

1995


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Recommended Citation

Bernstein, Jay H. & Ellen, Roy F. (1995). Licuala palms in Brunei Dusun ethnobotany. *Brunei Museum Journal* 10: 97-110.

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LICUALA PALMS IN BRUNEI DUSUN ETHNOBOTANY

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ABSTRACT

Several species of *Licuala* occur in the Merimbun area of Tutong district, Brunei Darussalam. One kind of *Licuala*, called benjiru by the local Dusun population, is often collected for sale as a vegetable. While *Licuala* is not generally considered an important economic plant, overharvesting in the Merimbun area suggests that conservation measures may be needed to protect it from local extinction. Besides benjiru, other kinds of *Licuala* recognized by the Dusun are called silad and ukang. The three kinds of *Licuala* do not have one overall name in the Dusun language, but constitute a covert category at the "intermediate" ethnobotanical rank. They are also associated with different ecological zones. Benjiru is found in the alluvium and low-lying ground, while silad is generally found in hilly forest land, and ukang in hilly belukar (recent second growth).

Keywords: *Licuala*, Palmae, Brunei Dusun, ethnobotany, economic botany,

RINGKASAN

Beberapa jenis *Licuala* ditemui di lingkungan Tasek Merimbun, Daerah Tutong, Negara Brunei Darussalam. Dari jenis-jenis tersebut, terdapat sejenis yang disebut **benjiru** oleh penduduk Dusun setempat, yang sering dipotong dan dikumpul untuk dijual sebagai sayur. Walaupun palem *Licuala* tidak dianggap sebagai tanaman ekonomi yang penting, namun pemungutannya yang melampaui batas menunjukkan bahwa palem *Licuala* benjiru itu seharusnya dilindungi supaya dapat dikekalkan. Selain **benjiru**, jenis-jenis *Licuala* diketahui oleh puak Dusun adalah jenis-jenis yang disebut **silad** dan **ukang**. Ketiga-tiga jenis *Licuala* ini tidak mempunyai nama menyeluruh dalam bahasa Dusun, tetapi merupakan kategori "covert" (samar) pada rangka "menengah" etnobotani. Ketiga-tiganyajuga mempunyai hubungan dengan suatu lingkungan ekologi yang berbeza. **Benjiru** diketemui pada tanah paya, sedangkan **silad** biasanya didapati di tanah hutan yang berbukit, sementara **ukang** di belukar bukit.

Licuala is a genus of small palms indigenous to Southeast Asia and Australia. In the vicinity of Tasek Merimbun, Brunei Darussalam (in Tutong District, Rambai subdistrict), the Dusun people recognize three kinds of *Licuala*, and one of these, **benjiru** (*Licuala paludosa*), has several interesting uses. It is of considerable importance in the local cash economy, and is being extracted at such a rapid rate that its disappearance could alter the landscape and have a negative affect on the wetland environment.

The leaves of *Licuala* are ridged, serrated, and form a circular 'fan'. *Licuala* palms vary in height, though the ones discussed in this paper grow to a height of three to four meters. Beccari (1931: 1-10) mentions the "constant non-arborescent stature" of the *Licuala* genus. Taxonomically, *Licuala* has been placed in the Coryphae tribe, the Livistoninae subtribe, and the Coryphoideae subfamily (Uhl and Dransfield 1980).

ETHNOBOTANICAL RECORD OF LICUALA

Licuala occupies a humble position in economic botany and plant ecology, and is considered to be of little importance to man, apart from its ornamental species, and the possibility that some species might be useful indicators of particular forest types or sites (Whitmore 1973).

Early ethnographers (Evans 1920, Skeat 1900, Skeat and Blagden 1906) noted several uses of *Licuala* in the Malay peninsular: tying, body ornamentation, hat making, magic (spirit-summoning ceremonies), cigarette wrapping, food (pith, shoot, and possibly fruit), mixture for opium, walking sticks, roofing, timber, thatching, and medicine (for nausea).

Burkill (1935) named five species of *Licuala* found in the Malay peninsula as having economic uses. He noted that the various *Licuala* species do not differ much in appearance. The same native term is used for all of them: **palas** in the Malay peninsula (except among the Semang, who call them **pales**, and the Besis, who call them **loyak** or **loyar**), and **palei** in North Borneo (present day Sabah). A sub-generic, folk-specific grouping is suggested by the single Malay term applied to *Licuala* triphyll Griff. and *Licuala* acutifida Mart., both of which are called **palas tikus**, literally 'mouse palas', a reference to diminutive size. An alternative name is **palas padi**, 'little palas'. But Burkill thinks that any small *Licuala* may be called by these names. He also reports that montane species may be called **palas gunung** or **palas batu** (mountain palas', 'rock palas').

The ethnobotanical record for *Licuala* has been augmented somewhat by more recent studies. In Cambodia (Kampuchea) it has been found that the bark of certain *Licuala* are used to treat severe tuberculosis cases in which blood is expectorated (Caius 1935). Quisumbing (1978), writing specifically about *Licuala spinosa* Wurmbr., provides two Philippine terms: **balabat** (Panay Bisaya) and **ugsang** (Sulu). He writes that the palm is cultivated in Manila for ornamental purposes. This finding was verified by Bernstein in 1994, who obtained the name **anahaw**, which is the term for the plant in both Tagalog and Cebuano.

Richards (1981) reports that the Than of Sarawak have two terms for *Licuala glabra*-**biru'** and **bandem**, plus another term, **gerenis**, for the smaller *selangorensis* variety of that species. However, John Dransfield (personal communication) points out that this information is erroneous, since the occurrence of *Licuala glabra* in Sarawak has not been documented. Pearce *et al.* (1987) found that **gerenis** was the term used by the Than living in the Pantu subdistrict, Sn' Aman (Sarawak) to refer to two other species, *Licuala bintulensis* Becc. and *Licuala ptiolulata* Becc., both of which are used in making baskets. The Than also use these plants for roofing, forest shelters, 'wrapper mats', and hats (Richards 1981). The Kantu' of West Kalimantan use the leaf of a *Licuala* palm, which they call **gerenih**, for

making sun-hats (Dove 1981). Other uses for *Licuala* leaves have been described for the Penan of Sarawak. These include sleeping mats, temporary shelters, and a container used in collecting poisonous **ipoh** latex (Pearce 1991).

STUDY SITE

Field research was conducted in and around Merimbun village, from August to December 1992 and June to September 1993. Merimbun is located in the Rambai mukirn (administrative sub-district) in Tutong District (Fig. 1). Merimbun village comprises three hamlets, one at Merimbun Lake, consisting of seven houses, and smaller hamlets at Kuala Ungar (three houses) and Pulau Rita (four houses). The present population is about 100 people, spread over an area of about five square kilometers.

The forests in this region are of lowland mixed dipterocarp type, but show interesting variations. The drainage basin of which lake Merimbun is the centre contains freshwater swamp forest (both levee alluvium [**emparan**] and lower level alluvium); peat swamp forest and padang forest (both dominated by **encarangan**, *Dacrydium stenostachys* Oliver); mixed dipterocarp forest with uneven canopy, or moderately open with some medium or large emergents; dipterocarp forest with a dense uneven canopy, with medium-sized and large crowns on steep terrain (25 - 35°); secondary forest; and currently cultivated land (including some swamp rice land and plantation, but mainly swidden) (Anderson and Marsden 1984; unpublished data).

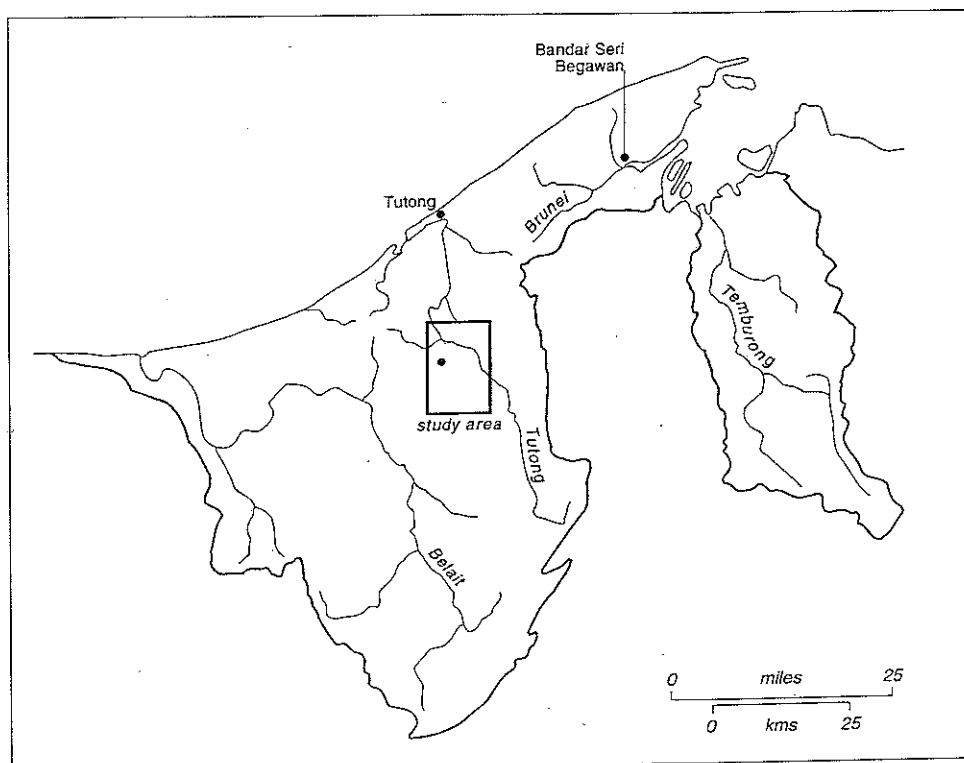


Figure 1. Brunei, showing location of study area.

METHODS

Research on the ecology and ethnobiology of human-rainforest interaction in a situation of rapid social change was conducted in the Merimbun area from August to December 1992 and June to September 1993 (see Bernstein 1993, Ellen 1994). The major data consisted of ethnobotanical herbarium collections, made during day-long hikes to various forested areas surrounding the village, usually with a single male informant (main informants were aged 59-77). Plants were collected by clipping leaves and taking samples of some of the following, depending on the kind of plant: fruit, flower, bark, wood, root, stem, node. The informant was asked to provide the name, any significance of the name, alternative name(s), the name of the exact location where the plant was encountered, type of habitat, uses of the plant, and any other relevant information (e.g. symbiosis, growth patterns, ecology). Plants were tagged with numbers, packed, preserved, and delivered to the Forestry Centre at Sungai Liang, along with labels, for drying and pressing. The top sets remained at the Forestry Centre. Duplicate sets were sent to the Royal Botanic Gardens at Kew for identification, and a final set was sent to the University of Kent at Canterbury.

Informants were observed in the course of plant collection, and all their spontaneous comments about plants and the landscape were noted. Besides main informants, several other villagers, male and female, were asked about the plants we had collected or whose names had arisen in the study. They were asked whether they knew about or had heard of the plant, to which higher order category it belonged, and any other information they could provide about them.

RESULTS

Folk categories of *Licuala* among the Tasek Merimbun Dusun

In total, 535 plants were collected, representing 436 non-synonymous folk-categories. (In the presentation of data below, numbers preceded by JHB, refer to specimens in the University of Kent-Brunei Museum Tasek Merimbun Herbarium Collection.) In the course of study, three locally recognised kinds of *Licuala* were collected: **benjiru**, **silad**, and **ukang**. One specimen called **Benjiru** (JHB 80, *Licuala paludosa* Griff.) was collected in swampy (**payo**) land near the lakefront of Merimbun on 2 September 1992. The leaves were 50 cm. long. The *Brunei Checklist Project Database*, relying on older specimens at Kew and in the national herbarium at the Brunei Forestry Centre, provides the Dusun term for a specimen of *Licuala spinosa* as **benjiru**. Outwardly, *Licuala paludosa* and *Licuala spinosa* resemble one another closely. The two species are also considered very close morphologically. Griffith (1850) points out that *Licuala Paludosa* can be distinguished by its short, turbinate flower, and by its smooth stem, which, he says, "does not much resemble the stem of a palm stem." The leaves and stalk of **benjiru** are used in the same ways as those of **silad**, but the shoots are not only eaten but are collected for sale. Some informants mentioned that the **benjiru** fruit is also edible; however we know of no evidence that it is sold. One informant stated that there are two varieties of **benjiru**, only one of which has an edible shoot. However, no other informants mentioned any varieties, named or unnamed, of **benjiru**.

Two specimens recognised as **silad** were collected on 26 August 1992, both having stems two meters long and leaves up to 80 cm. long. They were collected on land classified as entalun ('forest', i.e., land never cleared for swidden or other uses) near Menimbun village. Two morphotypes were distinguished. JHB 60 had soft red fruit, and JHB 61 had crusty, pointed, fruit and a yellow-tipped flower. JHB 60 may be *Licuala paludosa* or *Licuala spinosa*, while JHB 61 belongs to a new species currently known as *Licuala* sp. nov. aff. *Licuala bintuluensis*. **Silad** leaves are used to wrap rice, and the stalk may be used as a walking stick. The type represented by JHB 60 has an edible shoot, but JHB 61 was considered inedible. A third kind of **silad**, **silad tambang** ('deer **silad**', referring to the sambar deer, *Cervis unicol* was reported but not encountered during the study. **Silad** (alternatively **silat**) appears to be the preferred name for a number of different *Licuala* palms, not only in the Dusun language but also in Kedayan and Brunei Malay (Brunei Checklist Project Database, Royal Botanic Gardens, Kew, unpublished data).

The specimen, identified as **Ukang** (JHB 168) was collected at Bang Ligi, Ukong subdistrict, on 29 September 1992). The plant was two meters high, with leaves 75 cm. long, and red fruit. The habitat in which the plant was found was classified as **gapu bukid** (hilly land previously cleared for swiddening or other uses). This was identified only as *Licuala* (species indeterminate). Two Dusun informants described it as 'a kind of **silad** with bigger leaves'. Like **benjiru**, and some **silad**, the shoot of **ukang** is edible, and the fruit is also eaten.

Knowledge of both **silad** and **benjiru** is general and widely shared among Dusun speakers, unlike the knowledge of many other non-cultivated plants, which is now largely restricted to older people, as the economic orientation of the young becomes increasingly non-subsistence and urban.

Uses of *Licuala*

Several minor uses were mentioned by Dusun informants for **silad** and **ukang**: making sun-hats, fans, and mats, and wrapping food, especially rice. Some informants mentioned using **silad** as a vegetable. An obsolete use, in roof-making, was also mentioned.

Benjiru alone of palms in the *Licuala* group is significant economically at the present time: it is deliberately and specifically sought and harvested. The reason is that its shoot is palatable and contains sufficient food value to be worth collecting. For the Dusun in the Merimbun area, **benjiru** cutting is a distinctive economic activity, often undertaken in groups of two. It is common work for adults of both sexes as a means of earning additional income.

The **benjiru** in the Merimbun area occurs mainly along the margins of the lake (Fig. 2). The location of these stands are known, and they are accessible on foot, although a boat is often taken. The plant is cut near the base, and the trunk stripped. A 20-30 cm segment is chopped at the base and then tied into bundles of five or six. An adult can carry a full basket containing 30-40 **benjiru** sticks. Only the inner meat (**umbus**) of the trunk is edible. Since the palm is clustering, having multiple stems, a clump of **benjiru** palm can yield several pieces of vegetable food.

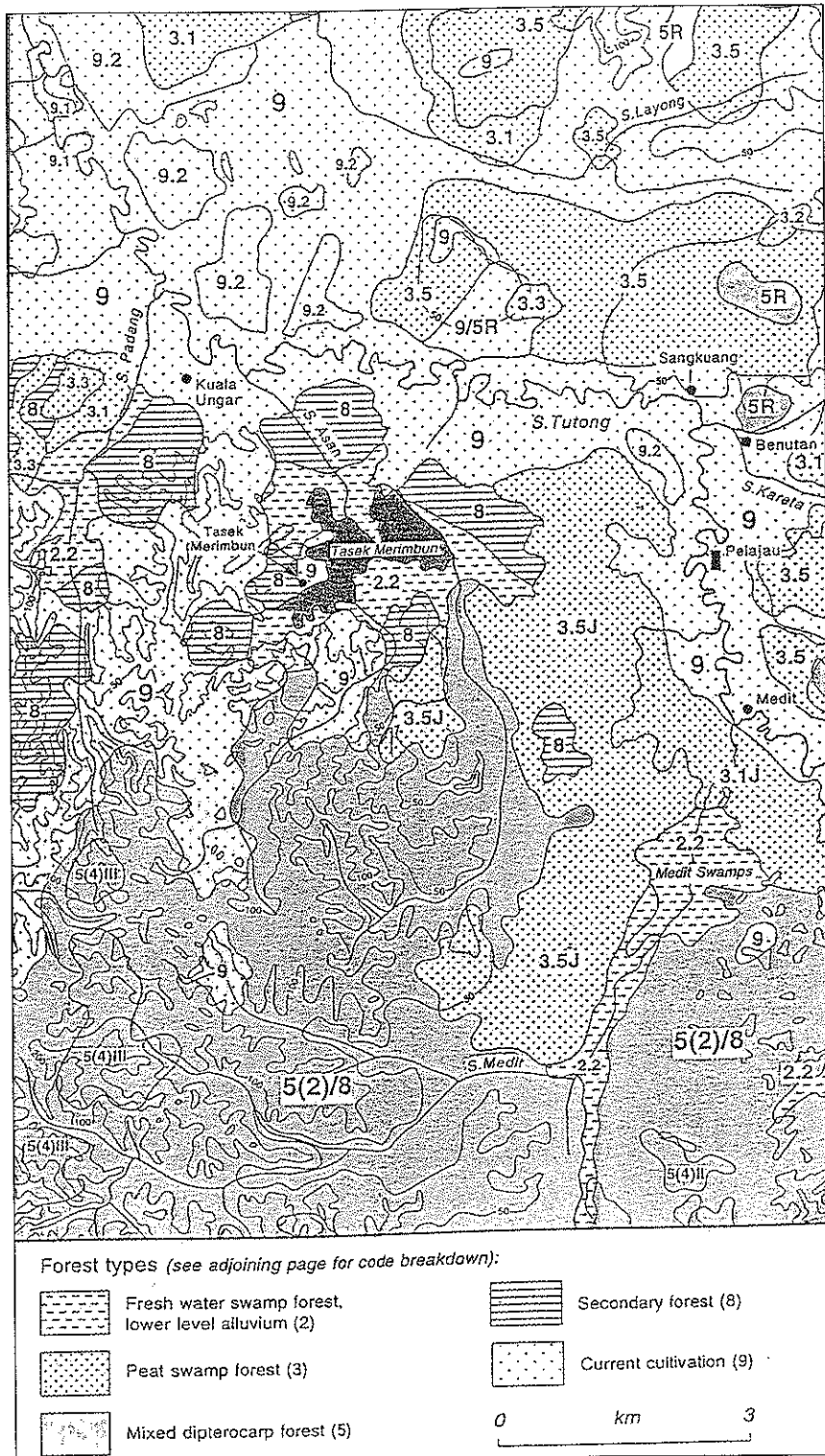


Figure 2. Tasek Merimbun study area, indicating major vegetation types and topographical features (based on Brunei Forest Resources Planning Study, forest Type Map, 1984)

Key to Figure 2

Forest types:

- 2.2(0) Freshwater seamp forest, lower level alluvium
- 2.2(1)
- 3.1 Peat swamp forest (mixed)
- 3.1(2) Peat swamp forest (mixed)
- 3.1(j) Peat swamp forest (mixed, dominated by *Dactylochodus stenostachys*)
- 3.2 Peat swamp forest, dominated by *Shorea albida* (Alan forest)
- 3.3 Peat swamp forest, dominated by *Shorea albida* (Alan bunga forest)
- 3.5 Peat swamp forest, (Padang forest, mixed species)
- 3.5(j) Peat swamp forest, (Padang forest, mixed, dominated by *Dactylocladus stenostachy*)
- 5(2) Mixed dipterocarp forest: canopy uneven or moderately open, some medium or large emergents
- 5(4) II Mixed dipterocarp forest: dense uneven canopy, of medium-sized and large crowns; average slopes of 15° to 24°
- 5(5) III Mixed dipterocarp forest: dense uneven canopy, mainly large crowns; average slopes of 25° to 35°
- 8 Secondary forest, generally over 25 years old
- 9 Current cultivation, or land cleared for cultivation which had not reverted to secondary forest in 1984
- 9.1 Rubber plantations in 1984

People often cut as much **benjiru** as they can find, leaving the prepared stacks of bundles in situ and carrying them home at their leisure, later or on the following day. In a typical day's work, about 100 pieces per person are cut and brought back in three shifts. This work requires a time expenditure upwards of two hours. However, **benjiru** extraction can be undertaken even if there is only a limited amount of free time, such as during a lunch break.

Benjiru is marketed mainly through weekly outdoor bazaars (**tamu**) and shops (**kedai**) in rural areas in the Tutong and Belait districts; it is not usually sold in larger markets or shops in Bandar Seri Begawan or in Pekan Tutong (the nation's capital and the district town of Tutong respectively), although markets in these places do sell other palm shoots. Along with other forest produce it is also sold at the roadside in stalls built in front of people's houses (Fig. 3). Two small shops also operate in Merimbun itself, selling drinks, cigarettes, and sweets as well as forest produce (when available) to visitors. The Merimbun settlement has, since the late 1980s, developed into a popular recreation spot through the building of foot-bridges and gazebos, the use of groundskeepers, and most importantly, the improvement of roads. The village is now accessible from Bandar Seri Begawan in an hour and fifteen minutes, and from Seria in an hour and forty-five minutes. With its freshwater lake, Merimbun attracts many visitors on Sundays. Many of these people, particularly Dusun from other areas, will not only buy **benjiru** and other **umbus entalun** (forest vegetables), but enquire as to where else it can be purchased.

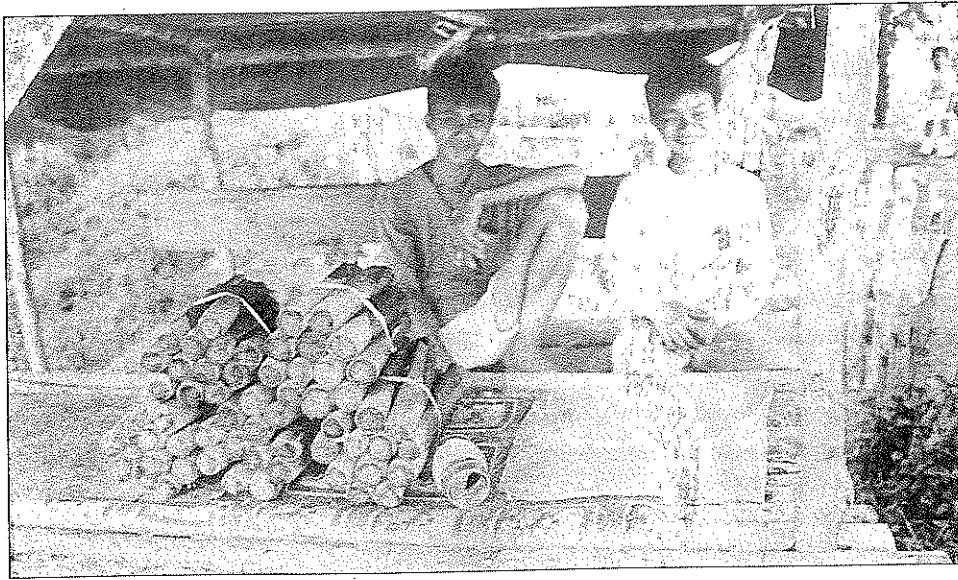


Figure 3. Edible stems of benjiru are sold at roadside stalls

The usual price for **benjiru** in the village or at the roadside in 1992 - 94 was B\$2.00 (US\$1.20) for ten to twelve stems but in markets and shops the prices are much higher, with \$2.00 buying only three stems.

The **benjiru** shoot must be boiled, and is generally cooked with meat, though it is not a significant part of the local Dusun diet. Many other palm and other forest vegetables are now preferred, though it may once have been more popular. Like wild mushrooms (**kulat**) and some fruit, such as **mitus** (*Canarium littorale* Blume) and **lingaggeh** (*Santiria tomentosa* Blume), it is exploited mainly for sale.

Besides its importance as a vegetable, certain medicinal properties are attributed to **benjiru**, including the treatment of headaches, high blood pressure, and diabetes. These uses are known only to a few elderly men with detailed knowledge of traditional medicine.

Environmental Impact of *Licuala* Extraction

The extensive swampy terrain fringing the lakefront is a favorable habitat for **benjiru**, and probably represents one of the most concentrated population of this palm in Brunei. Besides Merimbun, only the Sungai Mau and one other area in the Belait district were mentioned as places in Brunei where it grows in significant quantities.

Because of the increasing numbers of consumers who visit Merimbun, the extraction of **benjiru** there seems to have recently intensified leaving some residents concerned that all the palms will be gone within a few years. Since it is multistemmed, it can be harvested sustainably without destruction to the plant; however, overcollection may still occur (Pearce 1991). Considerable patches of land can be cleared rapidly when extracting **benjiru**, leaving behind hacked up

trunks and shells of stalks. Because **benjiru** tends to grow together in extensive patches, extraction of an entire clump results in damage to the environment. Following the extraction of **benjiru**, an area may be further cleared by burning resulting in the death of remaining plants.

Benjiru extraction is, therefore, different from the harvesting of another palm frequently sold along with it in markets, **dabor** (*Daemonorps fissa* Blume), which grows individually. A single **dabor** plant may provide as much vegetable material as one person can carry, but is totally destroyed as it is extracted for food. However, the extraction of **dabor** in the Merimbun area, under prevailing conditions, seems to have little environmental impact. The extraction of **benjiru**, on the other hand, which can disrupt, denude, and pollute the environment, seems to be a factor contributing to the general degradation of the Merimbun lake and surrounding area.

The sale of **benjiru** has increased because of improved transportation and the development of Merimbun as a recreation spot. Older generations of Dusun had a keen understanding of the local ecology and had little reason to overcollect uncultivated plants. The local population densities were low and there were few marketing opportunities to encourage higher levels of extraction. It was these same people who expressed concern about the diminishing extent of **benjiru** at the current time. Younger generations of Dusun men and women are less involved with the forest and have far less knowledge of patterns of regrowth and sustainable utilization. The problem cannot be blamed on the younger villagers, however, since Dusun of all ages, including those who have left the kampongs, may also collect forest produce. It also seems likely that Dusun are the main purchasers of this produce.

It is possible that commercial exploitation of **benjiru** will cease before all of it has been wiped out if plans are realised to develop Tasik Merimbun as a national park with the objective of preserving both the natural and cultural heritage of the area. Under the terms of the proposal, traditional subsistence harvesting by local people will still be permitted. Such a solution may ease pressure on the lake environment so that it can be returned to a level that can be effectively managed.

ACKNOWLEDGMENTS

Field research in Brunei, conducted by Jay Bernstein in 1992 and 1993, was made possible by U.K. Economic and Social Research Council award ROOO 23 3028 to Roy Ellen. We would like to thank the Brunei Research Council and the Brunei Museum, particularly the Department of Ethnography and its curator, Bantong bin Antaran, as well as the Natural History Section and its acting curator, Marina Wong, for cooperating in the study and providing excellent editorial advice. Essential help was also provided by the Department of Forestry in Brunei, and we would like to thank the director, Morni Othman as well as the staff for their assistance. Finally, we thank the Royal Botanic Gardens, Kew, and in particular John Dransfield for providing determinations and advice.

REFERENCES

- Anderson R. and Marsden D. 1984. Brunei forest resources and strategic planning study. Anderson and Marsden, Singapore.
- H.T. & collaborators (comp. and ed.). 1990. Useful palms of the world: a synoptic dictionary. Columbia University Press, New York.
- Beccari, Odoardo. 193 1. Asiatic Palms—Corypheeae. Revised and edited by Ugolino Martelli. Calcutta: Bangal Secretariat Book Depot. (Annals of the Royal Botanic Garden, Calcutta, vol. 13).
- Folk systematics in relation to biological classification and nomenclature. Annual Review of Ecology and Systematics 4: 259 - 271.
- Berlin B. 1991. 'Ethnobiological classification: principles of categorization of plants and animals in traditional societies. Princeton University Press, Princeton.
- Berlin B., Breedlove D. E., & Raven P. H. 1973. General principles of classification and nomenclature in folk biology. American Anthropologist 75: 1 - 14 - 242.
- Berlin B., Breedlove D. E., & Raven P. H. 1974. Principles of Tzeltal plant classification: an introduction to the bouuical ethnography of a Mayan-speaking people of the highland Chiapas, Academic Press, New York.
- Bernstein J. H. 1993. The ecology and ethnobiology of human-rainforest interaction in Brunei. ASEASUK Newsletter 14 (n.s.): 24 - 2155 5.
- Burkill I. H. 1935. A dictionary of economic products of the Malay peninsula. Crown Agents for the Colonies on behalf of the Governments of the Straits Settlements and Federated Malay States, London.
- Caius J. F. 1935. The medicinal and poisonous palms of India. Journal of the Bombay Natural History Society 37: 917 - 941.
- Conklin H. C. 1969. Lexicographical treatment of folk taxonomies, pp. 41 - 59. In: Tyler S. A. (ed.) Cognitive Anthropology, ed. Stephen A. Tyler. Holt, Rinehart, and Winston, Inc, New York.
- Dove M. R. 1981. Subsistence strategies in rain forest swidden agriculture: the Kantu' at Tikul Batu. Ph.D. Dissertation, Stanford University.
- Ellen R. 1993. The cultural relations of classification: an analysis of Nuaulu animal categories from central Scram. Cambridge University Press, Cambridge.
- Ellen R. 1994. The ecology and ethnobiology of human-rainforest interaction in Brunei (a Dusun case study). Final report to the Economic and Social Research Council. Unpublished.
- Evans I.H.N.A920. Note. Journal of the Federated Malay States Museum 9: 20.
- A measure of the degree of correspondence of folk to scientific biological classification. American Ethnologist 2: 309 - 327.
- Mayr E. 1969. Principles of systematic zoology. McGraw-Hill, New York.
- Pearce, K. G. 1991. 'Palm utilization and conservation in Sarawak (Malaysia). In: Johnson D. (ed.), Palms for human needs in Asia: Palm utilization and conservation in Indonesia, Malaysia, and the Philippines. Rotterdam: A.A. Bulkema.
- Pearce K. G., Amen V. L. and Jok S. 1987. An ethnobotanical study of an Than community of the Pantu subdistrict, Sri Amar, Division 2, Sarawak. Sarawak Museum Journal 37: 193 - 270.
- Quisumbing E. 1978 [1951]. Medicinal plants of the Philippines. Quezon City, Katha.
- Richards A. J. N. 1981. An Iban-English dictionary. Clarendon Press, Oxford.
- Rosch E. 1977. Human categorization, pp. 1 - 49. In: Warren N. (ed.), Studies in cross-cultural psychology, vol. 1. Academic Press, London.

- Skeat, W. W. -1900. Malay magic: an introduction to the folklore and popular religion of the Malay peninsular [sic]. Macmillan, London.
- Skeat W. W. and Blagden C. O. 1906, Pagan races of the Malay peninsula. 2 vols. Macmillan, London.
- Uhl N. W. & Dransfield J. 1987. Genera Palmerum: a classification of palms based on the work of Harold E. Moore, Jr. Allen Press, Lawrence, Kansas.
- Whitmore T. C. 1973 Palms of Malaya. Oxford University Press, Kuala Lumpur.

Appendix: Folk-Classificatory Status of *Licuala*

Brunei Dusun ethnobotanical classification is structured around three major life-forms: **kayuh** (trees and other large woody plants), **akau** (vines, lianas) and **uwai** (rattans). All other plants—non-climbing palms, pandans, grasses, and herbaceous plants—fall outside these life-forms, and (with the exception of fungi) are classified by Dusun in much less inclusive categories. While some of these groupings have focal members, such as **pinang** (*Areca catechu*), they are not always mutually exclusive. It is recognized that various groups of palms have much in common, so that it is possible for a knowledgeable Dusun informant to say that **benjiru** is a kind of **pinang**. Some informants also likened *Licuala* to **piasau** (*Cocos nucifera* L.). Other palms, such as **nibung** (*Oncosperma horrida* Griff.), **embio** (*Metroxylon* sp.), **ramok** (JHB 161, *Arenga undulatifolia* Becc.), **embio** (*Eugeissonia utilis* Becc.), and **tiad** (JHB 182, *Eugeissona minor* Becc.) are classified separately from *Licuala*.

Licuala palms form a covert grouping (Fig. 4). There is no overall name for the set including **silad**, **benjiru**, and **ukang**; although the relationship between them is lexically expressed through reciprocal labelling (see Ellen 1993 : 82). Thus, **benjiru** may be spoken of as a kind of **silad** and vice-versa, while **ukang** may be spoken of as a kind of either **silad** or **benjiru**. While *Licuala* stand apart in this way as a complex, informants occasionally classified individual folk-genera as **kayuh** on the basis of their possession of a trunk (**batang**). These confounding results add further to the difficulty of mapping *Licuala* ethnobotanically, and bear out Ellen's (1993: 25 - 34) cautionary view that such questions about categorization may lead to responses that reflect the artificiality of the interview situation rather than permanent and widely-shared rules.

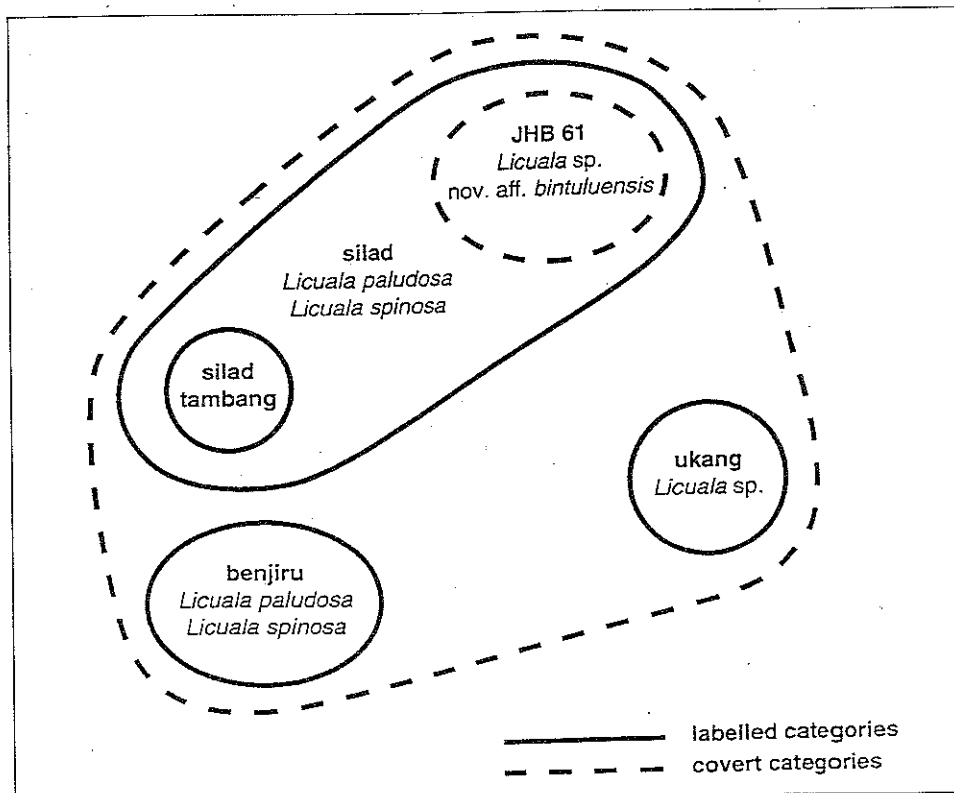


Figure 4. Dusun classification of *Licuala* palms represented as a Venn diagram.

Our data also suggest that **silad** is the most prototypical and **ukang** the least prototypical (or most marginal) of the group, in that **silad** is named first in a spontaneous listing and is considered the 'best' example of its kind (Berlin 1991:21: 24,152; Rosch 1977). **Silad** is no more common than **benjiru**, and is, at least at present, culturally less significant. It is, however, more complex, as it includes the sub-type **silad tambang** mentioned above.

The status of the covert Brunei Dusun *Licuala* grouping in relation to categories of greater or lesser inclusivity is 'intermediate', in Berlin's terms, between the 'life-form' and 'generic' ranks (Berlin 1992). Botanically, *Licuala* is a genus and its members are species. Ethnobotanically, however, **silad**, **benjiru**, and **ukang** are primary, corresponding to Berlin's 'folk-generics'.

For Berlin, 'intermediate rank' refers to a taxon grouping together a small number of generic taxa showing marked perceptual similarities. These intermediate categories are often covert, and are generally members of a certain life-form (Berlin 1992: 24). The **silad-benjiru-ukang** complex, however, does not belong in any of these unambiguous Dusun life-forms. On the other hand, it might be said to constitute 'a covert grouping of closely related unaffiliated folk genera that has considerable coitive and biological reality' (1992: 179). Berlin is now critical of his own earlier position on the classificatory status of such a grouping (Berlin, Breedlove, and Raven 1973, 1974), noting that he and his colleagues were 'curiously silent' about it. Instead, he is inclined to view these as covert life-forms. However, in the case of the Dusun *Licuala* category under discussion here, affiliation to other groups of palms, particularly those of the **pinang** group, makes it unlikely that it might itself be a life-form, albeit a covert one.

There is nomenclatural evidence as well for rejecting the suggestion that the **silad-benjiru-ukang** complex comprise a life-form, and this relates precisely to the issue of covertness. Any tree *x* can be called **kayuh x**. For example, **sekuno bukid** (JHB 6, *Baccaurea racemosa* (Reinw.) Müell. Arg.) can be called **kayuh sekuno bukid**. Similarly, **limbo** (JHB 532, *Fibraurea tinctoria* Lour.) can be, and usually is, called **akau limbo**. No such form exists for *Licuala*, except that **benjiru** is sometimes referred to as **umbus benjiru**, that is, 'benjiru vegetable'. A similar position also obtains for bananas and several more complex groups of plants—grasses, gingers, and ferns—none of which have a single unifying name in the Dusun language; see Bernstein, in press). The reference is not to the entire plant but particularly to the edible shoot. The term **umbus** is sometimes used to classify plants which cannot otherwise be placed in a more inclusive category (e.g., **umbus kenawai**, JHB 353, *Erechlites hieraciifolia* (L.) Raf. in DC.), but it can also refer to vegetable products of plants clearly belonging to a major life-form. In short, **umbus** is not a general-purpose taxonomic category (Bernstein, in press).

The qualities of *Licuala* that would put it into its own intermediate grouping are largely related to morphological distinctions, it being similar only to *Livistona*, which was not encountered in the study area. However, each of the folk-labelled subcategories are found in different, and distinctive, adaptive zones (cf. Berlin 1990:149, quoting Mayr 1969:95). **Silad** was described as growing in hilly 'forest' land, and **ukang** on hilly 'gapu' land, while **benjiru** was known to be found in swampy land, alluvium, and by the lake. According to Whitmore (1973: 69), *Licuala spinosa*, unlike most *Licuala*, can grow in the open, and can be "seen beside swampy depressions in the open sandy country along the eastwest road" in Malaysia. While morphological differences between **silad**, **benjiru**, and **ukang** underlie differences in how they are used and exploited, habitat as a conceptual dimension seems to be a key basis for differentiating between them. This helps explain why both *spinosa* and *paludosa* species could possibly be categorised as **silad** (Table 1, compare Conklin 1969 on 'dimensions of contrast').

Table 1 Dusun categories for *Licuala* palms in relation to habitat

Dusun environmental category	Content	Dusun <i>Licuala</i> category	Scientific name
entalun bukid	old forest hilly land	silad	<i>Licuala spinosa</i> <i>Licuala paludosa</i> <i>Licuala sp. nov. aff.</i> <i>bintulu-</i>
<i>ensis</i>		
gapu bukid	young secondary forest hilly land	ukung	<i>Licuala</i> spp.
payo	swamp	benjiru	<i>Licuala paludosa</i> <i>Licuala spinosa</i>