid, balangbang, apaci, kasijai, laji, pipija tamak, pawtak, mabalas inujat, tailas, anuka, pangngowan, minasuvai, ipa, tangilo, agalang, valicivit, ligai, savau, akumai kadaji, minatakurus, minaubutnu manuk, awsiwsum nu karakuran, awasum, manakawui, kaliliknun, kamananawa, pawutak, pasasapawan, lunus, kawpau, kadasdas, wangsad, lawun, waipau, kapug, mawawa su alamai, kakapun, vananai, vararavar, lipawu, tavalai, pasak, aptus, makotor su vuwong, ragarag, avuwa, wawud, tuvalan avuwa, tagtagrang, minailus, ugui, upi nu vijau, mavararagnga a upi, annuji, talibacib, aumananjui, tamak nu kavijawan, tamak no kaju, vawang, avaka, njaga, vinuva, minaivatan, aniningala, minailoko, jipusang, gujud, ki:tan, miniililau a ki:tan, linlin, malalawad a ki:tan, mangbara, uvan, suli, kanato a suli, paton, minapujat, lunos, luilui, savilug, cipowo, caji, pali, nato, kaniwan, jingas, anungu, jilak, minongau, paraka, wawanan, vanigajui, milakamuwad, mavawung a kaju, aninipra, anam, isis, u:jas, awawatan, mararawa, vacinglau, vasangu, avugui, malabdu, vinuwa, wanci, vasawo, vanisa, mavilad, k(a)matadvui, marabuwa, alijuk, tapa, kamala, pangalisu, avungui, vanaji, vanatngil, pangowun, sangijin, uvak, apnuwanam, galtagit, nuso, labnui, pija su ngalan, morungi, kamalasoju, toba, apatut, palida, alijau, tabanju, awawapnitan, alipasalau, tajutu, tagtoglan nu anito, lagajan, tagai, pulau, apnulwau, malasang, aninibrawun, valuk, vavawatan nu jaju, anajup, manavarok, maraicigi, varacinuk, kasiru, ragalap, kamanasiringan, arunuk, jitap, valici, tabudi, uris, gagugagu nu kurang, ganut, ananarujung, langtak, palpalngun, alamai, alamai, avjus, talangau, nunuk, siwubang, varit, monas, liwas, kavanu*

Villagers with rich TEK can distinguish crop strains by color and taste. Listed in the following, fourteen species of total 152 plants, named by Syaman Jagalit, have more than 2 variations identified by recent Yami linguistic uses. These plants are



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important for locals to tell its subtle differences.

| no | *Syaman Jagalit* ‘s terms | other variation name in Yami dialects | | scientific name | common name in Chinese | the number of variations |
|---|---|---|---|---|---|---|
| 1 | *ki:tan, miniililau a ki:tan, malalawad a ki:tan, minailoko, mabalas inujat* | *veza, vezan dehdeh, vezan no dede, vezandede* | | Schismatoglotgs calyptrata (Roxb.) Zoll. et Mor | 里芋 | 5 |
| 2 | *suli, kanato a suli, siwubang (1), uvan, paton* | *soli, opi no tazak* | | Colocasia esculenta (L.) Schott | 芋 | 5 |
| 3 | *aninipra, jipusang, minaivatan* | *vineveh, vinivo, viniveh, vineyibatan, sang, mazisang, binubu, vininu, vinivu* | | Musa insularimontana Hayata | 蘭嶼芭蕉 | 3 |
| 4 | *apaci, liwas, tangilo* | *kitang, keitan, keytan* | * | Colocasia esculenta (L.) Schott var. esculenta | 芋 | 3 |
| 5 | *annuji, aumananjui* | *anyoy, nyuyi* | * | Cocos nucifera L. | 椰子 | 2 |
| 6 | *ipa, waipau* | *ipeh, ipo, ipu, eypaw* | | Mucuna membranacea Hayata | 蘭嶼血藤 | 2 |
| 7 | *lunos, lunus* | *ronos, runos* | | Coleus scutellarioides (L.) Benth. var. crispipilus (Merr.) Keng | 蘭嶼小鞘蕊花 | 2 |
| 8 | *mavararagnga a upi, upi nu vijau* | *ovi, uvi, ovi no takey* | | Dioscorea alata L. | 大薯、紫薯 | 2 |
| 9 | *mawawa su alamai, alamai* | *aramay, aramey, aramai, gait, mabowo* | | Pipturus arborescens (Link) C. Robinson | 落尾麻 | 2 |
| 10 | *pawtak, pawutak* | *pantak, kaminagotagotai, sasaburato* | | Cynanchum formosanum | 台灣牛皮消 (台灣白薇) | 2 |
| 11 | *ragarag, ragalap* | | | Cyathea fenicis Copel. | 蘭嶼筆筒樹 | 2 |
| 12 | *siwubang (2), minasuvai* | *shbang, suvan* | * | Erythrina variegata L. | 刺桐 | 2 |
| 13 | *vasangu, vasawo* | *vasango, vasago* | | Chionanthus ramiflorus Roxb. | 紅頭李欖 | 2 |
| 14 | *vinuwa, vinuva* | *vinowa, vinoa, viwa, tananchukk* | | Macaranga tanarius (L.) Muell.-Arg. | 血桐 | 2 |

* cultivated plants.



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