

Ifugao Ethnobotany 1905-1965: the 1911 Beyer-Merrill Report in Perspective¹

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Introduction

Since 1905, H. Otley Beyer has been intimately associated with Ifugao studies in the Philippines. During his first years in Ifugao, and with the encouragement and assistance of the late Elmer D. Merrill, he began to record various forms of plant usage. Later, he made supporting field collections of herbarium specimens for the Bureau of Science. Incorporating Merrill's identifications and comments on these materials, Beyer wrote an early yet accurate, comprehensive, and anthropologically valuable report on Ifugao economic plants. Though the joint authors used the results of this study in their own articles and books, which in turn influenced others, the original manuscript (9) unfortunately remained unpublished. As a significant landmark in Ifugao and Philippine ethnobotanical investigations, the essential information contained in this document should be made more accessible. With Professor Beyer's kind permission, I am happy to include in this paper (a) a survey of Ifugao ethnobotanical studies to date, (b) a description, analysis, and edited reproduction of the Beyer-Merrill contribution, and (c) an evaluative interpretation of that report.

Ifugao Ethnobotanical Studies

To provide for an adequate ethnobotanical account of a contemporary community, including a statement of the patterned ways members of that community identify, group, label, and treat the available flora in locally recognized natural contexts, at least three

types of information must be available in easily communicable (and manipulable) form:

1. Floral specification: so that similarities and differences in plant morphology, etc., can be accounted for; this is often expressed initially in terms of systematic botanical determinations of live or herbarium specimens observed and collected in the area;

2. Folk botanical terminology: so that contrasts and assumed classifications reflected in language usage can be tested against plants and their differential cultural treatment; this should be expressed in a way which systematically indicates the relevant phonological, grammatical, and semological distinctions employed in the folk nomenclature; and

3. Plant significance data: so that observed and discussed cultural contrasts in natural settings can be economically recorded and checked against associated folk-segregates (12) and botanical data; unambiguous recording is hampered by incomplete mastery of the relevant folk classification.

While no such Ifugao ethnobotany has yet been written, some steps have been made in that direction. We can review them here briefly:

Before 1870. Little written on Ifugao; only narrative and sporadic references to a few major cultivates such as rice and sweet potatoes. As new materials come to light [such as the Alarcón manuscript of 1857; see (25)], some additional fragments may be added to the sparse early accounts.

1870-1900. First photographs and semi-detailed accounts of Ifugao; no plant collections, but more extended accounts of economic activities involving plants begin to appear. Schadenberg (22), one of those primarily responsible for establishing in the literature the roughly northeast to southwest (Bunhian-Mayoyao-Silipan-Kiangan) regional distinctions within Ifugao, photographed settlements in Hapao, Banaue, and Kiangan

¹ Except for minor differences and the absence of photographic illustrations, this article, written in 1965, appeared originally in *Studies in Philippine Anthropology; In Honor of H. Otley Beyer*, edited by Mario D. Zamora (pp. 204-262), Alamar-Phoenix, Quezon City, 1967.

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showing some plants and plant usage, but except for the plant-derived artifacts A. B. Meyer and he obtained for the Dresden Museum, plants were not collected or described in detail. His control of central Cordilleran phonological variation and of language recording techniques in general was minimal (23). The Dominicans began to provide fuller reports. In particular, Villaverde, who first visited Kiangang in 1867, discussed plant terminology and special usage in his long account of Ifugao religion (29 [written before 1897], pp. 341-342) including the listing for Kiangang of 15 kinds of sweet potatoes, 8 glutenous and 4 nonglutenous varieties of rice, 8 types of bananas, 3 kinds of areca palm, and 2 varieties of mungo beans. After 25 years in the area, it is not surprising that his practical control of local phonological problems was much better than that of the German ethnologist-travellers.

1900-1960. Merrill's 1904 work on vernacular plant names (17) included no Ifugao plant-name references. His later (1922-26) 4-volume treatise (18), however, included more than 120, reflecting the direct influence of the 1911 Beyer-Merrill account. Indirectly, the same content, without addition or correction, was noted several decades later in the Ifugao references in Brown's 3-volume work on Philippine useful plants (10) and elsewhere. Beyer's interest in economic plants began with his first years in Ifugao, 1905-08 (21). In his 1907 article in *Philippine Education* (4), written without the benefit of the earlier literature, and thus containing regional errors corrected in part by his own later publications (5, etc.), he does provide important discussions of private forests and agricultural crops. In a joint paper with Barton (8), in his report on rice beer (6), and in a study of Philippine myths (7), his 1911-13 Ifugao work indicates a serious attempt to record accurately both plant usage and terminology [cf. Beyer's contribution in (24)]. Based on a collection of over 100 Banaue and 50 Kiangang plants, the 1911 report, co-authored with Merrill, was the first and only account devoted entirely to Ifugao ethnobotany. The significance of the plant material collected then has been publicly documented (26, pp. 55-56). Others working on ethnobotanical problems in the Ifugao area mention crops (see 3), and include some "varietal" lists (e.g., 14) similar to Villa-

verde's; but no extensive collections or studies of the local Ifugao flora parallel those made by Vanoverbergh in the Lepanto Kank-anay area around Bauko and elsewhere (26, pp. 537-538; 28; cf. 27). In recording local terminology, phonological variation in Ifugao dialects was dealt with very sketchily by Malumbres in 1911 (16), but has received fuller treatment more recently—including discussions of consonant gemination—by Lambrecht (e.g., 15, pp. 31-40). The best published phonological statement for an Ifugao dialect (Gohang, northwest and adjacent to Banaue) was written by Newell of the Summer Institute of Linguistics (SIL) in 1956 (19). A year later he made a small botanical collection for the Philippine National Herbarium (PNH Nos. 37441-37493), the determinations of all but five of which are listed with associated Gohang Ifugao terms in a 1958 prepublication edition of an SIL Ifugao vocabulary (20).

1960-1965. With the help of local Ifugao assistants and Philippine National Museum botanists, and the experimental and general botanical advice of D. E. Yen whose work on root crop variation (30) provided a basis for several months of joint research, I have now been able to deposit with the Philippine National Herbarium a plant collection of more than 1500 numbers. This plant material was obtained principally from Bayninan and vicinity, from 1961 to 1964; some specimens were also collected in nearby Banaue, Amganad, and Kababuyan. Usage and relatively complete terminological notes have been checked for the entire collection only in Bayninan. The data obtained while making this collection, as well as during our other ethnoecological investigations (13), are not yet fully analyzed, but they have served as a basis for my handling of the Beyer-Merrill manuscript here. While in the field in 1963, I was able to work through a copy of the 1911 manuscript. Later, in 1965, I checked the present derivative statement in detail with Ifugao friends in Bayninan. These fortunate circumstances have made possible many corrections (noted in square brackets, below) in the linguistic and other cultural content of the original report.

In sum, three collections of plants and plant terminologies have been made: Beyer 1911, Newell 1957, Conklin 1961-64 (150+, 50+, 1500+ Ifugao numbers, respectively);

the first was made mostly in two widely separated districts and dialect areas, the latter two mostly from single districts. To date, the only written account dealing also with the cultural significance of a large number of Ifugao plant types is the one reproduced below.

The Beyer-Merrill Manuscript

In this section, all essential information in the 1911 Beyer-Merrill manuscript is presented in the form of a single inventory (including additional botanical, ethnographic, and linguistic notes). The inventory is preceded by a brief description of the original document and of the format used in its rearrangement and reproduction, and followed by four tables which aid in the analysis and cross-indexing of its content.

The cover page of the original manuscript, as it occurs in the Beyer manuscript collection, reads: "*Paper No. 23/ IFUGAO ECONOMIC PLANTS/By/H. Otley Beyer and Elmer D. Merrill/ Original Manuscript./ Manila/ 1911.*"

On the next page ([1] of 29 pages), the heading reads: "LIST OF IFUGAO ECONOMIC PLANTS." That listing includes 171 numbers (noted hereafter with a prefixed B, to distinguish them from other enumerations) arranged in the order in which the corresponding plant specimens were collected.

From comparable introductory notes on manuscript pp. 1, 11, 21, and 28, one learns that all collections were made in four lots by Beyer during three separate periods, and that all identifications were made in Manila by Merrill, in the following sequence:

The small non-Ifugao Lot IV (four numbers) will not be discussed further. Of the Ifugao material, data are lacking (lost specimens, etc.) for six numbers; two contain descriptions of two plant segregates each; and seven are "duplicates" (botanically and locally). Thus, the main corpus of Ifugao ethnobotanical information consists of data on 156 locally discrete plant segregates. For most of these, the manuscript provides the following information (in Beyer's terms): "Serial number, original number, Ifugao name, scientific name; common name (if any); origin (where known); local status (whether cultivated or wild); description of use." Of these eight kinds of information, Merrill was apparently responsible only for the fourth through the sixth.

Because of its largely accidental (chronological) ordering, considerable repetition, and some inconsistencies, the manuscript listing requires considerable re-working before its content can be studied efficiently. This situation is complicated further by the fact that the original data were obtained from several widely separated communities (about two-thirds of the collection from the Banaue area, the other third mostly from Kiangan; cf. Fig. 1).

The inventory which follows is an attempt at such a rearrangement, preserving as economically as possible all essential information in the manuscript and adding pertinent new information where available. The 156 plant segregate entries are alphabetically ordered by Beyer's Ifugao labels. Each entry consists of the following five parts, which are explained separately on the next page.

Lot	Serial (Orig.) No.	Location	Elevation	Collected	Identified
I	B1-47(1-47)	Near Banaue	3600-4200'	Sep 1910	Jan 1911
II	B48-101 (1A-54A)	Near Banaue	3600-4200'	Mar 1911	Mar 1911
III	B102-151, B154-155	Kiangan	2500-3000'	Jun 1911	Jul 1911
	B152	Tukukan	6000'	Jun 1911	Jul 1911
	B153	Ahin (Upper valley)	5000'	Jun 1911	Jul 1911
IV	B156-167	Bila	5000-5500'	Jun 1911	Jul 1911
	B168-171	Bokód, Benguet	4000'	Jun 1911	Jul 1911

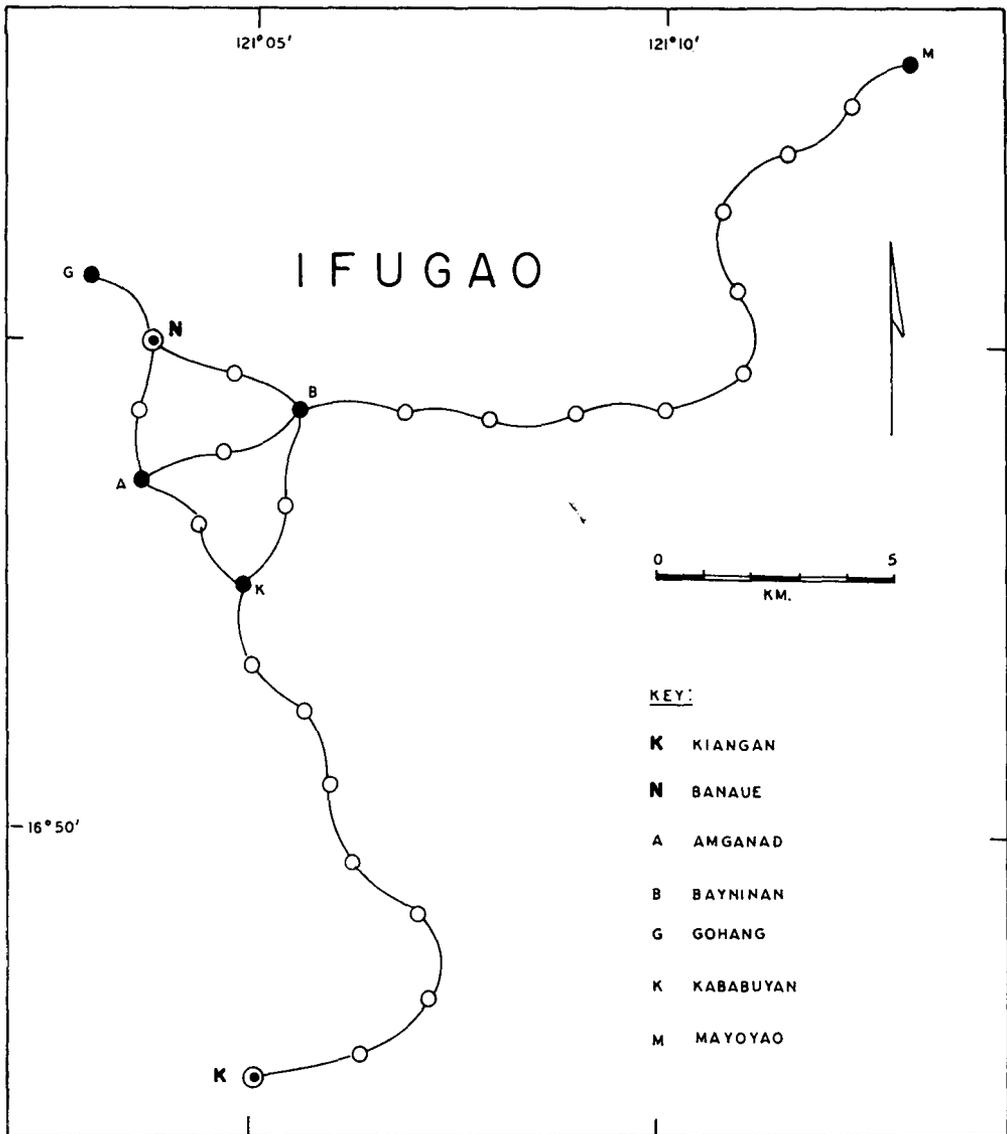


Fig. 1. Sketch map of central Ifugao showing distances and schematized routes between approximate centers of agricultural districts mentioned in the text (unlabeled nodes indicate minimum number of intervening districts, if any).

1. Entry number
2. Ifugao name
3. Botanical name
4. Condensed description
5. Expanded description

1. *Entry number.* Each of the 156 entries has a unique, initial, bracketed number which facilitates precise cross-referencing

within entries and in the tabular material that follows.

2. *Ifugao name.* The first term of each entry is the local plant segregate label recorded by Beyer. Apparent referential synonyms are listed next; dialect variants are added in parentheses. For Beyer's use of "Pure Ifugao" (P.I.) and "Sub-Ifugao"

(Sub-If.) to distinguish terms used in southern and southwestern dialect areas of central Ifugao from those in northern and northeastern central Ifugao, respectively, I have substituted the abbreviations SW and NE (cf. 24, p. 161). In general, Gohang, Banaue, and Bayninan usages are NE, as were the forms cited in Beyer's earlier records (e.g., 4). Later, as in this document, Beyer tended to favor SW usages when quoting Ifugao forms of unspecified origin (cf. the *Note on Ifugao Terms* below, and Fig. 1).

In a few cases Beyer recorded the same Ifugao term for two distinct plant segregates (often from different regions). Such a term is retained for both entries, but in the second instance a prime is added, e.g., Anáyop'.

Following the plant name(s) given by Beyer, and within square brackets, I list the Bayninan Ifugao terms associated with the same or similar plant segregates. A dash (—) indicates the lack of a known Bayninan label for the same segregate. I use semicolons to separate distinct segregate labels; commas to separate referential synonyms. An ellipsis (...) indicates that two or more subcategories of the segregate labeled by the immediately preceding term exist in Bayninan plant classification, and that in this instance the data provided are insufficient for making a more specific choice among them.

3. *Botanical name.* Based on Merrill's determinations, the botanical name for the collected plant specimen is given in conventional form, i.e., genus and species (in italics), authority, and family (standard abbreviations, italicized, and in parentheses). This sequence is interrupted by bracketed revisions only where errors have been noted or more recent nomenclatural changes seemed warranted. Such emendations have profited from J. Barrau's critical reading of my copy of the original manuscript, from Philippine National Herbarium botanists' notes on our recent Ifugao collection, and from a brief review of the main references on the flora of the Philippines. Undoubtedly further revisions could be added. The accuracy of the Latin binomials, however, does not affect the folk botanical system as such, and although I have tried to make this listing as useful botanically as ethnographically, I do not as-

sume that more than an associational relationship exists between folk and scientific taxa (cf. 11, p. 43).

4. *Condensed description.* Separated by slashes, five types of information on the botanical and cultural status of each plant appear in compact form in each full entry. A key to the abbreviations used, by category, follows:

- Position one : *botanical documentation*
 B# : Beyer collection number(s)
- Position two : *phytogeographic status*
 End : Endemic
 Ind : Indigenous
 Cos : Cosmopolitan
 Prh : Prehistoric introduction
 Int : Introduced
- Position three : *location and elevation*
 K3 : Kiangnan and vicinity, 2500-3000'
 N4 : North central Ifugao (n. Banaue), 3500-4200'
 L5 : Bila and Ahin (upper valley), 5000-5500'
 T6 : Tukukan, 6000'
- Position four : *plant use*
 N : None recorded
 F : Food and drink ingredients
 V : Various other technical and special uses
 Vr : Ritual or medicinal uses
 Vs : Social uses
- Position five : *plant treatment*
 w : wild
 p : protected, sometimes planted
 c : cultivated

(i) B-figures are serial numbers in Beyer's field collection.

(ii) Distributional and historical interpretations derive presumably from Merrill; when no information was provided this position is ignored.

(iii) Regional and altitudinal specifications of collection areas are taken from Beyer. His account contains only limited data on the few plants collected from L5 and T6 areas in western Ifugao.

(iv) Only where Beyer specifies ritual-medical or social uses are r and s added.

(v) Where no uses are recorded in (iv), this position is left blank. [The collapsing of (iii) and/or (iv), where information is lacking, is possible because of the contrast-

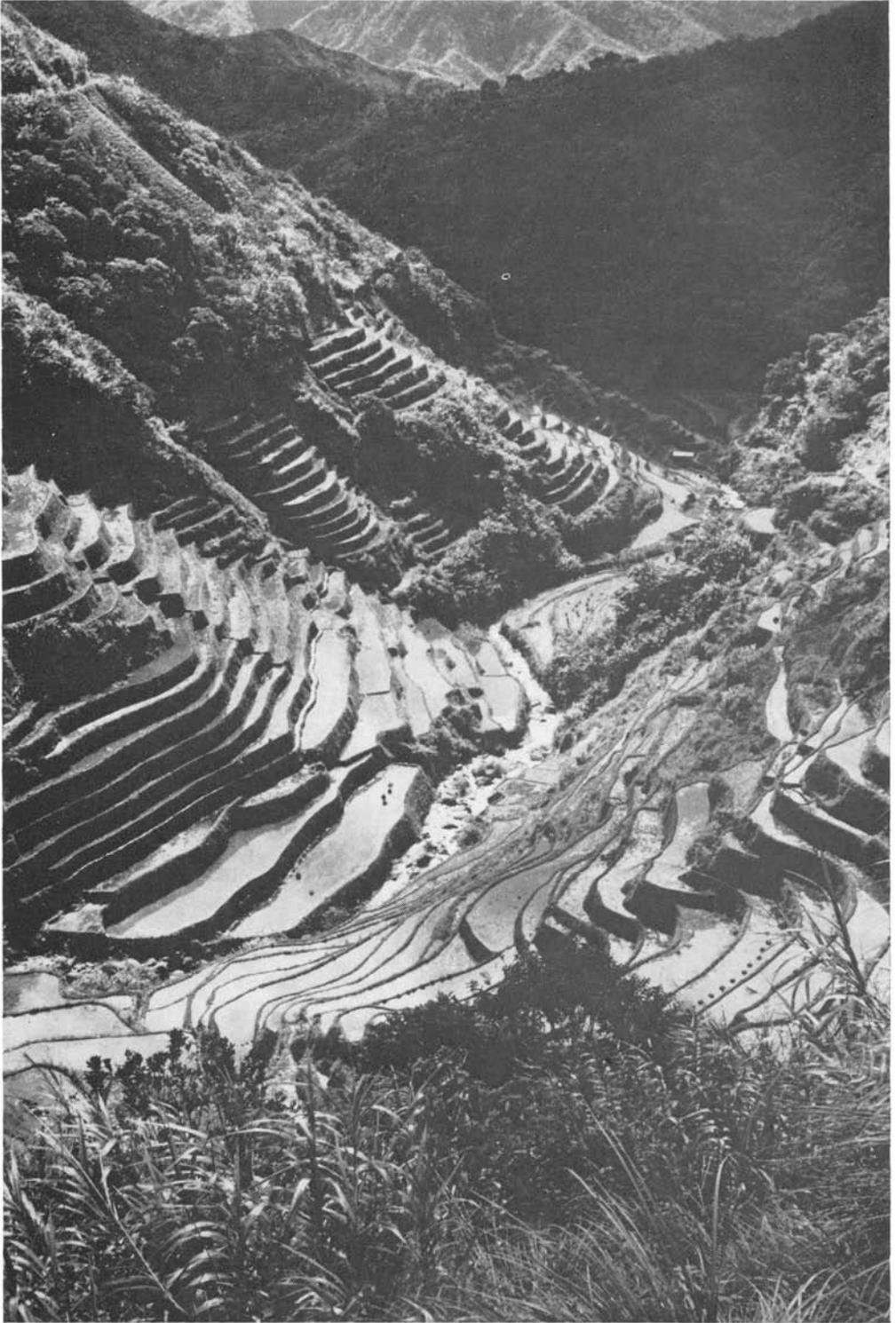


Fig. 2. Valley near Bayninan, 1962, showing *Miscanthus*-dominated second-growth high grassland (foreground), private and public forest lands, patches of swidden land (upper left), as well as inundated, terraced, pond fields.

ing symbolic form of the abbreviations in each of the five positions.]

The sample below illustrates the type of data from which the condensed descriptions are derived, and how, as outlined above, these data are encoded (see [1]):

From the original manuscript:

"37. (37). . . . Indigenus. Collected . . . near Banaue in the northern part of the subprovince of Ifugao, at an elevation of from 3600 to 4200 feet above sea level fruit is eaten raw Wild" and

"76.(29A). . . . Japan to Malaya. Collected . . . near Banaue in the northern part of the subprovince of Ifugao, at an elevation of 3600 to 4200 feet above sea level hollow stem is used as a cure for . . . Wild"

Condensed description:

B37,B76/Ind/N4/FVr/w:

5. *Expanded description.* Descriptive statements within double quotes are Beyer's, reproduced in full. The anthropological terminology is necessarily dated (e.g., for "clan" one should read 'residents of a discrete agricultural district'), and some interpretations may be questioned (as I have done in brackets), but because of the importance of the document from various points of view, the original form of Beyer's remarks has been retained. Where bracketed question marks or added comments are lacking it can be assumed that present observations or informants' statements have been at least partially confirmatory. A dash (—) is used to indicate lack of comment or other available information. Cross-references to other entries are appended last, Beyer's in parentheses, mine in brackets. The Ifugao forms I have added within square brackets reflect current Bayninan usage.

In the Expanded Description, all unprefix numerals, whether bracketed or not, refer only to new main-entry numbers. (Elsewhere, my annotations, new numbers, and other forms of additional information are found exclusively within square brackets; all other data, in quotes or otherwise, come directly from the Beyer-Merrill manuscript.)

Note on Ifugao terms. In transcribing Bayninan Ifugao phonemically, 14 con-

sonant and 5 vowel symbols are employed: m n ŋ b d g p t k q (glottal catch) h l y w i u e o a; geminate vowels and consonants are written as doubled symbols (all CC possibilities, including qq and hh occur), long vowels as \bar{V} , short vowels as \check{V} , and vowel-semivowel-vowel sequences as VSV. Beyer's orthography differs from mine in not indicating initial /q/, and in using three additional consonant letters (for positional variants of /h/ and /l/) and six diacritics (not including our one macron). These and certain other differences (excluding his use of initial caps) are listed below, Beyer's usage being indicated to the right of the colon:

ŋ : $\bar{n}g$
 d : d/ \underline{d}
 t : t/ \underline{t}
 q : \emptyset / \prime /h
 h : h/ \underline{s} /x
 l : l/ \underline{l} / \underline{r}
 y : y/i(S)
 w : w/(V)u/(V)o
 C₁C₁ : C₁C₁/C₁
 \bar{V} : \hat{V} /V
 \check{V} : \hat{V} /V
 $\bar{V}_1\bar{S}\check{V}_2$: \bar{V}_1 VSV₂ (e.g., *lāya* : Lai'ya)
 \emptyset : -/ʔ (sometimes used between syllables; e.g., *bayakkot* : Bayak-kōt)

In these last few (and similar) cases, the Beyer transcriptions show greater internal inconsistency than elsewhere. Geminate /S/, /h/, or /q/ do not occur as such in the Beyer materials.

Phonologically, the most frequently noted structural differences between Bayninan forms and those of cognates in nearby dialects to the west and south are indicated partially by the following set of correspondences (Bayninan symbols on the left):

\emptyset : \emptyset /q
 q : q/k/ \emptyset
 h : h/ \emptyset
 e : e/i/a
 o : o/u/a
 i : i/e/a
 u : u/o

List of Ifugao Plants

[1] Agúhíp [qaggóhep . . .] *Ampelopsis heterophylla* Planch (*Vit.*)

B37, B76/Ind/N4/FVr/w: B37 "Has clusters of fruit somewhat resembling grapes. This fruit is eaten raw, and

- is sweet and good to the taste.”
B76 “A vine; grows large. Fruit eaten by birds. The hollow stem is used in a curious cure for a boil. (*Ánon di bigis-na* [paŋāan di bigihna] ‘Removes the worm which it contains.’)”
- [2] Alai-yon [qalayyon . . .] *Amaranthus spinosus* L. (*Amaran.*)
B73, B127/N4, K3/F/w: B73 “Stalks and leaves are eaten as ‘greens’, simply cooked in water.”
- [3] Álbe-béna [—] *Mentha arvensis* L. (?) (*Lab.*)
B68/Int/N4/Vr/p: “Mint. Ifugao name derived from Spanish ‘yerba buena’. The plant was introduced into Ifugao by a Spanish lieutenant of the Guardia Civil, sometime near the year 1880. It has since spread over a considerable area, as the Ifugaos like its odor, and sometimes use it as a medicine for headache.”
- [4] Âmti [qamti . . .] *Solanum nigrum* L. (*Sol.*)
B2/Cos/N4/F/p: “Leaves and stalks cooked in water and eaten.”
- [5] Anáyop [qanayup] *Callicarpa formosana* Rolfe (*Verb.*)
B78/N4/Vs/[w]: “The bark is chewed with betel-nut as hápid [hápid] (betel leaf).” [Cf. 6.]
- [6] Anáyop’ [—; qanayup] *Buddleia asiatica* Lour. (*Log.*)
B153/A5/N: —. [Cf. 5; 55.]
- [7] Anúnōŋ [qanūnaŋ] *Cordia blancoi* Vid. (*Borag.*)
B150/K3/V/w: —.
- [8] Apátpat [qapatpat . . .] *Blechnum orientale* L. (*Polypod.*)
B110/K3/N: —. [See 12.]
- [9] Apídan [dapidan, gapidan, qapidan . . .] *Eleusine indica* Gaertn. (*Gram.*)
B67/N4/V/w: “A grass with a tough stem on which small worms (*golaŋ* [qolaŋ]) are strung and used as bait to catch small crabs (kalám’ma [qallama]) [and river fish (gadiw)].”
- [10] Aplax [qoplah . . .] *Ficus odorata* [(Blanco)] Merr. (*Morac.*)
B144/K3/V/c: “(See 124.)”
- [11] Appáko [qappaku . . .] *Athyrium esculentum* Copel. (*Polypod.*)
B13/Ind/N4/F/w: “A fern, the spiral at the top of which is cooked in water and eaten.”
- [12] Appat [qapatpat . . .] *Microlepia apiculata* Moore (*Polypod.*)
B62/Ind/N4/V/w: “Used for making head-pads, etc.” [See 8.]
Bagao-wan [See Bai-yúkút.]
- [13] Bai-yúkút (SW; Bagao-wan in NE) [baggūwon; in Kababūyan: pay-yúkót (= batēkel qan nabudūwan, in Bayninan)] *Urena lobata* [L.] var. *scabriuscula* (*Malv.*)
B133/K3/N: —. [Cf. 30.]
- [14] Bakáko [bakakku . . .] *Portulaca oleracea* L. (*Port.*)
B60/Cos/N4/V/w: “Purslane. Used as food for the pigs [?]; sometimes eaten as a sidedish, which are very fond of it.” [See 118.]
- [15] Bákku [—; baqqobaqqo] *Andropogon halepense* var. *propinquus* [A. *halepensis* (L.) Brot. var. *propinquus* (Kunth) Merr.] (*Gram.*)
B118/K3/N: —. [Cf. 29.]
- [16] Baláh-bah [balaqbaq] *Eugenia* sp. (*Myrt.*)
B146/K3/F/p: “Economic, fruit eaten.”
- [17] Baláhiq [—] *Asclepias curassavica* L. (*Asclep.*)
B108/K3/N: —.
- [18] Balákbak [balaqbaq] *Eugenia* sp. (*Myrt.*)
B99/End?/N4/FV/p: “A tree with a red fruit like a cherry. Has a hard wood, which is frequently used in housebuilding. Fruit eaten raw, and well-liked.”
- [19] Baláŋgag an Lápne [lāgah qan ballāan, or lapnen ballāan (lapne ‘tuberous, underground, starchy plant part’)] *Ipomoea batatas* Poir.—form [*I. b.* (L.) Lam.] (*Convolv.*)
B19/Int/N4/F/c: “A red sweet-potato. Eaten either boiled in water or roasted in the fire. Sometimes also eaten raw, with a little powdered chili pepper [?] for seasoning.” [See 106.]
- [20] Baláŋgbaŋ [—; ballaŋbaŋ . . .] *Bryophyllum pinnatum* [(Lam.)] Kurz (*Crass.*)
B53/N4/Vr/w: “Used as a medicine for *gāŋŋgo* [gaŋŋo, guŋqu] (rheuma-

- tism?) and for *būng-a* [boŋa] (cracked or cut soles of feet)." [Cf. 21.]
- [21] *Balāngbaŋg'* [ballaŋbaŋ qan maqan di būjana] *Medinilla elmeri* Merr. (*Melas*)
B81/End/N4/F/w: "A forest plant. Fruit is eaten whenever obtainable, and is very much prized." [Cf. 20.]
- [22] *Balátong* [balātuŋ . . .] *Phaseolus radatus* L. [*P. aureus* Roxb.] (*Leg*)
B4/Int/N4/F/c: "A small bean or pea called *mongus* or *mongos* by some Christian tribes. The seeds are cooked in water and eaten. They have a rich, nutty flavor, and are greatly liked by the Ifugao."
- [23] *Balíli* (SW; Dinápyuk in NE) [dinap-yuh; balíli . . .] *Eleusine indica* Gaertn. (*Gram*)
B104/K3/V[r]/p: —.
- [24] *Balúha* [baluhha] *Phyllanthus curranii* C.B.Rob. [? *P. simplex* Retz.] (*Euph*)
B32/End/N4/N: "Grows chiefly in the walls of rice terraces, and along the irrigation ditches."
- [25] *Bāmbanflāg* [banbanflag] *Euphorbia pilulifera* L. (*Euph*)
B64/N4/V/w: "The juice is used by children for making imitation tattoo marks on themselves. Must be scrubbed with ashes to remove, as it is very permanent." [?]
- [26] *Banáтта* [—; banatta] *Piper* sp. (*Piper*)
B80/N4/V/w: "The leaves are used to wipe the sweat from dead bodies, while they are in the death-chair."
- [27] *Bāngar* an *babai-i* [—; baŋal qan mumbolah] *Polygonum barbatum* L. (*Polygon*)
B71/N4/N: "Grows in rice fields, and shell-fish feed on it. (See 28.)"
- [28] *Bāngar* an *laláki* [baŋal qan qadudukke] *Commelina nudiflora* L. [*C. diffusa* Burm.f.] (*Commel*)
B55/N4/N: "A water plant that grows in the rice fields. The shell-fish (*gīngā*) [gīŋa] that form such an important part of the Ifugao food-supply, feed on this plant and are captured while feeding (by means of the *hai-du* [haydu 'catching tray'])."
- [29] *Báo'-báo'* [baqqobaqqo] *Panicum crus-galli* L. (*Gram*)
B130/K3/N: —. [Cf. 15.]
- [30] *Batékél* [batékel . . .] *Urena lobata* L. (*Malv*)
B135/K3/N: —. [Cf. 13.]
- [31] *Ba-yak-kôt* [bayakkot, dayakkot] *Macaranga cumingii* Muell.-Arg. (*Euph*)
B101/End/N4/V/w: "A small tree of light wood. Used as fire-wood by widows and very poor people. Fruit is eaten by birds, but not by people."
- [32] *Biláu* [biláu . . .] *Miscanthus sinensis* Andr. (*Gram*)
B28/Ind/N4/V/w: "A variety of runo. Used in making fences, and in building houses of the poorer class. Takes the place of bamboo, which is very rare in Ifugao." [Cf. 42.]
- [33] *Bólwaŋg* [bolwaŋ . . .] *Marattia* sp. (—) [*Marat*.]
B151/K3/Vr/w: —.
Budbúdda [See *Líbúg'*.]
- [34] *Búgne* [bugne . . .] *Antidesma bunius* Spr. (*Euph*)
B136/K3/F/p: —.
Bug-tai-yon, Buk-tai-yon [See *Bùt-gi*.]
- [35] *Buh'wít* [—] *Rubus fraxinifolius* Poir.— form. [? *R. rosaefolius* Sm.] (*Ros*)
B38/Ind/N4/F/p: "A variety of raspberry, having a good-sized berry of a faded red color. The berries are eaten raw, chiefly by the children. (See 125, 135.)"
- [36] *Bulígan* [bulligan . . .] *Psophocarpus tetragonolobus* DC. (*Leg*)
B3/Int/N4/F/c: "Asparagus bean. Both pods and beans are eaten, cooked in water."
- [37] *Búllûx* [buloh . . .] *Acalypha stipulacea* Klotz forma (*Euph*)
B79/N4/V/p: "The plant whose leaves are added to *wále* [wále, 'a vine'] and rice-field mud, in making the common black dye used by the Ifugaos." [See 39.]
- [38] *Búltík* [bultiq . . .] *Decaspermum paniculatum* Lindl. [*D. fruticosum* Forst.] (*Myrt*)
B100/N4/VF/p: "A large tree of hard wood much used in house-building. Fruit is eaten by children



Fig. 3. Roof frame construction showing the use of *Miscanthus* cane grass (*bilâu*, [32; 42]) stems; Bayninan, 1962.

- and is also the chief food of the small bats (*itâlit* [lettâlet]).”
- [39] Bulûx [buluh . . .] *Acalypha* sp. (*Urt.* [*Euph.*])
B132/K3/V/p: “Economic, used in making black dye. (See 37.)”

- [40] Búnôg [bûnog] *Garcinia* prob. *venulosa* Choisy (*Gutt.*)
B149/K3/F/e: “Economic, fruit eaten.”
- [41] Bût-gi (NE; Bug-tai-yon, Buk-tai-yon in SW) [butgi . . . , (boktayyon

- ... in Amganad)] *Melastoma polyanthum* Blume (*Melas*)
 B95/N4/F/p: "The fruit is eaten. Has a red flower something like a rose. An insect called *ha-lig-hig* [?] is captured by the children on the flowers of this plant, and is eaten after being roasted on the coals wrapped in a piece of banana leaf."
- [42] Buyáo [—; bilāu ...; (buyyāqo 'plume-like inflorescence of tall grasse.')] *Miscanthus japonicus* Andr. (*Gram.*)
 B44/Ind/N4/V/w: "A stalk of this grass is used for weaving crude baskets kept in the house for the purpose of holding waste shells thrown aside when eating and kept for the purpose of making shell lime (CaO) for use with betel nut, etc. The stalks are also used by the children for weaving toys of various sorts." [Cf. 32.]
- [43] Búyút [būyut] *Drymaria cordata* Willd. (*Caryophyl.*)
 B49/Int/N4/Vr/w: "Leaves used as a medicine for boils. Used as a poultice, to make the boils come to a head quickly."
- [44] Dalíprúg [—; pugūpug (similar use)] *Hypericum japonicum* Thunb. (*Gutt.*)
 B63/N4/Vr/w: "Known in Ifugao as a *pañgāan hi bōba* [pañāan hi buba], that is, 'a means of extracting a tooth.' It is believed that if one has an aching tooth, he may chew this plant, and squeeze the juice around the tooth, and the tooth will come out!" [?]
- [45] Dámi [dame] *Boehmeria nivea* Gaudich. (*Urt.*)
 B33/Int/N4/V/c: "Ramie, ramee, or 'China grass.' The English name, ramie, is derived from the Straits Malay name *rami*, which explains its similarity to Ifugao. Probably nearly 50% of the cloth woven by the Ifugao is made from the fiber obtained from the bark of this plant. The cloth is almost as strong as linen, and wears well. Very large quantities of the plants are grown, being carefully planted and cultivated by the women. It is also used for making coarse thread and cord, fish-lines, and small nets of various sorts."
- [46] Dila-dílág [didillag] *Spilanthus grandiflora* Turez (*Comp.*)
 B66/N4/V/w: "Flowers are given to babies to quiet them when they cry." [See 47.]
- [17] Dila-dílág' [didillag] *Spilanthus acmella* [(L.) Murr.] (*Comp.*)
 B154/K3/V/w: —. [Cf. 46.]
 Dinápyuk [See Balíli.]
- [48] Dógwe [dogwe ...] *Saurauia subglabra* Merr. (*Dillen.*)
 B93/End/N4/F/p: "A tree with an edible white [?; greenish] fruit (varying in size from that of a walnut to that of an apple). Fruit is very sour, which appeals to Ifugao taste."
- [49] Dolómne an babai-i [dinnolmen babāi] *Adenostemma viscosum* Forst. [?] [*Siegesbeckia orientalis* L. ?] (*Comp.*)
 B54/N4/N: —. [Cf. 50, 51.]
- [50] Dolómne an babai-i' [?] [—; dinnolmen babāi] *Adenostemma viscosum* Forst. [*A. lavenia* (L.) O.Kuntze] (*Comp.*)
 B96/N4/V/w: "The sticky pitch of the fruit is used as bird-lime." [Cf. 49, 51.]
- [51] Dolómne an laláki [dinnolmen lalāqi]— sp. [*Adenostemma lavenia* (L.) O. Kuntze] (*Comp.*)
 B54'/N4/V/w: "This plant has a sticky substance and is used for catching dragon-flies, *daúti* [daqūti], which are prized as food." [Cf. 49, 50.]
- [52] Dóngla [donla] *Cordyline terminalis* Kunth. [*C. fruticosa* (L.) A. Chev.] (*Lil.*)
 B9/Int[?]/N4/Vr/c: "The principal sacred plant of the Ifugao. Head dresses are made of it when a person killed by violence is buried. Large quantities of it are placed in the center of the village, and on the houses, when the *Manaháut* [manaháut] ceremony, after taking a head, is held. Planted on rice terrace walls of the fields of widows and orphans to protect their rice from being damaged by evilly-disposed *lináua* [linnāwa]. Placed on each



Fig. 4. Red leaves of *Cordyline* (*doyla* [52]) placed in the ritual headgear of men coming to bury a murdered kinsman; central Ifugao, 1962.

- side of the doorway of all dwelling houses during times of smallpox. Used in certain religious ceremonies, particularly the *hagóho* [hagóho]. Etc., etc. It is called 'the blood plant' [?], as the leaves are the color of dried blood at certain seasons of the year."
- [53] Duláñgon [dulāñon] —sp. (*Laur.*)
B87/N4/V/w: —.[A forest tree.]
- [54] Dulúdul [—; (dullūdul 'tail feathers')] *Polypodium punctatum* Sw. (*Polypod.*)
B70/N4/V/p: "Occasionally used as a house-plant, for ornamental purposes."
- [55] Dumdumāne [—] *Buddleia asiatica* Lour. (*Log.*)
B157/L5/N: —. [See 6.]
- [56] Dúyúñg (túdyo in NE) [qudyo ...] Prob. *Pterocarpus indicus* Willd. (*Leg.*)
B164/L5/V/w: "Common narra."
- [57] Gahflañg [gahhilañ ...] *Zea mays* [L.] (*Gram.*)
B107/Int/K3/F/c: "Common Indian corn."
- [58] Gai-yá'-bít [gayyābat ... , gayqab ... , gēqab ...] *Psidium guajava* L. (*Myrt.*)
B119/Int/K3/F/p: "The common guava. (See 59.)"

- [59] Gaiyáhbât [gayyābat . . . , gayqab . . . , gēqab . . .] *Psidium guajava* L. (*Myrt.*)
B24/Int/N4/F/p: "Guava. The Ifugao name is probably derived from the Spanish 'guayaba'. The fruit is eaten raw." [See 58.]
- [60] Galigfwon, or Galfh'on [galiwgīwon, galeqqon] *Gironniera glabra* Merr. (*Ulm.*)
B82/End/N4/V/p: "The fruit is eaten and is much prized. The wood of this tree is the hardest and heaviest known to the Ifugaos. All of the best pipes and carved spoons are made of it."
- [61] Gá'o [gāo] *Andropogon sorghum* Brot. var. [A.s. (L.) Brot.] (*Gram.*)
B43/Int/N4/F/p: "Usually found wild, but sometimes planted. Wild patches are sometimes fenced in, and are always the property of the man on whose land they grow, or of the serf who has charge of that land. It is threshed in a mortar like rice. The threshed grain is mixed with the red rice, *dayákôt* [dayaqqot 'glutenous (rice)'], and the rice drink *búbád* [bayah] is made from the mixture by the same process as when the pure *dayákôt* only is used. After the liquid part has been consumed, the remaining solid part, or *lamónna* [lamohna], is eaten, and is highly esteemed."
- [62] Gattao-wa [gatawwa] *Ricinus communis* L. (*Euph.*)
B138/K3/N: "Castor-oil plant." [See 63.]
- [63] Gattao-wa' [—; gatawwa] *Ceiba pentandra* Gaertn. (*Malv.* [Bomb.])
B165/L5/N: "(See 62.)"
- [64] Gíwi-gíwi [—; (gíwi 'a kind of *littüqu*, a rattan with edible fruits')] *Phyllanthus* sp. (*Euph.*)
B166/L5/N: —
- [65] Gôm-gôm [—; ? tiqtiqlop; (gomgom 'grip, clench')] *Phyllanthus erythrorichus* C.B.Rob. (*Euph.*)
B77/End/N4/N: "Closes leaves at night. The Ifugao name merely means 'sensitive' ['sense' in an active, demonstrative way], and is also applied to the true sensitive plant (see 66[,85, 86])."
- [66] Gôm-gôm' [—; (gomgom 'grip, clench')] *Smithia sensitiva* (— [*Leg.*])
B122/K3/N: "(See 65.)"
- [67] Gúddúgúd [gudūgud] *Ficus indica* L., var. (*Morac.*)
B91/N4/FV/p: "A tree, the fruit of which is eaten raw, and the bark and wood chewed [as an areca nut substitute] as *mómôn* [momon 'betel chew'], the same as No. 112."
- [68] Gugúlpu [gulgulu . . .] *Insanthera discolor* Maxim. (— [*Gesn.*])
B156/L5/Vr/w: —
- [69] Gugulu [gugullu] *Citrus*, prob. *C. mitis* Blanco (*Rut.*)
B17/Ind/N4/F/c: "A lime. Grows on a rather large tree, planted in considerable numbers in Ifugao villages. Always eaten raw. The Ifugao children eat limes as American children would eat candy." [See 70.]
- [70] Gugulu' [gugullu] *Citrus acida* Roxb. var. [*C. aurantifolia* (Christm.) Swingle] (*Rut.*)
B143/K3/F/c: "(See 69.)"
- [71] Gúlung [gūlung . . .] *Imperata cylindrica* Beauv. (*Gram.*)
B27/Ind/N4/V/w: "Cogon grass. Used for thatching dwelling houses, granaries, etc., and for making roofs and temporary shelters of many sorts."
- [72] Gutgútu, or Ngáliu gutgútu [ŋālu; gutgutu . . .] *Pipturus arborescens* C.B.Rob. (*Urt.*)
B161/L5/N: —
- [73] Gút-mu [gutmu . . .] *Vaccinium whitfordii* Merr. (*Eric.*)
B85/End/N4/FV/p: "A variety of huckleberry. The leaves of this plant are eaten raw. It has a small black fruit (a little larger than a match-head) which is also eaten raw, and makes the mouth black. Is a small tree with a very hard fine wood from which spoons and images are carved."
- [74] Ha'ha'lúŋg [haqhaqlun . . .] *Monochoia vaginalis* [(Burm.f.) Presl.] var. *plantaginea* (Pont.)
B46/Ind/N4/F/w: "Grows in rice fields. The leaves and stalks of this plant are eaten, cooked in water, by

- people of the poorer classes." [See 75.]
- [75] Hakháklúŋg [haqhaqluŋ . . .] *Monochoria vaginalis* [(Burm.f.) Presl.] (Pont.)
B126/Ind/K3/F/w: "(See 74.)"
- [76] Hála-hála [hālahāla] *Litsea* sp. (Laur.)
B98/End?/N4/Vr/p: "Tree. (Giron-
ierre's 'Jalajala?'). A sacred plant,
used only in religious ceremonies.
Same as *hūmaŋg* [hūmaŋ 84]. A
drink made from the leaves of
this plant (with some others added)
is given to sick persons who have
certain diseases. It has a small black
bitter fruit which is eaten by birds,
but not by people." [See 84.]
- [77] Halīŋhīŋon [halīŋhīŋon . . .] *Eurya*
acuminata Wall. (Thea.)
B89/N4/Vs/w: "Used as a *punhátud*
[punhālud 'teeth stainer'] the same
as No. 144; and also as *mómōn*
[momon 'betel chew'] the same as
No. 112."
- [78] Hanapádon [—] *Sandoricum indicum*
Cav. (Meliac.)
B129/K3/N: —.
- [79] Haŋgáŋga [hinaŋāŋa . . .] *Cyperus*
distans [L.f.] (Cyp.)
B139/K3/Vr/w: "Sacred plant."
Hápid [See Lávād.]
- [80] Hawlí [hawilin maqan di būŋana]
Elaeocarpus pendulus Merr.
(Elaeoc.)
B92/End/N4/FV/p: "A tree, the
fruit of which is eaten raw (size of a
wild grape). The bark is also used in
the black dye, with *búllúx* [buluh 37,
39], *wále* [wāle], and rice-field mud.
Is a good-sized tree, and the wood
is considerably used for making
house-posts, etc. This plant is
called *Dóhêr* [duhel (in other areas
such as Gohang)] in Banául [ban-
nāwol] clan."
- [81] Hī-ŋig, or U-hīg [hīŋig] *Justicia gen-*
darussa L. (Acan.)
B94/N4/Vr/p: "Leaves or a small
branch of this plant are put by all
women in the front pockets of their
skirts before going to the *gótād* [gotad
'main feast day'] of the *bumai'yax*
[bumayah 'prestige feast']. This is
done to *hokwitan di linau'wa* [hoqwi-
tan di linnāwa]." [Worn as protec-
tion against sorcery especially.]
- [82] Hīnág'gít [—] *Albizia marginata* (Leg.)
B134/K3/N: —.
- [83] Hīnúyop [huyyohuyyop . . .] *Breynia*
cernua Muell. (Euph.)
B34/Ind/N4/V/w: "A bush, trunk
grows to be two inches in diameter.
If a hog is ill-tempered and inclined
to bite, it will become quiet and
very docile if switched on the back
with a branch of this plant—accord-
ing to the Ifugao."
- [84] Hūmaŋg [—; hūmaŋ . . .] *Clerodendron*
intermedium Cham. (Verb.)
B131/K3/Vr/w: "Medicinal (for
stomach and intestines)." [Cf. 76.]
- [85] Húyo-húyop [huyyohuyyop . . .] *Des-*
modium heterocarpum DC. (Leg.)
B109/K3/Vr/w: —. [See 86.]
- [86] Húyop [huyyohuyyop qan qoqqōŋal
Desmodium heterocarpum DC.
(Leg.)
B83/N4/Vr/w: "A sacred plant. Is
put in *híwāŋg an wítawít ya ínámam*
[hīwaŋ qan wetāwet ya gināan 'love
charm pocket'] to make the girl
in the *agámang* [qagāmaŋ 'sleeping
place for the unattached of either
sex'] sleepy and not *bumúŋgôt*
[bumūŋot 'get angry'],—so that
she will not resist the man who
wishes to sleep with her. Is also put
on the rice-pile during the *báki*
[bāqī] which is made before putting
the rice in the *pálan* [palan 'storage
attic']" [See 85.]
- [87] Inayán di ónwād [baqqen di qonwad]
Bidens pilosa L. (Comp.)
B74/N4/N: "No economic use ex-
cept as 'wife of the ónwād' (cf. 122).
Also has 'stickers' that get in
blankets, skirts, clouts, etc." [See
123.]
- [88] Ipúgo [pāgen (tinawon qan) qipugo
. . .] *Oryza sativa* L.—form.
(Gram.)
B117/Prh/K3/F/c: "Kiangán white
rice. (See [126,] 127.)"
- [89] Ítáb [qítab . . .] *Dolichos lablab* L. var.
(Leg.)
B6/Int/N4/F/c: "Hyacinth bean.
Usually planted on the walls of the
rice terraces. Cooked in water and
eaten."

- [90] Ká'i-ká'yu [—] *Polygonum barbatum* L. (*Polygon.*)
B102/K3/N: —.
- [91] Kákao [kākaw] *Artocarpus integrifolia* L. (*Urt.* [*Morac.*])
B142/K3/F/c: —.
- [92] Kalaláhi [—; qulāhi, qalalāhi] *Boehmeria multiflora* C.B.Rob. (*Urt.*)
B42/End/N4/V/p: "The fiber obtained from the bark of this plant is used for weaving coarse cloth, cord and rope making, manufacture of various sorts of nets, etc., etc." [Cf. 119, 120.]
- [93] Kápi [kapi . . .] *Coffea arabica* L. (*Rub.*)
B47/Int/N4/F/c: "Arabian coffee. Grown in isolated patches all through the Subprovince of Ifugao, and at greatly varying elevations. The coffee is of very fine quality."
- [94] Káwat [qawwat . . .] *Vigna sinensis* Endl. (*Leg.*)
B7/Int/N4/F/c: "Cow pea. A variety of bean. Usually on walls of rice terraces. Cooked in water and eaten."
- [95] Kibaó-úñg [kibbāuñg] *Coix lachrymans* L. (*Gram.*)
B124/K3/V/p: —.
- [96] Kiwíñgán [—] *Canna indica* L. (*Scitamineae* [*Cann.*])
B106/K[3]/V/p: "Common canna."
- [97] Konákon [qunāqun] — [*Elaeocarpus* sp. (*Flac.*)]
B87'/N4/F/w: "A large tree with an edible red fruit of which the Ifugaos are very fond. The fruit is about the size of a large cherry, and is eaten raw."
- [98] Kúldis [quldih . . .] *Cajanus cajan* Merr. [*C. c.* (L.) Millsp.] (*Leg.*)
B10/Int/N4/F/c: "Pigeon pea. A variety of bean, growing on a small tree with yellow flowers. The beans are eaten, cooked in water. The trees are usually planted in sweet-potato fields."
- [99] Láat an Ába [lāqat qan . . . , (in Amganad, qāba = lāqat or 'corm of lāqat')] *Colocasia antiquorum* Schott var. [*C. esculenta* (L.) Schott] (*Arac.*)
B113/Prh/K3/F/c: "A variety of taro. (See 116.)"
- [100] Láb-bu (NE; Tongzól in SW) [labu . . . (tōñol, in Amganad)] — [*Symplocos* sp. (*Symplo.*)]
B90/End?/N4/V/p: "The bark of this tree is the red dye-stuff used by the Ifugaos, particularly for dyeing red rattan which is used for ornamenting spear-handles and shell-belts. (*Iddum kanaod* [qiddum hi qanāud]. 'Put in with red rattan'). The fruit of the tree is eaten by birds but not by people."
- [101] Lai-i [lāi] *Maoutia setosa* Wedd. (*Urt.*)
B58,B152/End/N4,T6/V/p: B58 "A fiber plant, producing a good fiber which is much used for weaving blankets, skirts, jackets, etc. (See 92, 119.)"
- [102] Lafya [lāya . . .] *Zingiber officinale* [Roscoe] (*Zing.*)
B23/Int/N4/Fr/c: "Ginger. This plant is very extensively cultivated by the Ifugao, and eaten by them almost every day. The root only is eaten, sliced [or scraped] and boiled in water. The roots are dried and kept in bamboo or basket work tubes. They are soaked in warm water a long time before cooking. A confection is sometimes made of it by cooking for a long time in sugarcane juice [?]. It is held to be an efficient remedy in cases of dysentery and other intestinal diseases [?]."
- [103] Lañgñgít [—] *Polygonum chinense* L., var. (*Polygon.*)
B159/L5/N: —.
- [104] Láphi [laphi] *Leucosyke* prob. *hispidissima* Wedd. (*Urt.*)
B162/L5/V/w: —. [See 105.]
- [105] Láphi' [—; laphi] *Boehmeria* sp. (*Urt.*)
B167/L5/V/w: —. [See 104.]
- [106] Lápne an Bakáu [lāgah qan bākaw, or lapnen bākaw (lapne 'tuberous underground, starchy plant part')] [*Ipomoea batatas* Poir.—form. [*I. b.* (L.) Lam.] (*Convolv.*)
B12/Int/N4/F/c: "A variety of white sweet potato. Eaten either boiled in water or roasted in the fire." [See 19.]
- [107] Lávád, or Hápíd [hāpid . . .] *Piper* prob. *belle* L. (*Piper.*)
B148/K3/Vs/c: —.

- [108] Lībûg [—; lībug . . .] *Chenopodium ambrosioides* L. (*Chenop.*)
B51/Int/N4/Vr/p: "Used as a medicine for the *upu* [qūpu] skin disease. Skin is rubbed with the leaves."
[Cf. 109; 138.]
- [109] Lībûg' (SW; Budbúdda in NE) [lībug . . . ; budbuda, in Gohang] *Ageratum conyzoides* L. ([*Comp.*])
B140/K3/Vr/w: —.[Cf. 108; 138.]
- [110] Līu-līu [liwliw] *Ficus hauili* Blanco (*Morac.*), *Ficus philippinensis* Miq. [*F. hauili* Blanco] (*Morac.*)
B61, B145/End/N4, K3/F/w: B61 "Fruit something like a fig, and is eaten by children [?]; eaten by small fruit bats (lettālet)."
- [111] Liyáhon [liyahn] *Panicum palmaefolium* Koenig [*Setaria palmifolia* (Koen.) Stapf.] (*Gram.*)
B21/Ind/N4/Vr/w: "The leaves of this plant are used in a religious ceremony held at the beginning of the rice harvest each year by every family that owns one or more rice fields. A little of the new rice is threshed and cooked, and then wrapped up in some of these leaves. The priest then performs the proper ceremony, at the same time placing the package of cooked rice among the ashes of the fire place. After the ceremony is finished, each member of the family eats a little of the rice [optional]. They are then at liberty to proceed with the harvesting. The ceremony is performed to prevent their contracting the common disease caused by eating too much new rice."
- [112] Lōd-do [lado] *Wendlandia luzoniensis* DC. (*Rub.*)
B88/End/N4/Vs/w: "A tree, the bark and wood of which are chewed (either with, or in the absence of betel-nut [but then causing minimal redness]) together with lime and *hāpid* [hāpid 'betel leaf'], as *mómôn* [momon]."
- [113] Lóngīs [luŋih . . .] *Sesamum indicum* L. (*Pedal.*)
B5/Int/N4/F/c: "Sesame. The small black seeds are greatly prized as a food or confection by the Ifugao *kadāngian* [qadanyan] (highest social class). The seeds are usually preched over the fire, and eaten dry or made into little cakes by the addition of a small quantity of melted cane sugar."
- [114] Lúbân [lubban . . .] *Citrus decumana* L. [*C. grandis* Osbeck] (*Rut.*)
B111/K3/F/c: "The pomelo." [See 115.]
- [115] Lub'bân [lubban . . .] *Citrus decumana* L. [*C. grandis* Osbeck] (*Rut.*)
B25/Int/N4/F/c: "A variety of pomelo, growing on a good-sized tree which is planted in considerable numbers in or near most of the larger Ifugao villages. It is called 'fruit of the women', and is highly prized by them. It does not grow well at elevations above 4000 feet, and I do not remember to have observed any trees in fruit above that elevation." [See 114.]
- [116] Lubīngan [lāqat qan lobēngan . . .] *Colocasia antiquorum* Schott var. [*C. esculenta* (L.) Schott] (*Arac.*)
B1/prh/N4/F/c: "A variety of taro. The leaves only are eaten (after being cooked in water) as the root of this variety does not grow large. Planted in rice fields."
- [117] Lūk'tu [qūbi . . . ; luqtu] *Dioscorea alata* L. (*Diosc.*)
B114/K3/F/c: —.
- [118] Lūngun [bakakku . . .] *Portulaca oleracea* L. (*Port.*)
B116/Cos/K3/V/w: "Purslane. Used for feeding pigs. [?; sometimes eaten as a sidedish] (See 14.)"
- [119] Nāmi [nāme] *Boehmeria multiflora* C. B. Rob. (*Urt.*)
B57/End/N4/V/p: "According to the Ifugaos, this is the female of the *lai-i* [lāi 101], and is used only for propagating that plant. Its own fiber is poor, and is not much used." [Cf. 92, 120.]
- [120] Nǎgáliu [—; qulāhi, qalalāhi; nāluy] *Boehmeria multiflora* C. B. Rob. (*Urt.*)
B160/End/L5/V/p: "(See 92, 119.)" Nǎgáliu gutgútu [See Gutgútu.]
- [121] Nǎgē'-nǎgē'-hēl [—; nehnehel] *Phyllanthus niruri* L. (*Euph.*)
B120/K3/N: —.

- [122] Ónwád (*male*) [qonwadⁿⁱ di qibaliwon]
Cosmos caudatus HBK. (*Comp.*)
 B50/Int/N4/F/p: "The chief ingredient in the yeast (*binokbok*) [binoqboq] used as a ferment in the manufacture of the rice drink (*búbud*) [bayah]. This yeast may be made only [?] by priests, and its making is accompanied by a certain religious ceremony." [qonwad di binoqboq, a form of *Bidens pilosa*, however, is widely considered to be better for this purpose; cf. 87, 123.]
- [123] Ónwád an páyo [qonwad hinan payo]
Bidens pilosa L. (*Comp.*)
 B115/K3/N: —.[See 87, 122.]
- [124] Óplax [qoplah . . .] *Ficus fiskei* Elm. (*Morac.*)
 B8/End/N4/V/c: "The leaves are used by Ifugao wood carvers as a natural sand-paper. For good work rather dry leaves are first used, then green leaves, and a final polish with the juice squeezed from the leaves." [See 10.]
- [125] Págar [pēnet qan pāgal; pāgal] *Rubus fraxinifolius* Poir.—form. [? *R. rosaefolius* Sm., or *R. moluccanus* L.] (*Ros.*)
 B26/Ind/N4/F/p: "A wild mountain raspberry, with a large red berry. Similar to No. 135, but the bush is much larger and is more frequently found growing near the villages or on the walls of the rice terraces. Berries always eaten raw, and chiefly by the children." [Cf. 136.]
- [126] Páge an Gumalēngón [pāgen (tinawon qan dayaqqot qan) qingummal, p. (t.q.d.q.) gumallīnon] *Oryza sativa* L.—form. (*Gram.*)
 B20/Prh/N4/F/c: "A variety of [glutenous] rice." [Cf. 88.]
- [127] Páge an Ipúgo [pāgen (tinawon qan) qipugo . . .] *Oryza sativa* L.—form. (*Gram.*)
 B11/Prh/N4/F/c: "A variety of rice with large white grains, very sweet in flavor, and preferred by the Ifugao to all other varieties. The word *Ipúgo* means 'white' or 'fair' ['nonglutinous']. It is the name applied by the Ifugao to themselves [?], being pronounced either *Ipúgo* or *Ipugáo*—never *Ifugáo* as there is no 'f' in their language." [Cf. 88.]
- [128] Pákak [—; pākak] *Artocarpus communis* Forst. var. [*A. blancoi* (Elm.) Merr.] (*Urt.* [*Morac.*])
 B112/K3/N: —.
- [129] Pakpakkaowit [peqpeqāwoŋ qan mūd pagatna] *Dalbergia polyphylla* Benth. (*Leg.*)
 B158/L5/V/w: —.
- [130] Paktú [paktiw . . .] *Capsicum frutescens* L. (*Sol.*)
 B14, B105/Int/N4, K3/F/c: B14 "Common chili pepper. Used as a seasoning in food. Also sprinkled into the rice drink *búbud* [bayah; búbud 'rice beer malt'] to give it a sharp, biting taste. Claimed to have a clearing effect on the brains of intoxicated persons."
- [131] Pálīya [pāpet . . .] *Momordica balsamina* L. [*M. charantia* L.] (*Cucurb.*)
 B31/Int/N4/F/p: "The long, rough fruit of this vine is cooked in water and eaten. It has a very bitter taste, but is rather liked by the Ifugao."
- [132] Pángot [—; qapatpat . . .; (pāŋot 'darkness')] *Dryopteris luerssenii* C. Chr. (*Polypod.*)
 B39/N4/V/w: "A common fern used for making head-pads with which to carry water-jars, and for making corks for bamboo water-tubes."
- [133] Pawikan [—] *Elephantopus mollis* HBK. (*Comp.*)
 B137/K3/N: —.
- [134] Pía [piyah] *Eclipta alba* [(L.) Hassk. (*Comp.*)
 B52/Ind/N4/Vr/w: "Used as a medicine [?] for *gúlid* [gūlid] and *úpu* [qūpu] skin diseases."
- [135] Pínt [pēnet . . .] *Rubus fraxinifolius* Poir.—form. [? *R. rosaefolius* Sm.] (*Ros.*)
 B16/Ind/N4⁺/F/p: "A wild mountain raspberry, with a bright red berry. Those of the best quality grow on rather high mountains. Near *AuwanĪgid* ['Awan-Igid'; qawwan-qiggid], in north-central Ifugao, is a field covering several acres where a hundred quarts of fine berries

- might be picked any day in the month of March. This field is 5300 feet above sea-level, and is not shaded by trees as it is on a deforested mountain-top. Berries of this species are sometimes planted by the people near their houses. They are always eaten raw, and chiefly by the children." [See 35, 125, 136.]
- [136] Pínit' [pēnet . . .] *Rubus rosaefolius* Sm. (*Ros.*)
B155/K3/F/p: " (See 35, 125, 135.)"
- [137] P'ó [peqo . . .] *Elatostema carinoi* W. R. Shaw (*Urt.*) [*Arac.*]
B59/End/N4/F/p: "Grown [?] in irrigation ditches, and eaten [?] as 'greens'. (Simply cooked in water.)"
- [138] Pudpúdda or Budbúdda [cf. 109] [—] *Coleus igolotorum* Briq. (*Lab.*)
B56/End/N4/Vr/w: "Used as a medicine for the *gúlid* [gúlid] skin disease [?]."
- [139] Pulípul [—; (pulípul 'twist in hand')] *Hyptis brevipes* Poir. (*Lab.*)
B121/K3/N: —.
- [140] Púlót [púlut . . .] *Desmodium sinuatum* Bl. (*Leg.*)
B72/N4/N: "Burs are nasty 'stickers' that get on skirts, clouts, in hair, etc., and have to be pulled out."
- [141] Tabáko [tabáqu . . .] *Nicotiana tabacum* L. (*Sol.*)
B30, B147/Int/N4, K3/Vs/c: B30 "Tobacco. Large quantities raised in Ifugao for home consumption. Excellent quality, if properly cured. Unfortunately, it is ordinarily simply dried in the sun and [its good qualities ruined. The Ifugao never smoke cigars or cigarettes (except to a small extent within the last year or two), but only the pipe. Their pipes are made of hard wood, clay, or metal. The latter are either of pure brass, copper, bronze, or silver, or alloys of those metals. Tobacco is ordinarily grown in the sweet-potato fields. In the eastern part of the Ifugao country, along the Mágat River, a tobacco can be grown equal to first-grade Isabela." B147 "Tobacco."
- [142] Talának [talánaq . . .] *Medinilla astromioides* Triana (*Melas.*)
B75/End/N4/N: "Pigeons are very fond of the fruit of this tree and many are caught there with the *lénḡón* [leḡon] traps used by the Ifugaos."
- [143] Táḡlāḡ [taḡlag] *Themeda gigantea* Hack. (*Gram.*)
B45/Ind/N4/N: —.
- [144] Tíkúm [teqom . . .] — sp. (*Morac.*)
B86/N4/Vsr/w: "A tree. Is a sacred plant, used in many religious ceremonies. When the priests become intoxicated, this plant is supposed to have a sobering effect when the proper ceremony is performed over it [?]. But the most important use is in blackening the teeth with the *punhalúdan* [punhalúdan]. For this, the wood is used, after the removal of the bark."
- [145] Tóba' [tobaq . . .] *Ficus* sp. (*Morac.*)
B97/End?/N4/Vrs/w: "The wood of this tree (which is large) is resonant and is usually used for making the *pát-tonḡ* [pattuḡ], or *baḡḡbaḡ* [baḡḡbaḡ], a sacred musical instrument used in certain ceremonies. The bark is often used as *mómôn* [momon], the same as No. 112; while the rough leaves are used for polishing articles of carved wood."
- [146] Tolábaḡ [tulläbeḡ . . .] *Curculigo recurvata* Dry. (*Amaryll.*)
B69/N4/V/w: "Used by children for warp in making toy looms, etc."
Toḡḡ²ol [See Lab²bu.]
- [147] Túba [tūban qiyālad] *Jatropha curcas* L. (*Euph.*)
B141/K3/V/p: —.
- [148] Túḡḡōḡ [—; (tugguḡ 'fuzz')] *Gnaphalium luteoalbum* L. (*Comp.*)
B65/N4/V/p: "The fiber from the boll (which is something like cotton, but very fine and short) is used for tinder in making fire with flint and steel." [?]
- [149] Túk'bu [tūba . . . ; tuqbu . . .] *Croton tiglium* L. (*Euph.*)
B48/Int/N4/V/p: "A fish poison is made from the berries. A strong solution of this poison is also sometimes used to kill personal enemies."
- [150] Tu²ol or Tíkól [tuwol . . .] *Bischofia javanica* Bl. (*Euph.*)
B84/N4/FV/p: "A tree of hard red wood which is much used in building,

- wood which is much used in building, and in carving wooden bowls, images, etc. Also has a sweet red fruit, which is eaten by the people, and is much prized. Considerable numbers of these trees are planted in the villages." [See 151.]
- [151] Tuwol [tuwol . . .] *Bischofia javanica* Bl. (*Euph.*)
B128/K3/FV/p: "(See 150.)"
Ūd'yo [See Duyung.]
- [152] Uguggip [—] *Phyllanthus* sp. (*Euph.*)
B163/L5/N:—.
U-hŋg [See Hi'ig.]
- [153] Ūmli [qumli (= kamātih qan qiqqītan)]
[*Lycopersicum esculentum* Mill.
[prob. *Lycopersicon esculentum*
Mill. var. *cerasiforme* Alef.] (Sol.)
B15, B123/Int/N4, K3/F/p: B15 "A small wild tomato with a round fruit about the size of a cherry. Found wild along roads and trails, river banks, old village sites, etc. Frequently planted by the people near their houses. Usually eaten raw, but sometimes cooked."
- [154] Un-de [qunde . . .] *Nasturtium montanum* Wall. [*N. indicum* (L.) D.C.] [(*Crucif.*)]
B103/K3/F/p:—.
- [155] Ūnig [qūnig qan nahamad] *Curcuma zedoaria* Rosc. (*Zing.*)
B35/Int/N4/V/c: "The plant from which the yellow dye used by the Ifugao is obtained. Their word for the dye is *kūnig* [qūnig], and the word for yellow is *kinūnig* [qin-nūnig],—both derived from the name of the plant. To make the dye, the roots of the plant are first carefully washed and then pounded in a mortar, with the addition of a little lime (CaO) and water. Then the cotton, ramie, or other fiber to be dyed, is thoroughly rubbed in and with the resulting liquid. It is then dried in the sun, washed in clean water, dried again, and is ready for use. Produces a fast color. Never cooked."
- [156] U-pe [—; (qūpi 'petiole base of taro plants')] [*Albizzia saponaria* (Lour.)] Blume (*Leg.*)
B125/K3/V/w: "Used as a fish poison."
Wāle [A vine; see 37, 80.]

Tables. The four tabular arrangements that follow require little explanation, but a few notes on the conventions employed in their construction, and on the interpretation of their content may be useful.

Table 1 (Ifugao Plant Names Related to the Beyer-Merrill Collection). Ifugao plant names in the entries above are aligned here in two parallel columns, with the alphabetically arranged contemporary Bayninan terms (in italics) on the left, and Beyer's terms of 50 to 60 years back on the right. Synonyms are separated by commas, related but separate segregate and entry labels by semicolons. Comparison of linguistic forms is facilitated by this table though many details noted in the full entry listings have been omitted. In all, 142 Bayninan names are included: 63 of these are non-terminal or "open" general terms (like 'pine,' in relation to 'pitch pine'), as indicated by the ellipses in the main entries; 46 are terminal or "closed" labels (like 'ginkgo' in English), and 16 are specific, terminal folk taxa designations indicated in full only where an exact matching of such labels in both columns is posited (e.g., *dinnolmen lalāqi*: Dolómne an lalaki). Also included at the end are non-Bayninan plant names for which Bayninan associations are not known (18 in all, of which 8 were recorded by Beyer in northeast areas).

In spite of the incompleteness of the lists available, it is interesting to note (cf. Figure 1) the percentages of cognate plant names shared by Bayninan with Banaue (abstracted from the Beyer corpus) and Gohang (derived from Newell's 1957 collection data; see p. 244, above):

Bayninan - Banaue	92%
Bayninan - Gohang	80%

Table 2 (Botanical Names Associated with the Beyer-Merrill Collection). This table provides an index to the botanical names associated with the 156 folk segregates in the main inventory. Where minor discrepancies and corrections have been noted, only the suggested usages are included in this alphabetical listing. I have included main entry numbers, as well as Beyer's Ifugao labels to facilitate cross-referencing. Of the 136 systematic botanical designations, 123 are complete Latin binomials (associated with 141 Ifugao folk taxa reported by Beyer [I

would estimate that the same set of binomials is associated with about 180 terminal folk taxa in Bayninan]), 11 are generic names (associated with 13 Ifugao folk taxa), and 2 are Family names (2 Ifugao segregates). Excluding these last two cases, 108 separate genera are represented.

Table 3 (Botanical Families Represented in the Beyer-Merrill Collection). This is a simple listing of 53 botanical families according to the number of entries (from 16 to 1 each) in which they occur in the main inventory. Within frequency ranks, family

names are arranged alphabetically. Bracketed numbers refer to main entries.

Table 4 (Original Beyer Field Numbers). This index provides a complete accounting for the disposition and entry-status of each of Beyer's original numbers. It allows for the rapid determination of the sequence in which groups of specimens were collected in the field, and in this sense it also reconstructs the only systematic feature of the original manuscript not preserved or made more readily accessible by the other rearrangements and tabular analyses in this paper.

TABLE 1
IFUGAO PLANT NAMES RELATED TO THE BEYER-MERRILL COLLECTION

Bayninan, 1965	Banaue, etc., 1905	Bayninan, 1965	Banaue, etc., 1905
<i>baggūwon</i>	Bagao-wan, Bai-yúkūt	<i>būyut</i>	Búyút
<i>bakakku</i>	Bakáko; Lúngun	<i>dame</i>	Dámi
<i>balagbaq</i>	Balákbak; Baláh-bah	<i>dapidan</i>	Apidan
<i>balátuy</i>	Balátong	<i>dayakkot</i>	(see <i>bayakkot</i>)
<i>balili</i>	(see <i>dinapyuh</i>)	<i>didillag</i>	Díla-dílág
<i>ballanban</i>	Balángbang	<i>dinapyuh</i>	Dinápyuk, Balíli
<i>baluhha</i>	Balúha	<i>dinnolmen babai</i>	Dolómne an babai-i
<i>banatta</i>	Banáтта	<i>dinnolmen laláqi</i>	Dolómne an laláki
<i>banbanilag</i>	Bámbanflág	<i>dogwe</i>	Dógwe
<i>bayal</i>	Bángar an babai-i; Bángar an laláki	<i>donla</i>	Dóngla
<i>baqen di qonwad</i>	Inayán di ónwád	<i>dulāyon</i>	Duláñgon
<i>baqqobaqqo</i>	Báo'-báo'; Bákku	<i>gahhilañ</i>	Gahflañg
<i>batékel</i>	Batékel; (see <i>baggūwon</i>)	<i>galigwīwon, galeqqon</i>	Galigwīwon, Galíh'on
<i>bayakkot</i>	Ba-yak-kót	<i>gapidan</i>	(see <i>dapidan</i>)
<i>bilau</i>	Biláu; Buyáo	<i>gāqo</i>	Gá'o
<i>boktayyon (a)</i>	(see <i>butgi</i>)	<i>gatawwa</i>	Gattaow-wa
<i>bolway</i>	Bólwañg	<i>gayyābat, gayqab,</i> <i>gēqab</i>	Gaiyáhbát; Gai-yá'-bít
<i>budbuda (g)</i>	(see <i>libug</i>)	<i>gudūgud</i>	Gúddúgúd
<i>bugne</i>	Búgne	<i>gugullu</i>	Gugulu
<i>bulligan</i>	Bulligan	<i>gulgulpu</i>	Gugúlpu
<i>bultiq</i>	Búltik	<i>gūlun</i>	Gúlun
<i>buluh</i>	Bulúx; Búllúx	<i>gutgutu</i>	(see <i>gāluu</i>)
<i>būnog</i>	Búnóg	<i>gutmu</i>	Gút-mu
<i>butgi</i>	Bút-gi, Bug-tai-yon, Bak- tai-yon	<i>hālahāla</i>	Hála-hála
		<i>halinhīyon</i>	Halínghīngon

TABLE 1
IFUGAO PLANT NAMES RELATED TO THE BEYER-MERRILL COLLECTION—Continued

Bayninan, 1965	Banaue, etc., 1905	Bayninan, 1965	Banaue, etc., 1905
<i>hāpid</i>	Hápid, Láwád	<i>galayyon</i>	Alai-zyon
<i>haqhaqluŋ</i>	Ha'ha'lúŋ; Hakháklúŋ	<i>gamti</i>	Ámti
<i>hawili</i>	Hawili	<i>ganayup</i>	Anáyop
<i>hinanāya</i>	Hāngánga	<i>qanūman</i>	Anúnōŋ
<i>hīgig</i>	Hi-íŋ, U-zhīg	<i>qapatpat</i>	Apátpat; Appat; Pánŋot
<i>hūman</i>	Húmaŋg	<i>qapidan</i>	(see <i>dapidan</i>)
<i>huyyohuyyop</i>	Húyo-húyop; Hinúyop; Húyop	<i>qappaku</i>	Appáko
<i>kākaw</i>	Kákao	<i>qawwat</i>	Káwat
<i>kapi</i>	Kápi	<i>qilab</i>	Ítáb
<i>kibbauy</i>	Kibaó-úŋg	<i>qonwad</i>	Ónwád; Ónwád an páyo
<i>labu</i>	Láb-bu, Tong-ol	<i>qoplah</i>	Óplax; Aplax
<i>lado</i>	Lód-đo	<i>qūbi</i>	Lúk'tu
<i>lāgah qan bākaw</i>	Lápne an Bakáu	<i>qudyo</i>	Ūd'yo, Dúyúŋg
<i>lāgah qan ballāan</i>	Balánŋag an Lápne	<i>qulāhi</i>	Kalaláhi
<i>lāi</i>	Lai-zi	<i>quldih</i>	Kúldis
<i>laphi</i>	Láphi	<i>qumli</i>	Ūmli
<i>lapnen bākaw</i>	(see <i>lāgah qan bākaw</i>)	<i>qunāqun</i>	Konákon
<i>lapnen ballāan</i>	(see <i>lāgah qan ballāan</i>)	<i>qunde</i>	Un-de
<i>lāqat</i>	Lāat an Ába	<i>qūnig</i>	Ūnīg
<i>lāqat qan lobēŋyan</i>	Lubīŋgan	<i>tabāqu</i>	Tabāko
<i>lāya</i>	Lai'ya	<i>talānaq</i>	Talának
<i>libug</i>	Líbúg; Budbúdda	<i>tanlag</i>	Tánŋlāg
<i>liwliw</i>	Liu-líu	<i>tegom</i>	Tíkúm
<i>liyáhon</i>	Liyáhon	<i>tiqtiqlop</i>	Góm-góm
<i>lubban</i>	Lub'bân; Lúbân	<i>lobaq</i>	Tóba'
<i>luŋh</i>	Lónŋis	<i>tōŋol (a)</i>	(see <i>labu</i>)
<i>luqtu</i>	(see <i>qūbi</i>)	<i>tūba</i>	Túba; Túk'bu
<i>nāme</i>	Námi	<i>tullābey</i>	Tolábāŋg
<i>ŋāluŋ</i>	Ŋáliu gutgútu; Gutgútu; (see <i>qalalāhi</i>)	<i>tuqbu</i>	(see <i>tūba</i>)
<i>ŋehēhel</i>	Ŋé'ngé'-hél	<i>tuwol</i>	Tuwol; Tu-ol, Túkol
<i>pāgal</i>	(see <i>pēnet qan pāgal</i>)		Álbe-béna
<i>pāgen qīŋgummal</i>	Páge an Gumalēŋgón		Baláhiŋ
<i>pāgen qipugo</i>	Páge an Ipúgo; Ipúgo		Buh'wít
<i>pākak</i>	Pákak		Dalípúg
<i>paktiw</i>	Paktíu		Dulúdul
<i>pāpet</i>	Pái'ya		Dumdumāne
<i>payyūkot (k)</i>	(see <i>baggūwon</i>)		Gíwi-gíwi
<i>pēnet</i>	Pínēt		Hanapádon
<i>pēnet qan pāgal</i>	Págar		Hinág'gít
<i>pego</i>	Pí'o		Ká'i-ká'yu
<i>peqpeqāwon</i>	Pakpakkaó-wít		Kiwíngán
<i>piyah</i>	Pía		Langgígít
<i>púlul</i>	Púlót		Pawikan
<i>qaggōhep</i>	Agúhíp		Pudpúdda, Budbúdda
<i>qalalāhi</i>	Ŋáliu; (see <i>qulāhi</i>)		Pulípul
			Túggōŋg
			Uguggíp
			U-zpe

TABLE 2
BOTANICAL NAMES ASSOCIATED WITH THE BEYER-MERRILL COLLECTION

Botanical Name	Entry No.	Ifugao Name (HOB)
<i>Acalypha stipulacea</i>	[37]	Búllûx
<i>Acalypha</i> sp.	[39]	Bulûx
<i>Adenostemma lavenia</i>	[50]	Dolómne an babai-i'
	[51]	Dolómne an laláki
<i>Ageratum conyzoides</i>	[109]	Lísbûg', Budbúdda
<i>Albizia marginata</i>	[82]	Hinággt̃
<i>Albizia saponaria</i>	[156]	U'pe
<i>Amaranthus spinosus</i>	[2]	Alai-yon
<i>Ampelopsis heterophylla</i>	[1]	Agúhíp
<i>Andropogon halepensis propinquus</i>	[15]	Bákku
<i>Andropogon sorghum</i>	[61]	Gá'o
<i>Antidesma bunius</i>	[34]	Búgne
<i>Artocarpus blancoi</i>	[128]	Pákak
<i>Artocarpus integrifolia</i>	[91]	Kákao
<i>Asclepias curassavica</i>	[17]	Baláhig
<i>Athyrium esculentum</i>	[11]	Appáko
<i>Bidens pilosa</i>	[87]	Inayán di ónwád
	[123]	Ónwád an páyo
<i>Bischofia javanica</i>	[150]	Tu'ol, Túkol
	[151]	Tuwol
<i>Blechnum orientale</i>	[8]	Apátpat
<i>Boehmeria multiflora</i>	[92]	Kalaláhi
	[120]	Ńgáliu
	[119]	Námi
<i>Boehmeria nivea</i>	[45]	Dámi
<i>Boehmeria</i> sp.	[105]	Láphi'
<i>Breynia cernua</i>	[83]	Hínúyop
<i>Bryophyllum pinnatum</i>	[20]	Balángbang
<i>Buddleia asiatica</i>	[6]	Anáyop'
	[55]	Dumdumáne
<i>Cajanus cajan</i>	[98]	Kúldis
<i>Callicarpa formosana</i>	[5]	Anáyop
<i>Canna indica</i>	[96]	Kiwíngán
<i>Capsicum frutescens</i>	[130]	Paktú
<i>Ceiba pentandra</i>	[63]	Gattao-wa'
<i>Chenopodium ambrosioides</i>	[108]	Lísbûg
<i>Citrus aurantifolia</i>	[70]	Gugulu'
<i>Citrus grandis</i>	[114]	Lúbân
	[115]	Lub'bân
<i>Citrus mitis</i>	[69]	Gugulu
<i>Clerodendron intermedium</i>	[84]	Húmañg
<i>Coffea arabica</i>	[93]	Kápi
<i>Coix lachryma-jobi</i>	[95]	Kibaó-úñg
<i>Coleus igolotorum</i>	[138]	Pudpúdda, Budbúdda
<i>Colocasia esculenta</i>	[99]	Láat an Ába
	[116]	Lubñgan
<i>Commelina diffusa</i>	[28]	Báñgar an laláki
<i>Cordia blancoi</i>	[7]	Anúnóng
<i>Cordyline fruticosa</i>	[52]	Dóngla
<i>Cosmos caudatus</i>	[122]	Ónwád
<i>Croton tiglium</i>	[149]	Túk'bu
<i>Curculigo recurvata</i>	[146]	Tolábañg
<i>Curcuma zedoaria</i>	[155]	Úñg
<i>Cyperus distans</i>	[79]	Hañgáñga

TABLE 2
BOTANICAL NAMES ASSOCIATED WITH THE BEYER-MERRILL COLLECTION—Continued

Botanical Name	Entry No.	Ifugao Name (HOB)
<i>Dalbergia polyphylla</i>	[129]	Pakpakkao-wít
<i>Decaspermum fruticosum</i>	[38]	Búltík
<i>Desmodium heterocarpum</i>	[85]	Húyo-húyop
	[86]	Húyop
<i>Desmodium sinuatum</i>	[140]	Púlót
<i>Dioscorea alata</i>	[117]	Lók'tu
<i>Dolichos lablab</i>	[89]	Ítáb
<i>Drymaria cordata</i>	[43]	Búyút
<i>Dryopteris luerrsenii</i>	[132]	Pángot
<i>Eclipta alba</i>	[134]	Pífa
<i>Elaeocarpus pendulus</i>	[80]	Hawíli
<i>Elaeocarpus</i> sp.	[97]	Konákon
<i>Elatostema carinoides</i>	[137]	Pí'ó
<i>Elephantopus mollis</i>	[133]	Pawikan
<i>Eleusine indica</i>	[9]	Apídan
	[23]	Balfli, Dinápyuk
<i>Eugenia</i> sp.	[16]	Baláh-bah
	[18]	Balákbak
<i>Euphorbia pilulifera</i>	[25]	Bámbanlág
<i>Eurya acuminata</i>	[77]	Halinghíngon
<i>Ficus fiskei</i>	[124]	Óplax
<i>Ficus hawaii</i>	[110]	Líu-líu
<i>Ficus indica</i>	[67]	Gúddúgútd
<i>Ficus odorata</i>	[10]	Aplax
<i>Ficus</i> sp.	[145]	Tóba'
<i>Garcinia venulosa</i>	[40]	Bínóg
<i>Gironniera glabra</i>	[60]	Galigíwon, Galih'on
<i>Gnaphalium luteoalbum</i>	[148]	Túggónng
<i>Hypericum japonicum</i>	[44]	Dalípúg
<i>Hyptis brevipes</i>	[139]	Pulípul
<i>Imperata cylindrica</i>	[71]	Gúlun
<i>Ipomoea batatas</i>	[19]	Balángag an Lápne
	[106]	Lápne an Bakáu
<i>Isanthera discolor</i>	[68]	Gugúpu
<i>Jatropha curcas</i>	[147]	Túba
<i>Justicia gendarussa</i>	[81]	Hi-ig, U-hítg
(Lauraceae)	[53]	Dulángon
<i>Leucosyke hispidissima</i>	[104]	Láphi
<i>Litsea</i> sp.	[76]	Hála-hála
<i>Lycopersicon esculentum</i>	[153]	Úmli
<i>Macaranga cumingii</i>	[31]	Ba-yak-kót
<i>Maoutia setosa</i>	[101]	Lai-i
<i>Marattia</i> sp.	[33]	Bólwanng
<i>Medinilla astronoides</i>	[142]	Talának
<i>Medinilla elmeri</i>	[21]	Balángbanng'
<i>Melastoma polyanthum</i>	[41]	Bút-gí, Bug-tai-yon, Buk-tai-yon
<i>Mentha arvensis</i>	[3]	Álbe-béna
<i>Microlepis apeluncae</i>	[12]	Appat
<i>Miscanthus japonicus</i>	[42]	Buyáo
<i>Miscanthus sinensis</i>	[32]	Biláu
<i>Momordica charantia</i>	[131]	Páliya
<i>Monochoria vaginalis</i>	[75]	Hakháklúng
<i>Monochoria vaginalis plantaginea</i>	[74]	Ha'ha'lúng

TABLE 2
BOTANICAL NAMES ASSOCIATED WITH THE BEYER-MERRILL COLLECTION—Continued

Botanical Name	Entry No.	Ifugao Name (HOB)
(<i>Moraceae</i>)	[144]	Tíkúm
<i>Nasturtium indicum</i>	[154]	Un ^z de
<i>Nicotiana tabacum</i>	[141]	Tabáko
<i>Oryza sativa</i>	[88]	Ipúgo
	[126]	Páge an Gumaléngón
	[127]	Páge an Ipúgo
<i>Panicum crus-galli</i>	[29]	Báo'-báo'
<i>Phaseolus aureus</i>	[22]	Balátong
<i>Phyllanthus erythrorichus</i>	[65]	Góm ^z góm
<i>Phyllanthus niruri</i>	[121]	Ńgé'ngé'-hél
<i>Phyllanthus simplex</i>	[24]	Balúha
<i>Phyllanthus</i> sp.	[64]	Gíwi-gíwi
	[152]	Uguggip
<i>Piper belle</i>	[107]	Láwád, Hápid
<i>Piper</i> sp.	[26]	Banáta
<i>Pipturus arborescens</i>	[72]	Gutgútu, Ńgáliu gutgútu
<i>Polygonum barbatum</i>	[27]	Bángar an babai-i
	[90]	Ká'i-ká'yu
<i>Polygonum chinense</i>	[103]	Langgigit
<i>Polypodium punctatum</i>	[54]	Dulúdul
<i>Portulaca oleracea</i>	[14]	Bakáko
	[118]	Lúngun
<i>Psidium guajava</i>	[58]	Gai-yá'-bit
	[59]	Gaiyáhbát
<i>Psophocarpus tetragonolobus</i>	[36]	Bulígan
<i>Pterocarpus indicus</i>	[56]	Dúyúng, úd'yo
<i>Ricinus communis</i>	[62]	Gattao ^z wa
<i>Rubus moluccanus</i>	[125]	Págar
<i>Rubus rosaefolius</i>	[35]	Buhwít
	[135]	Pínit
	[136]	Pínit'
<i>Sandoricum indicum</i>	[78]	Hanapádon
<i>Saurauia subglabra</i>	[48]	Dógwe
<i>Sesamum indicum</i>	[113]	Lóngis
<i>Setaria palmifolia</i>	[111]	Liyáhon
<i>Siegesbeckia orientalis</i>	[49]	Dolómne an babai-i
<i>Smithia sensitiva</i>	[66]	Góm ^z góm'
<i>Solanum nigrum</i>	[4]	Ámti
<i>Spilanthes acmella</i>	[47]	Díla-dílág'
<i>Spilanthes grandiflora</i>	[46]	Díla-dílág
<i>Symplocos</i> sp.	[100]	Láb ^z bu, Tong ^z ol
<i>Themeda gigantea</i>	[143]	Tánglág
<i>Urena lobata</i>	[30]	Batékéł
<i>Urena lobata scabriuscula</i>	[13]	Bai-yúkùt, Bagao ^z wan
<i>Vaccinium whitfordii</i>	[73]	Gút ^z mu
<i>Vigna sinensis</i>	[94]	Káwat
<i>Wendlandia luzoniensis</i>	[112]	Lód ^z do
<i>Zea mays</i>	[57]	Gahflaṅ
<i>Zingiber officinale</i>	[102]	Laf'ya

TABLE 3
BOTANICAL FAMILIES REPRESENTED IN THE BEYER-MERRILL COLLECTION

No. of Entries	Family [Entry Number(s)]	No. of Entries	Family [Entry Number(s)]
16	Euphorbiaceae [24, 25, 31, 34, 37, 39, 62, 64, 65, 83, 121, 147, 149, 150, 151, 152]		Malvaceae [13, 30]
15	Gramineae [9, 15, 23, 29, 32, 42, 57, 61, 71, 88, 95, 111, 126, 127, 143]		Piperaceae [26, 107]
13	Leguminosae [22, 36, 56, 66, 82, 85, 86, 89, 94, 98, 129, 140, 156]		Pontederiaceae [74, 75]
12	Compositae [46, 47, 49, 50, 51, 87, 109, 122, 123, 133, 134, 148]		Portulacaceae [14, 118]
9	Urticaceae [45, 72, 92, 101, 104, 105, 119, 120, 137]		Rubiaceae [93, 112]
8	Moraceae [10, 67, 91, 110, 124, 128, 144, 145]		Verbenaceae [5, 84]
5	Myrtaceae [16, 18, 38, 58, 59]		Zingiberaceae [102, 155]
	Polypodiaceae [8, 11, 12, 54, 132]		Acanthaceae [81]
4	Rosaceae [35, 125, 135, 136]		Amaranthaceae [2]
	Rutaceae [69, 70, 114, 115]		Amaryllidaceae [146]
	Solanaceae [4, 130, 141, 153]		Asclepiadaceae [17]
3	Labiatae [3, 138, 139]		Bombacaceae [63]
	Melastomaceae [21, 41, 142]		Boraginaceae [7]
	Polygonaceae [27, 90, 103]		Cannaceae [96]
2	Araceae [99, 116]		Caryophyllaceae [43]
	Convolvulaceae [19, 106]		Chenopodiaceae [108]
	Elaeocarpaceae [80, 97]		Commelinaceae [28]
	Guttiferae [40, 44]		Crassulaceae [20]
	Lauraceae [53, 76]		Cruciferae [154]
	Loganiaceae [6, 55]		Cucurbitaceae [131]
			Cyperaceae [79]
			Dilleniaceae [48]
			Dioscoreaceae [117]
			Ericaceae [73]
			Gesneriaceae [68]
			Liliaceae [52]
			Marattiaceae [33]
			Meliaceae [78]
			Pedaliaceae [113]
			Symplocaceae [100]
			Theaceae [77]
			Ulmaceae [60]
			Vitaceae [1]

TABLE 4
ORIGINAL BEYER FIELD NUMBERS

Beyer No.	Entry	Beyer No.	Entry	Beyer No.	Entry
B1(1)	[116]	B58(11A)	[101]	B115	[123]
B2(2)	[4]	B59(12A)	[137]	B116	[118]
B3(3)	[36]	B60(13A)	[14]	B117	[88]
B4(4)	[22]	B61(14A)	[110]	B118	[15]
B5(5)	[113]	B62(15A)	[12]	B119	[58]
B6(6)	[89]	B63(16A)	[44]	B120	[121]
B7(7)	[94]	B64(17A)	[25]	B121	[139]
B8(8)	[124]	B65(18A)	[148]	B122	[66]
B9(9)	[52]	B66(19A)	[46]	B123	[153]
B10(10)	[98]	B67(20A)	[9]	B124	[95]
B11(11)	[127]	B68(21A)	[3]	B125	[156]
B12(12)	[106]	B69(22A)	[146]	B126	[75]
B13(13)	[11]	B70(23A)	[54]	B127	[2]
B14(14)	[130]	B71(24A)	[27]	B128	[151]
B15(15)	[153]	B72(25A)	[140]	B129	[78]
B16(16)	[135]	B73(26A)	[2]	B130	[29]
B17(17)	[69]	B74(27A)	[87]	B131	[84]
B18(18)	L*	B75(28A)	[142]	B132	[39]
B19(19)	[19]	B76(29A)	[1]	B133	[13]
B20(20)	[126]	B77(30A)	[65]	B134	[82]
B21(21)	[111]	B78(31A)	[5]	B135	[30]
B22(22)	L	B79(32A)	[37]	B136	[34]
B23(23)	[102]	B80(33A)	[26]	B137	[133]
B24(24)	[59]	B81(34A)	[21]	B138	[62]
B25(25)	[115]	B82(35A)	[60]	B139	[79]
B26(26)	[125]	B83(36A)	[86]	B140	[109]
B27(27)	[71]	B84(37A)	[150]	B141	[147]
B28(28)	[32]	B85(38A)	[73]	B142	[91]
B29(29)	L	B86(39A)	[144]	B143	[70]
B30(30)	[141]	B87(40A)	[53]	B144	[10]
B31(31)	[131]	B87'	[97]	B145	[110]
B32(32)	[24]	B88(41A)	[112]	B146	[16]
B33(33)	[45]	B89(42A)	[77]	B147	[141]
B34(34)	[83]	B90(43A)	[100]	B148	[107]
B35(35)	[155]	B91(44A)	[67]	B149	[40]
B36(36)	D**	B92(45A)	[80]	B150	[7]
B37(37)	[1]	B93(46A)	[48]	B151	[33]
B38(38)	[35]	B94(47A)	[81]	B152	[101]
B39(39)	[132]	B95(48A)	[41]	B153	[6]
B40(40)	D	B96(49A)	[50]	B154	[47]
B41(41)	D	B97(50A)	[145]	B155	[136]
B42(42)	[92]	B98(51A)	[76]	B156	[68]
B43(43)	[61]	B99(52A)	[18]	B157	[55]
B44(44)	[42]	B100(53A)	[38]	B158	[129]
B45(45)	[143]	B101(54A)	[31]	B159	[103]
B46(46)	[74]	B102	[90]	B160	[120]
B47(47)	[93]	B103	[154]	B161	[72]
B48(1A)	[149]	B104	[23]	B162	[104]
B49(2A)	[43]	B105	[130]	B163	[152]
B50(3A)	[122]	B106	[96]	B164	[56]
B51(4A)	[108]	B107	[57]	B165	[63]
B52(5A)	[134]	B108	[17]	B166	[64]
B53(6A)	[20]	B109	[85]	B167	[105]
B54(7A)	[49]	B110	[8]	B168	N***
B54'	[51]	B111	[114]	B169	N
B55(8A)	[28]	B112	[128]	B170	N
B56(9A)	[138]	B113	[99]	B171	N
B57(10A)	[119]	B114	[117]		

* L: Lost specimen, no data

** D: Data (ethnobotanical) lacking

*** N: No entry, specimen not from Ifugao

Interpretation and Evaluation

Many of the detailed results of my interpretive analysis of the Beyer-Merrill data have been incorporated in the preceding inventory, tabulations, and accompanying explanations. In this concluding section, I want to draw attention to the overall importance of this early contribution, to highlight features of particular significance, and to discuss briefly some of the implications of this study for ethnobotanical research in general.

The Beyer-Merrill account provides concrete documentation for an important segment of a previously unstudied regional flora and for a large sector of the culturally relevant treatment of that flora. Of special ethnological importance are Beyer's detailed observations on the uses and treatment of particular plants such as the ritually significant *donla* [52] (for general reference to Ifugao folk taxa, I use only forms checked in, and for, Bayninan), *liyahn* [111], *hāgig* [81], and *huyyohuyyop* . . . [83, 85, 86]; the bast fiber plants *lāi* [101], *dame* [45]; the condiment and yeast-ingredient plants *lāya* [102], *paktiw* [130], and *qonwad* [122]; the grain crops, rice (*pāge* . . . [88, 126, 127]) and sorghum (*gāgo* [61]); the ubiquitous sweet potato (*lāgah/lapne* . . . [19, 106]); and such constructionally prominent plants as the dominant runo or canegrass (*bilāu* [32]) and the hardwood tree (*galeqgon* [60]). The value of such well attested statements, relatively rare in the contemporary literature, has been demonstrated recently in a number of comparative studies (e.g., 1, 2). If we exclude high forest vegetation above 5000', the collection covers perhaps one fifth of the local phanerogamic flora. Very few aquatics are represented, and cryptogamically the collection is weak. Ethnobotanically, perhaps a better way to note the relative strengths and weaknesses of the plant documentation is as follows. Using an ethnographically attested breakdown of the northern central Ifugao region into eight vegetationally significant land surface types (13), I can summarize my rough calculations of comprehensiveness, by listing—for each habitat—the estimated percentage of the total number of terminal Ifugao folk taxa. If we include estimates of unique

and intermediate-level folk taxa (like *pāge* 'rice') only, then the percentages rise, as indicated in the second column below:

Habitat	Estimated % of coverage/habitat	
	At terminal level	At more general level
1. Low grassland	3	8
2. Public forest	3	6
3. High grassland	12	45
4. Private forest	8	40
5. Swidden land	4	40
6. House terrace	16	45
7. Ridged terrace	8	20
8. Pond field	4	15

In terms of habitat and cultural treatment, Beyer notes five times as many cultivated or protected plant sources of food as wild ones; whereas for constructional, ritual, and other purposes, he records almost twice as many wild plant sources as cultivated or protected ones.

Ethnographically, food crops are best documented; more than 20 receive special attention, and at least four were collected and reported on from both Banaue and Kiangnan. The descriptions are narrative and Ifugao textual support is sporadic. A limitation which must be recognized in analyzing any partial ethnobotanical study, such as this, is that resulting directly from the incompleteness of the data. The occurrence of other important plants in the area was known to Beyer and Merrill (4, p. 16; 8, pp. 238-239; 18), but their report is based exclusively on actually collected plant specimens. Other segrates are mentioned only incidentally. Any of the following reasons may well have prevented making a more comprehensive collection:

(a) Difficulty in handling or preserving plant specimens (as with *Musaceae*, *Palmaeae*, water plants, etc.), or of obtaining determinable specimens in flower or fruit (as with some bamboos).

(b) Unavailability of plants because of rarity in the collecting areas.

(c) Unavailability of live plant material during the seasons when collections were made.

As a result, a number of well known Ifugao plant types are not listed in the Beyer-Merrill Report. A sampling of these,

including most of the important excluded cultigens, follows. In addition to accidental omission, which is always a possibility (especially with extremely common plant forms), probable special reasons for some of these gaps are indicated by parenthesized symbols (corresponding to the difficulties noted above):

Cultivates (food plants):

<i>bālat</i>	banana (a)
<i>liyug</i>	coconut (a)
<i>qinah</i>	sugar cane (c)
<i>daygu</i>	onion (c)
<i>qamput</i>	garlic (c)
<i>dagāwan</i>	a leafy <i>Brassica</i> (c)
<i>littūqu</i>	a rattan (edible fruits) (a)
<i>taluy</i>	egg plant (c)
<i>kāhuy</i>	manioc (b)
<i>hābug</i>	millet (b)
<i>mani</i>	peanut (b)

Cultivates (other):

<i>qāpoh</i>	cotton
<i>moma</i>	areca palm (construction; betel chew ingredient) (a)
<i>qawāyan</i>	a thick-walled bamboo (construction) (a)

Non-cultivates:

<i>bolbol</i>	Benguet pine (torches, "candles") (b)
<i>quwe</i>	a rattan (a)
<i>qānoh</i>	a thin-walled bamboo (a)
<i>palāyun</i>	a tree (firewood)
<i>gabgab</i>	a tree (shields, construction, etc.)
<i>qanablon</i>	a tree (rapid second growth)
<i>bāgiw</i>	a pond field weed (main constituent of agricultural mounds) (a)
<i>tibaylan</i>	a tree fern (construction, ritual figures) (a)

Beyer's notes on plant uses show similar, or related gaps (e.g., firewood procurement, carving, forging, cotton spinning), but the overall range of his commentary is wide. His remarks are generally specific and historically useful. Comments on practices which can no longer be observed (e.g., teeth-staining [144]) as well as on those still of great cultural importance today, but not previously reported on in the Ifugao literature (e.g., the use of a wild *Setaria* [111]), are particularly noteworthy.

Linguistically, and particularly semologically, Beyer has provided direct evidence for important dialect differences and folk classificational distinctions in the central Ifugao area. While he did not consider either of these topics explicitly, his report does make available regionally specific and well attested usages going back more than a half a century. Problems often met in detailed analyses of folk taxonomies are well illustrated in many of the entries, and I have tried to indicate such instances, wherever possible, with appropriate bracketed comments (e.g., [42], [88, 126, 127]). As might be expected, cultivated plant terminology yielded more complexities than terms for wild plant forms. And there are many suggestions of how terminological changes reflected in present-day Ifugao usage have developed.

Summary. Botanically, ethnobotanically, and linguistically, the Beyer-Merrill report is a rich source of well documented and, for the time it was written, unusually precise observations. By rearrangement and alternative expression of these data, I have attempted various types of interpretive analysis with a view to improving both our knowledge of Ifugao folk botany and our understanding of general ethnobotanical field problems.

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Literature Cited

1. Barrau, Jacques (ed.). 1963. Plants and the migrations of Pacific peoples; a symposium. 136 p. Honolulu: Bishop Museum Press.
2. ———. 1965. Witnesses of the past: notes on some food plants of Oceania. *Ethnology* 4 (3): 282-294. Pittsburgh.
3. Barton, Roy Franklin. 1922. Ifugao economics. Univ. of Calif. Publications in Amer. Archaeology and Ethnology 15: 385-446. Berkeley.
4. Beyer, H. Otley. 1907. The Igorotes. *Philippine Education* 4 (4): 14-18. Manila.
5. ———. 1908. Preliminary map of Ifugao country. Enlarged from map Scale 1: 221,760, made by H. Otley Beyer in 1908. Scale 1:125,000 [ca. 25" x 15"]. Manila: Office Chief Engineer Officer, Philippines Division.
6. ———. 1912. Report on the use of a fermented rice drink in northern Luzon (*in* The alcohol industry of the Philippine Islands, part 3: Fermented beverages which are not distilled). *Philip. Jour. of Sci.* A7 (2): 97-119. Manila.
7. ———. 1913. Origin myths among the mountain peoples of the Philippines. *Philip. Jour. of Science.* D8 (2): 85-116. Manila.
8. Beyer, H. Otley, and Roy Franklin Barton. 1911. An Ifugao burial ceremony. *Philip. Jour. of Sci.* D6 (5): 228-252. Manila.
9. Beyer, H. Otley, and Elmer D. Merrill. 1911. Ifugao economic plants. Typescript, 29 p. (Also included as Paper No. 23 *in* vol. 9 of the series: The history and ethnography of the Ifugao people [mostly unpublished, bound MSS and pls.], compiled by H. Otley Beyer and Roy Franklin Barton, 1912-1926. Manila.)
10. Brown, William H. 1941-1943. Useful plants of the Philippines. Dept. of Agric. and Commerce, Tech. Bull. 10, 3 vols. Manila: Bureau of Printing.
11. Conklin, Harold C. 1957. Hanunóo agriculture, a report of an integral system of shifting cultivation in the Philippines (FAO Forestry Development Paper, No. 12). 209 p. Rome: FAO.
12. ———. 1962. Lexicographical treatment of folk taxonomies. *Internat. Jour. of Amer. Linguistics* 28 (2) (Part IV, Problems in lexicography, edited by Fred W. Householder and Sol Saporta): 119-141. [Publ. 21, Ind. Univ. Res. Center in Anthropology, Folklore, and Linguistics]. Bloomington, Indiana.
13. ———. 1967. Some aspects of ethnographic research in Ifugao. *Transactions of the N. Y. Acad. of Sci. Series II*, vol. 30(1). New York. (In press)
14. Lambrecht, Francis. 1957a [1958]. The Mayawyaw ritual, 7. Hunting and its ritual. *Univ. of Manila Jour. of East Asiatic Studies* 6 (1): 1-28. Manila.
15. ———. 1957b [1961]. Ifugao epic story: Hudhud of Aliguyun at Hananga. *Univ. of Manila Jour. of East Asiatic Studies* 6 (3-4): 1-203. Manila.
16. Malumbres, Julian. 1911. *Vocabulario en castellano, inglés, y ifugao del Quiangan*. 60 p. Manila: Imprenta de Santo Tomas.
17. Merrill, Elmer D. 1903. A dictionary of the plant names of the Philippine Islands. *Bur. of Gov. Laboratories Bull.* 8, p. 1-193. Manila: Bur. of Public Printing.
18. ———. 1922-1926. An enumeration of Philippine flowering plants. *Bur. of Sci. Publ.* 18. 4 vols. Manila: Bureau of Printing.
19. Newell, Leonard E. 1956 [1957]. Phonology of the Guhang Ifugao dialect. *Philip. Jour. of Sci.* 85: (4): 523-539. Manila.
20. [———]. 1958. Ifuago vocabulary. Pre-publication edition. 175 p., mimeo. Manila: Summer Institute of Linguistics.
21. Ravenholt, Albert. 1964. Dr. H. Otley Beyer: pioneer scientist on the frontier in Asia. *American Universities Field Staff Reports Service, Southeast Asia Series (Philippines)* 12 (4): 377-389. New York.
22. Schadenberg, Alexander. 1888. Beiträge zur Ethnographie von Nord-Luzon (Filipinen). *Mitteilungen der anthropologischen Gesellschaft in Wien* 18: 265-271. Vienna.
23. ———. 1889. Beiträge zur Kenntnis der im innern Nordluzons lebenden Stämme.

- Verhandlungen der Berliner Gesellschaft für Anthropologie, Ethnologie, und Urgeschichte **21** (1889): 649-727. Berlin.
24. Schneider, E. E. 1912. Notes on the Mangyan language. *Philip. Jour. of Sci.* **D7** (3): 157-177. Manila.
25. Scott, William Henry (Translator). 1965. "A description of the customs of the peoples of Kiangan, Bunhian and Mayoyao, 1857," by Fray Ruperto Alarcón. *Jour. of the Folklore Inst.* **2** (1): 78-100. The Hague.
26. Steenis-Kruseman, M. J. van. 1950. *Cyclopedia of collectors. Flora Malesiana, Series I, 1*: 1-639, including index. Djakarta: Noordhoff-Kolff N.V.
27. Vanoverbergh, Morice. 1927. Plant names in Iloko. *Jour. of the Amer. Oriental Society* **47** (2): 133-173. New Haven.
28. ———. 1933. A dictionary of Lepanto Igorot or Kankanay as it is spoken at Bauko. *Anthropos, Internationale Sammlung Linguistischer Monographien, XII*. 508 p. Mödling bei Wien: Verlag Anthropos.
29. [Villaverde, Juan Fernandez]. 1911. *Supersticiones de los Igorotes Ifugaos*. Introduction and notes by Julian Malumbres. *El Correo Sino-Annamita ó Correspondencia de las Misiones del Sagrado Orden de Predicadores en China, Tunking, Formosa y Japon*, **38**: 283-455. Manila: Tip. de Sto. Tomás.
30. Yen, D. E. 1963. Sweet-potato variation and its relation to human migration in the Pacific. P. 93-117 in *Plants and the migrations of Pacific peoples*, edited by Jacques Barrau. Honolulu: Bishop Museum Press.