

ORIGINAL ARTICLE

Medicinal plants used in the Kutchum District, Yasothon Province, Thailand

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ABSTRACT

A survey on medicinal plants in Kutchum District, Yasothon Province, Thailand was carried out by interviewing, collecting and identifying the plant specimens, and also comparing the plant specimens with the authentic specimens at two herbaria, i.e. Sirindhorn Herbarium (Bangkok Herbarium, BK), Botany Section, Botany and Weed Science Division, Department of Agriculture Ministry of Agriculture and Cooperatives and the Royal Forest Herbarium (BKF), National Park, Wildlife and Plant Conservation Department. One hundred and eighty-eight medicinal plants which were commonly used were reported.

Keywords: Medicinal plants, Kutchum District, Yasothon Province, Thailand

การสำรวจสมุนไพรพื้นบ้านอำเภอकुตชุม จังหวัดยโสธร

วงศ์สถิตย์ ฉั่วกุล พร้อมจิต ศรีลัมพ์ อัมพล บุญเปล่ง

บทคัดย่อ

ในการสำรวจสมุนไพรพื้นบ้าน อำเภอคุตชุม จังหวัดยโสธร โดยการสัมภาษณ์หมอพื้นบ้านเกี่ยวกับสมุนไพรที่ใช้ ชื่อพื้นเมือง ส่วนที่ใช้ ประโยชน์และวิธีใช้ พร้อมทั้งเก็บตัวอย่างสมุนไพรจัดทำเป็นตัวอย่างพืชแห้ง ตรวจเอกลักษณ์พืชด้วยรูปวิธาน และเปรียบเทียบตัวอย่างพืชที่พิพิธภัณฑ์พืชสิรินธร กรมวิชาการเกษตร กระทรวงเกษตรและสหกรณ์ และหอพรรณไม้ กรมอุทยาน สัตว์ป่า และพรรณพืช กระทรวงทรัพยากรและสิ่งแวดล้อม รวบรวมพรรณไม้ได้ทั้งหมด 188 ชนิด

INTRODUCTION

Yasothon is one of seventeen provinces in North-eastern part of Thailand which has been separated to be a district from Ubon Ratchathani

Province. This province has some enriched forest areas to conserve natural resources such as wild animals, medicinal plants and also edible plants.

Besides sixty two medicinal plants recommended in the primary health care project by Ministry of Public Health, there are many other indigenous medicinal plants used by the herbalists which were not recorded. This survey was carried out to conserve the native know-ledge about the folkloric medicine and search for new sources of modern drugs investigation.

MATERIALS AND METHODS

This survey was performed by interviewing the chief of herbalist about the medicinal plants commonly used and collecting their plant specimens for taxonomical identification during October 1999 to September 2000. The collected specimens were compared with the authentic specimens at two herbaria, i.e. Sirindhon Herbarium (Bangkok Herbarium, BK), Botany Section, Botany and Weed Science Division, Department of Agriculture, Ministry of Agriculture and Cooperatives and the Forest Herbarium (BKF), National Park, Wildlife and Plant Conservation Department.

RESULTS AND DISCUSSION

During the survey, one hundred and eighty-eight kinds of medicinal plants which were commonly used by the chief herbalist were identified and collected as deposited in Table 1. After proper taxonomical identification, they could be assigned to two groups: one hundred and sixty-six dicots and twenty-two monocots which belonging to fifty and twelve families, respectively as deposited in Table 2. Species are arranged alphabetically under their respective families which are also arranged alphabe-

tically. The botanical names/ is followed by its Thai names/ part(s) used/ ethnomedical uses/ its medicinal preparation and administration/ collector's number at Pharmaceutical Botany Mahidol Herbarium (PBM), the Department of Pharmaceutical Botany, Faculty of Pharmacy, Mahidol University/ and references. The floristic list composed during the survey is dominated by higher plants belonging to predominant families, twenty-two Fabaceae (Leguminosae), sixteen Euphorbiaceae, thirteen Rubiaceae, twelve Annonaceae and ten Zingiberaceae. Medicinal plants are used frequently for the treatment of antipyretic, for paresis, tonic and for bodily discomfort (Table 3). Forty-four formula for use of medicinal plants by the Kutchum District, Yasothon Province deposited in Table 4.

Nine kinds were newly recorded as medicinal plants in Thailand, i.e. *Canthium berberidifolium*, *Chionanthus velutinus*, *Ellipeiopsis ferruginea* var. *cherrevensis*, *Eulophia attenuatum*, *Goniothalamus laoticus*, *Sophora exigua*, *Tabernaemontana bufalina*, *Typhonium flagelliforme* and *Xylopiavielana*.

Since the native Thai flora is so rich and Kutchum District, Yasothon Province has a rich biodiversity, the amount of ethnobotanical information in Kutchum District, Yasothon Province is extensive and needs further study. We hope that the results reported here will contribute to our appreciation of the natural resources of Thailand and it is expected that ethnobotanical research conducted in Kutchum District, Yasothon Province that might be led to the discovery of potentially valuable pharmaceuticals.

Table 1 Distribution of medicinal plants over different families

Family name	Botanical name/ Local name-Thai name/ Part used/ Ethnomedical use/ Preparation/ Collector (References)
Acanthaceae	<i>Rhinacanthus nasutus</i> Kurz/ Thong phan chang-Thong phan chang/ leaf/ bodily discomfort (Formula-1)/ decoction, drink/ Wong 2335 (Cramer, 1998) <i>Thunbergia laurifolia</i> L./ Namnae-Rangchuet/ leaf/ paralysis (Formula-2)/ decoction, drink/ Wong 2528 (Cramer, 1998)
Agavaceae	<i>Sanseveria cylindrica</i> Boj./ Nga chang khieo-Wan nga chang/ leaf/ pruritus/ mix with other plants, boil in vegetable oil, apply locally/ Wong 2522 (Graf, 1978)
Amaryllidaceae	<i>Crinum asiaticum</i> L./ Phlapphueng-Phlapphueng dok khao/ leaf/ fever (Formula-3)/ decoction, drink/ Wong 2370 (Geerinck, 1993)
Anacardiaceae	<i>Buchanania siamensis</i> Miq./ Ruang sai-Thanon chai/ wood/ leucorrhoea (Formula-4)/ decoction, drink/ Wong 2540 (Chayamarit 1994) <i>Mangifera indica</i> L. / Ma muang-Ma muang/ stem bark/ fever (Formula-3)/ decoction, drink/ Wong 2376 (Chayamarit 1994) <i>Spondias pinnata</i> (L. f.) Kurz/ Ma kok-Ma kok/ root/ fever (Formula-5)/ decoction, drink/ Wong 2389 (Chayamarit 1994)
Ancistrocladaceae	<i>Ancistrocladus tectorius</i> (Lour.) Merr./ Hang kwang phu-Lin kwang/ root/ bodily discomfort (Formula-6)/ decoction, drink/ Wong 2427 (Van Steenis 1958)
Annonaceae	<i>Annona reticulata</i> L./ Mak rot-Noinong/ leaf/ paralysis (Formula-7), crush, poultice; diuretic (Formula-8), decoction, drink/ Wong 2430 (Sinclair, 1955) <i>Annona squamosa</i> L./ Mak khiap-Noina/ leaf/ fever (Formula-3), decoction, drink; paralysis (Formula-7), crush, poultice/ Wong 2371 (Sinclair, 1955) <i>Anomianthus dulcis</i> (Dunnal) J. Sinclair (<i>Ellipeia dulcis</i> (Dunnal) C. Meade/ Tintang-Nom wua/ stem/ jaundice (Formula-9)/ decoction, drink/ Wong 2512 (Sinclair, 1955; Meade, 2000) <i>Cananga latifolia</i> Finet & Gagnep./ Taeng saeng-Sakae saeng/ root/ infectious diseases in early childhood (Formula-10)/ decoction, drink/ Wong 2481 (Sinclair, 1955)

Table 1 Distribution of medicinal plants over different families (cont.)

Family name	Botanical name/ Local name-Thai name/ Part used/ Ethnomedical use/ Preparation/ Collector (References)	
Annonaceae (cont.)	<i>Ellipeiopsis ferruginea</i> (Buch.-Ham. ex Hook. f. & Thomson) R. E. Fr. var. <i>cherrevensis</i> (Pierre ex Finet & Gagnep.) C. Meade/ Tintang tia-Nom maeo pa/ root/ jaundice (Formula-9); diabetes mellitus (Formula-11)/ decoction, drink/ Wong 2414 (Kurz, 1974)	
	<i>Goniothalamus laoticus</i> (Finet & Gagnep.) Bân/ Khao lam-Khao lam/ stem/ infectious diseases in early childhood/ macerate in water, drink/ Wong 2401 (Kessler, Jessup & Kruijer, 1995)	
	<i>Melodorum fruticosum</i> Lour./ Lamduan-Lamduan/ wood/ laxative, infectious diseases in early childhood/ decoction, drink/ Wong 2524 (Kessler, Jessup & Kruijer, 1995)	
	<i>Melodorum siamense</i> (Scheff.) Bân/ Nam choi-Nom maeo/ root/ insect bite/ powder and mix with lime juice, apply locally/ Wong 2431 (Kessler, Jessup & Kruijer, 1995; Sinclair, 1955)	
	<i>Polyalthia cerasoides</i> Benth. ex Bedd./ Saiden-Kachian/ wood, root-galactogogue (Formula-12)/ decoction, drink/ Wong 2422 (Sinclair, 1955)	
	<i>Polyalthia debilis</i> (Pierre) Finet & Gagnep./ Lokkhok-Kluai tao/ root/ bodily discomfort/ decoction, drink/ Wong 2417 (Ast, 1938)	
	<i>Polyalthia evecta</i> (Pierre) Finet & Gagnep./ Tong laeng-Nom noi/ root/ galactogogue, stomach pain/ decoction, drink/ Wong 2388 (Sinclair, 1955)	
	<i>Xylopiá vielana</i> Pierre/ That thang-Kluai noi/ root/ fever (Formula-13)/ decoction, drink/ Wong 2507 (Sinclair, 1955)	
	Apocynaceae	<i>Aganonerion polymorphum</i> Pierre ex Spire/ Som lom-Som lom/ root/ bodily discomfort (Formula-14)/ decoction, drink/ Wong 2460 (Middleton, 1999)
		<i>Aganosma marginata</i> (Roxb.) G. Don/ Khrua sai tan-Mok khrua/ shoot-dysentery, stem-diarrhoea/ decoction, drink/ Wong 2352 (Middleton, 1999)
<i>Alyxia schlechteri</i> H. Lev./ Tangtun-Tangtun/ stem-gonorrhoea, leukorrhoea; root-infectious diseases in early childhood (Formula-15)/ decoction, drink/ Wong 2344 (Middleton, 1999)		

Table 1 Distribution of medicinal plants over different families (cont.)

Family name	Botanical name/ Local name-Thai name/ Part used/ Ethnomedical use/ Preparation/ Collector (References)
Apocynaceae (cont.)	<i>Holarrhena pubescens</i> (Buch.-Ham.) Wall. ex G. Don/ Mok-Mok luang/ stem bark/ dysentery/ decoction, drink/ Wong 2342 (Middleton, 1999)
	<i>Ichnocarpus frutescens</i> R. Br./ Khruea sut daeng-Khruea pla song daeng/ root/ bodily discomfort/ decoction, drink/ Wong 2498 (Middleton, 1999)
	<i>Plumeria rubra</i> L./ Champa khao-Lanthom/ wood/ paralysis (Formula-15); pruritus (Formula-16)/ decoction, drink/ Wong 2467 (Middleton, 1999)
	<i>Strophanthus caudatus</i> (L.) Kurz/ Nong-Khruea nong/ latex/ poison for animal hunting/ as arrow poison for animal hunting/ Wong 2406 (Middleton, 1999)
	<i>Tabernaemontana bufalina</i> Lour./ Phut pa-Phrik pa/ root/ cough, sore throat/ eat freshly/ Wong 2453 (Middleton, 1999)
Araceae	<i>Typhonium flagelliforme</i> (Lodd.) Blume/ Wan dakdae-Sa oy/ tuber/ abscess, insect bite/ powder, apply locally/ Wong 2479 (Sookchaloem, 1995)
Araliaceae	<i>Schefflera elliptica</i> (Blume) Harms/ Phaya mue hai-Niu mue phra narai/ stem/ jaundice (Formula-9)/ decoction, drink/ Wong 2517 (Backer CA, Bakhuizen Van Den Brink, 1965)
Asclepiadaceae	<i>Dregea volubilis</i> Benth. ex Hook. f./ Nguan mu-Krathung ma ba/ stem/ chronic gastro-intestinal ailment in children/ macerate in water, drink/ Wong 2351 (Costantin, 1936)
	<i>Myriopteron extensum</i> Schum./ Cha em-Cha-em/ stem, root/ cough (Formula-17)/ decoction, drink/ Wong 2384 (Costantin, 1936)
	<i>Streptocaulon juvenas</i> Merr./ Thai song-Thao prasong/ latex-angular stomatitis, apply locally; root-snake bite, powder, apply locally/ Wong 2338 (Costantin, 1936)
	<i>Tylophora indica</i> Merr./ Kao nangni-Khanthuli/ root/ infectious diseases in early childhood/ aqueous maceration (IU+BA)/Wong 3501 (Costantin, 1936)

Table 1 Distribution of medicinal plants over different families (cont.)

Family name	Botanical name/ Local name-Thai name/ Part used/ Ethnomedical use/ Preparation/ Collector (References)
Convolvulaceae	<i>Argyreia osyrensis</i> (Roth) Choisy/ Chicho-Hun/ root/ paralysis (Formula-2)/ decoction, drink/ Wong 2527 (Van Ooststroom, 1954) <i>Erycibe cochinchinensis</i> Pierre/ Nao duean ha-Changsan sap man/ stem/ laxative (Formula-21)/ decoction, drink Wong 3502 (Gagnep and Courchet, 1915)
Costaceae	<i>Costus speciosus</i> (Koen.) Sm./ Ueang-Ueang mai na/ stem/ otitis media/ heat, express, apply locally/ Wong 2402 (Backer & Bakhuizen Van Den Brink, 1968.)
Cucurbitaceae	<i>Solena amplexicaulis</i> (Lam.) Gandhi/ Bung len-Tamlueng tua phu/ root/ typhoid (Formula-24, 25)/ decoction, drink/ Wong 2452 (Philcox, 1997)
Dilleniaceae	<i>Dillenia hookeri</i> Pierre/ San tia-San din/ root/ diarrhoea (Formula-22); leucorrhoea (Formula-4)/ decoction, drink/ Wong 2357 (Hoogland, 1972) <i>Dillenia ovata</i> Wall. ex Hook. f. & Thomson/ San yai-San bai lek/ root/ infectious diseases in early childhood (Formula-15)/ decoction, drink/ Wong 2488 (Hoogland, 1972) <i>Tetracera loureiri</i> Pierre/ Lin haet-Rotsukhon/ stem/ eye pain/ cut and drop sap/ Wong 2526 (Hoogland, 1972)
Dipterocarpaceae	<i>Anisoptera costata</i> Korth./ Bak-Krabak/ stem bark/ pruritus/ boil and bath/ Wong 2502 (Ashton, 1982) <i>Shorea roxburghii</i> G. Don/ Kayom Phayom/ stem bark/ wounds/ powder and apply locally or boil and wash/ Wong 2454 (Smitinand, Vidal & Ho, 1990)
Dracaenaceae	<i>Dracaena loureiri</i> Gagnep./ Chan daeng-Chan daeng/ wood/ fever (Formula-3); typhoid (Formula-24, 25)/ decoction, drink/ Wong 2363 (Gagnepain, 1934)
Ebenaceae	<i>Diospyros decandra</i> Lour./ Chan khao-Chan/ stem/ typhoid (Formula-24)/ decoction, drink/ Wong 2545 (Phengklai, 1981) <i>Diospyros ehretioides</i> Wall./ Hian kwang-Taptao ton/ root/ fever, powder, eat; leucorrhoea (Formula-25), decoction, drink/ Wong 2496 (Phengklai, 1981) <i>Diospyros ferrea</i> Bakh./ Khi nu-Lambit/ root/ fever (Formula-5)/ decoction, drink/ Wong 2390 (Phengklai, 1981) <i>Diospyros filipendula</i> Pierre ex Lec./ Tum chong-Lambit dong/ stem/ typhoid/ powder, eat/ Wong 2394 (Phengklai, 1981)

Table 1 Distribution of medicinal plants over different families (cont.)

Family name	Botanical name/ Local name-Thai name/ Part used/ Ethnomedical use/ Preparation/ Collector (References)
Euphorbiaceae (cont.)	<i>Suregada multiflora</i> Baill./ Duk sai-Khan thong phayabat/ root-paralysis (Formula-32); stem-laxative/ decoction, drink/ Wong 2505 (Airy Shaw, 1972) <i>Trigonostemon reidioides</i> (Kurz) Craib/ Lot thanong khao-Lot thanong/ root/ snake bite (formula-30)/ powder, apply locally/ Wong 2348 (Airy Shaw, 1972)
abaceae (Leguminosae)-	<i>Afzelia xylocarpa</i> (Kurz) Craib/ Ma kha yai-Ma kha mong/ root/ fever (Formula-33)/ decoction, drink/ Wong 2519 (Larsen, Larsen & Vidal, 1984)
Caesalpinioideae	<i>Bauhinia penicilliloba</i> Pierre ex Gagnep./ Sieo tia, Phu thao lom luk-Sieo daeng/ tonic/ decoction, drink/ Wong 2536 (Larsen, Larsen & Vidal, 1984) <i>Bauhinia strychnifolia</i> Craib/ Ya nang daeng-Khayan/ root-fever (Formula-3), root or leaf or stem-diarrhoea, food poisoning/ decoction, drink/ Wong 2362 (Larsen, Larsen & Vidal, 1984) <i>Caesalpinia sappan</i> L./ Fang-Fang/ wood/ cough (Formula-17)/ decoction, drink/ Wong 2386 (Larsen, Larsen & Vidal, 1984) <i>Cassia fistula</i> L./ Khun-Ratchaphruek/ root/ bodily discomfort (Formula-23)/ decoction, drink/ Wong 2478 (Larsen, Larsen & Vidal, 1984) <i>Senna occidentalis</i> (L.) Link/Letkhet-Chumhet lek/ root/ fever (Formula-34)/ decoction, drink/ Wong 2549 (Hou, Larsen & Larsen 1996) <i>Senna tora</i> (L.) Roxb./ Laplue noi/ root/ fever (Formula-34)/ decoction, drink/ Wong 2550 (Hou, Larsen & Larsen 1996) <i>Sindora siamensis</i> Teijsm. ex Miq. var. <i>siamensis</i> / Ma kha lek-Ma kha tae/ root/ fever (Formula-33)/ decoction, drink/ Wong 2520 (Larsen, Larsen & Vidal, 1984)
Fabaceae (Leguminosae)- Mimosoideae	<i>Xylia xylocarpa</i> (Roxb.) Taub. var. <i>kerrii</i> (Craib & Hutch.) Nielsen/ Daeng-Daeng/ stem bark-fever (Formula-3), decoction, drink; stem bark-wounds, powder and apply locally or boil and wash; root-bodily discomfort (Formula-23)/ decoction, drink/ Wong 2374 (Nielsen, 1985)

Table 1 Distribution of medicinal plants over different families (cont.)

Family name	Botanical name/ Local name-Thai name/ Part used/ Ethnomedical use/ Preparation/ Collector (References)
Fabaceae (Leguminosae)-	<i>Abrus precatorius</i> L./ Ma klam ta khwai-Ma klam ta nu/ stem/ wounds/ crush, poultice/ Wong 2393 (Van Thuan, Phon & Niyomdham, 1987)
Papilionoideae	<p><i>Butea superba</i> Roxb./ Chan khrueta-Thong khrueta/ tuber/ tonic/ decoction, drink/ Wong 2340 (Van Thuan, 1979)</p> <p><i>Crotalaria pallida</i> Aiton/ Hinghai-Hingmen/ root/ fever (Formula-34)/ decoction, drink/ Wong 2551 (Niyomdham, 1978)</p> <p><i>Dalbergia cultrata</i> Graham ex Benth./I meng-Kraphi khao khwai/ stem bark/ fever (Formula-3)/ decoction, drink/ Wong 2492 (Niyomdham, Ho, Phon and Vidal, 1997)</p> <p><i>Dendrolobium lanceolatum</i> (Dunn.) Schindl./ Duk ueng-Klaep nu/ root/ pruritus (Formula-16)/ decoction, drink/ Wong 2466 (Phon, Ohashi and Vidal, 1994)</p> <p><i>Flemingia stricta</i> Roxb. ex Aiton/ Thua hae lueat ton-Hang suea/ root/ fever/ decoction, drink/ Wong 2465 (Van Thuan, 1979)</p> <p><i>Milletia pendula</i> Benth./ Chakkachan-Krathon/ wood/ fever/ decoction, drink/ Wong 2523 (Hooker, 1897)</p> <p><i>Phyllodium longipes</i> (Craib) Schindl./ Ka sam pik, Klet lin yai-Klet pla/ root/ bodily discomfort (Formula-6); cancer (Formula-35)/ decoction, drink/ Wong 2428 (Phon, Ohashi & Vidal, 1994)</p> <p><i>Phyllodium pulchellum</i> (Benth.) Desv./ Klet lin noi-Klet pla chon/ root/ cancer (Formula-35)/ decoction, drink/ Wong 2470 (Phon, Ohashi & Vidal, 1994)</p> <p><i>Sophora exigua</i> Craib/ Nom ratchasi-Phitsanat/ root/ galactogogue (Formula-36)/ decoction, drink/ Wong 2532 (Van Thuan, Phon & Niyomdham, 1987)</p> <p><i>Tephrosia siamensis</i> Drumml./ Khang luei-Khang luei tua phu/ root/ diarrhoea (Formula-36)/ decoction, drink/ Wong 2355 (Gagnepain, 1913)</p> <p><i>Uraria acaulis</i> Schindl./ Khi non-Hang krarak/ leaf-wormicide, place leaf on macerated fish jar; root-preservative, mix with other medicinal plants and boil; root-pruritus (Formula-37), decoction, drink/ Wong 2425 (Van Thuan, Phon & Niyomdham, 1987)</p> <p><i>Uraria crinita</i> (L.) Desv. ex DC./ Khi non-Hang ma chok/ leaf-wormicide, root-preservative/ place leaf on macerated fish jar, mix with other medicinal plants and boil/ Wong 2361 (Van Thuan, Phon & Niyomdham, 1987)</p>

Table 1 Distribution of medicinal plants over different families (cont.)

Family name	Botanical name/ Local name-Thai name/ Part used/ Ethnomedical use/ Preparation/ Collector (References)
Flacourtiaceae	<i>Casearia grewiifolia</i> (L.) Vent. var. <i>grewiifolia</i> / Kho laen-Kruai pa/ root/ bodily discomfort (Formula-23)/ decoction, drink/ Wong 2476 (Sleumer, 1985)
Hypoxidaceae	<i>Curculigo orchidoides</i> Gaertn./ Si din-Wan phrao/ root/ acne/ powder, apply locally/ Wong 2497 (Geerinck, 1993)
Irvingiaceae	<i>Irvingia malayana</i> Oliv. ex A. Benn./ Kabok-Kabok/ stem bark/ bodily discomfort (Formula-25), crush, poultice; fever (Formula-3), decoction, drink/ Wong 2360 (Phengklai, 1981)
Lamiaceae (Labiatae)	<i>Clerodendrum paniculatum</i> L./ Phuangphi daeng-Nom sawan/ root/ leukorrhoea (Formula-20)/ decoction, drink/ Wong 2457 (Dop, 1936) <i>Clerodendrum schmidtii</i> Clarke/ Phuangphi khao-Phut racha/ root/ leukorrhoea (Formula-20)/ decoction, drink/ Wong 2456 (Dop, 1936) <i>Hymenopyramis brachiata</i> Wall./ Pha om ton-Kraduk kop/ stem/ petic ulcer, hematinic/ decoction, drink/ Wong 2451 (Dop, 1936) <i>Premna nana</i> Coll. & Hemsl./ Khao yen tai-Khon kratae/ root/ diabetes mellitus (Formula-11); cancer (Formula-27)/ decoction, drink/ Wong 2416 (Dop, 1936)
Lauraceae	<i>Cassytha filiformis</i> L./ Khrua khao kham-Sangwan phra in/ whole plant/ paralysis (Formula-7)/ crush, poultice/ Wong 2448 (Backer & Bakhuizen Van Den Brink, 1963) <i>Cinnamomum camphora</i> (L.) T. Nees & C. H. Eberm./ Karabun ton-Karabun/ root, leaf/ fever (Formula-3)/ decoction, drink/ Wong 2491 (Backer & Bakhuizen Van Den Brink, 1963)
Lecythidaceae	<i>Barringtonia acutangula</i> Gaertn. subsp. <i>acutangula</i> / Chik-Chik na/ stem bark/ wounds/ boil and wash/ Wong 2432 (Chantaranothai, 1995)
Leeaceae	<i>Leea indica</i> (L.) Merr./ Tang kai-Katang bai/ root/ diarrhoea (Formula-37); hallucination (Formula-39)/ decoction, drink/ Wong 2354 (Ridsdale, 1974) <i>Leea rubra</i> Blume/ Kamlang lueat khang-Khueang/ root/ diarrhoea; hallucination (Formula-39)/ decoction, drink/ Wong 2535 (Ridsdale, 1974)

Table 1 Distribution of medicinal plants over different families (cont.)

Family name	Botanical name/ Local name-Thai name/ Part used/ Ethnomedical use/ Preparation/ Collector (References)
Leeaceae (cont.)	<i>Leea setuligera</i> Clarke/ Kamlang lueat khang-Thukhluwo/ root/ bodily discomfort (Formula-26)/ decoction, drink/ Wong 2541 (Ridsdale, 1974)
	<i>Leea thorelii</i> Gagnep./ Kamlang lueat khang-Katang bai tia/ root/ tonic; hallucination (Formula-39)/ decoction, drink/ Wong 2341 (Ridsdale, 1974)
Melastomaceae	<i>Melastoma malabathricum</i> L. var. <i>malabathricum</i> / En a daeng-Khlongkhlang khi nok/ root/ gonorrhoea, leukorrhoea/ decoction, drink/ Wong 2343 (Bremer, 1987)
	<i>Memecylon edule</i> Roxb. var. <i>edule</i> / Mueat ae-Phlong mueat/ wood/ powder, eat/ Wong 2506 (Maxwell, 1989)
	<i>Memecylon celastrineum</i> Kurz/ Miat-tamongkhong/ root/ ingredient for fever/ decoction, drink/ Wong 2464 (Hooker, 1897)
Menispermaceae	<i>Tiliacora triandra</i> (Colebr.) Diels/ Ya nang-Ya nang/ root/ malaria (Formula-19)/ decoction, drink/ Wong 2412 (Forman, 1991)
	<i>Tinospora crispa</i> (L.) Miers ex Hook. f. & Thomson/ Khrua khao ho-Boraphet/ stem/ hemorrhoid (Formula-40)/ decoction, drink/ Wong 2501 (Forman, 1991)
Moraceae	<i>Ficus hispida</i> L. f./ Dua pong-Ma dua plong/ root/ fever (Formula-41)/ decoction, drink/ Wong 2399 (King, 1888)
	<i>Ficus racemosa</i> L./ Dua chumphon-Ma dua uthumphon/ root/ fever (Formula-41)/ decoction, drink/ Wong 2508 (Kochummen, 1978)
	<i>Maclura cochinchinensis</i> Corner/ Khe, Wua thaloeng/ stem/ tonic/ alcoholic maceration (IU)/ Wong 3500 (Corner, 1962)
Moringaceae	<i>Moringa oleifera</i> Lam./ Ma rum-Ma rum/ stem bark/ bodily discomfort (Formula-27)/ crush, poultice/ Wong 2435 (Van Steenis, 1949)
Myristicaceae	<i>Knema globularia</i> (Lam.) Warb./ Lueat nok-Han/ stem/ <i>Dioscorea hispida</i> Dennst. intoxication/ powder, eat/ Wong 2495 (De Wilde, 1979)
Myrsinaceae	<i>Ardisia crenata</i> Roxb. var. <i>crenata</i> / Kon cham-Cham khrua/ root, stem/ jaundice (Formula-9)/ decoction, drink/ Wong 2516 (Larsen & Hu, 1996)
	<i>Embelia ribes</i> Burm. f./ Som khi mot-Som kung/ root/ fever (Formula-13), diuretic/ decoction, drink/ Wong 2429 (Larsen & Hu, 1996)

Table 1 Distribution of medicinal plants over different families (cont.)

Family name	Botanical name/ Local name-Thai name/ Part used/ Ethnomedical use/ Preparation/ Collector (References)
Myrtaceae	<i>Psidium guajava</i> L./ Mak khiap-Pharang/ stem bark/ wounds/ boil and wash/ Wong 2436 (Backer & Bakhuizen Van Den Brink, 1963) <i>Tristanopsis rufescens</i> (Hance) P. G. Wilson & J. T. Waterhouse/ Kao-Kao/ stem bark/ wounds/ mix with salt, boil and wash/ Wong 2339 (Craib, 1931)
Oleaceae	<i>Chionanthus ramiflorus</i> Roxb./ Ma ri-Uap dam/ root/ uterus infection/ decoction, drink/ Wong 2529 (Kiew, 1989) <i>Chionanthus velutinus</i> (Kerr) P. S. Green/ Phia phan-Khieo phan/ root/ bodily discomfort/ decoction, drink/ Wong 2533 (Green, 2000)
Orchidaceae	<i>Eulophia attenuatum</i> Griff./ Wan Ueng-Wan Ueng/ tuber/ insect bite, powder and apply locally; headache (Formula-42), decoction, drink/ Wong 2504 (Seidenfaden, 1983)
Pandanaceae	<i>Pandanus odoratissimus</i> L. f./ Ket-Lamchiak/ root/ diuretic (Formula-8), decoction, drink/ Wong 2479 (Stone, 1981)
Poaceae (Gramineae)	<i>Cymbopogon winterianus</i> Jowitt/ Takhrai hom-Takhrai hom/ leaf/ bodily discomfort (Formula-31)/ crush, poultice/ Wong 2472 (Clayton et al., 1994) <i>Saccharum officinarum</i> L./ Oi dam-Oi daeng/ stem/ diuretic (Formula-8), decoction, drink/ Wong 2459 (Clayton et al., 1994)
Polygalaceae	<i>Polygala chinensis</i> L./ Niam nok khao-Niam nok khao/ root/ flatulence/ decoction, drink/ Wong 2475 (Van der Meijden, 1988)
Rubiaceae	<i>Canthium berberidifolium</i> Geddes/ Ngiang duk-Ngiang duk/ stem/ fever/ powder, eat/ Wong 2407 (Craib, 1932) <i>Catunaregam tomentosa</i> (Blume ex DC.) Tirveng./ Nam thaeng-Khet/ root/ infectious diseases in early childhood (Formula-14); diarrhoea (Formula-22)/ decoction, drink/ Wong 2356 (Wong, 1984) <i>Dioecercis erythroclada</i> (Kurz) Tirveng./ Mo daeng- Ma khang daeng/ wood/ bodily discomfort/ decoction, drink/ Wong 3497 (Craib, 1932) <i>Gardenia obtusifolia</i> Roxb./ Sida pa, Yang mok-Kramop/ bodily discomfort/ decoction, drink/ Wong 2534 (Pitard, 1922) <i>Hymenodictyon orixense</i> (Roxb.) Mabb./ Som kop-Som kop/ root/ infectious diseases in early childhood (Formula-10)/ decoction, drink/ Wong 2482 (Wong, 1989)

Table 1 Distribution of medicinal plants over different families (cont.)

Family name	Botanical name/ Local name-Thai name/ Part used/ Ethnomedical use/ Preparation/ Collector (References)
Rubiaceae (cont.)	<p><i>Mitragyna hirsuta</i> Hav./ Krathum bok-Krathum khok/ stem bark, wood, root-galactogogue (Formula-12)/ decoction, drink/ Wong 2423 (Craib, 1932)</p> <p><i>Morinda elliptica</i> Ridl./ Yo pa-Yo thuean/ leaf/ bodily discomfort (Formula-31)/ crush, poultice/ Wong 2437 (Craib, 1932)</p> <p><i>Oxyceros horrida</i> Lour./ Khatkhao-Khatkhao khrueta/ fruit-stomach pain due to menstruation; root-paralysis (Formula-32)/ decoction, drink/ Wong 2462 (Wong, 1984)</p> <p><i>Pavetta tomentosa</i> Roxb. ex Sm./ Yo som-Khao san pa/ root/ galactogogue, food poisoning/ powder, eat/ Wong 2463 (Bremekamp, 1934)</p> <p><i>Prismatomeris sessiliflora</i> Pierre ex Pitard/ Khao san tia-Sieo ngoen liang/ root/ kidney stone (Formula-43)/ decoction, drink/ Wong 2493 (Craib, 1932)</p> <p><i>Psychotria monticola</i> Kurz/ Tum khan-Yo thet/ leaf/ fever (Formula-3)/ decoction, drink/ Wong 2364 (Hooker, 1897)</p> <p><i>Tamilnadia uliginosa</i> (Blume ex DC.) Tirveng. & Sastre/ Mui khao-Talumphuk/ wood/ diabetes mellitus/ decoction, drink/ Wong 2346 (Pitard, 1922)</p> <p><i>Xantonnea parvifolia</i> Craib/ Kiang puen-Khrop chakkrawan/ root/ kidney stone (Formula-43)/ decoction, drink/ Wong 2494 (Craib, 1932)</p>
Rutaceae	<p><i>Acronychia pedunculata</i> (L.) Miq./ Yom pa-Ka am/ leaf/ pruritus/ boil, bath/ Wong 2405 (Stone, 1985)</p> <p><i>Citrus aurantifolia</i> (Christm. & Panz.) Swing./ Ma nao/ leaf/ paralysis (Formula-7), crush, poultice; fever (Formula-3), decoction, drink/ Wong 2372 (Stone, 1985)</p> <p><i>Citrus hystrix</i> DC./ Ma krut-Ma krut/ leaf/ fever (Formula-3), decoction, drink/ Wong 2373 (Stone, 1985)</p> <p><i>Citrus medica</i> L./ Ma woe/ leaf/ paralysis (Formula-7)/ crush, poultice/ Wong 2515 (Stone, 1985)</p> <p><i>Clausena excavata</i> (Forst.) Burm. f./ Hatsakhun-Huat mon/ leaf- diabetes mellitus (Formula-11)/ crush, poultice; root-snake bite (Formula-44), boil, drink and apply locally/ Wong 2438 (Stone, 1985)</p>

Table 1 Distribution of medicinal plants over different families (cont.)

Family name	Botanical name/ Local name-Thai name/ Part used/ Ethnomedical use/ Preparation/ Collector (References)
Rutaceae (cont.)	<i>Clausena harmandiana</i> (Pierre) Pierre ex Guill./ Song fa-Songfa dong/ root/ insect bite, powder, apply locally; food poisoning, powder, eat; diabetes mellitus (Formula-11), decoction, drink; snake bite (Formula-44), boil, drink and apply locally/ Wong 2349 (Hansen, 1966)
	<i>Micromelum glanduliferum</i> B. Hansen/ Samat noi-Samat noi/ leaf-bodily discomfort (Formula-31), crush, poultice; fever (Formula-3), decoction, drink; root-snake bite (Formula-44), boil, drink and apply locally/ Wong 2377 (Hansen, 1966)
Rutaceae	<i>Micromelum minutum</i> (Forst. f.) Wight & Arn./ Samat don-Hatsakhun/ wood/ fever (Formula-3)/ decoction, drink/ Wong 2347 (Stone, 1985)
	<i>Naringi crenulata</i> (Roem. & Schult.) Nicolson/ Tum tang-Krachae/ leaf or stem bark-fever (Formula-3); root-cancer (Formula-29), beri beri/ decoction, drink/ Wong 2366 (Stone, 1985)
Santalaceae	<i>Scleropyrum pentandrum</i> (Dennst.) Mabb. (<i>S. wallichianum</i> Arn.)/ Nom ngua-Nom wua/ stem/ galactagogue (Formula-36)/ decoction, drink/ Wong 2530 (Macklin & Parnell, 2002; Whitmore, 1973)
Sapindaceae	<i>Lepisanthes rubiginosa</i> (Roxb.) Leenh./ Huat kha-Ma huat/ root/ fever (Formula-33)/ decoction, drink/ Wong 2518 (Van Welzen, 1999)
Scrophulariaceae	<i>Adenosma indiana</i> (Lour.) Merr./ Karabun na-Kratai cham/ whole plant/ flatulence/ decoction, drink/ Wong 2337 (Yamazaki, 1990)
Simaroubaceae	<i>Brucea javanica</i> (Vahl) Merr./ Bi khon-Ratchadat/ root, stem/ diabetes mellitus, hemorrhoid (Formula-40)/ decoction, drink/ Wong 2500 (Nooteboom, 1981)
	<i>Eurycoma longifolia</i> Jack/ Ian don-Pla lai phueak/ root/ fever (Formula-5)/ decoction, drink/ Wong 2392 (Nooteboom, 1981)
Smilacaceae	<i>Smilax glabra</i> Roxb./ Khaoyen nua-Ya hua/ rhizome/ diabetes mellitus (Formula-11)/ decoction, drink/ Wong 2415 (Koyama, 1975)
Solanaceae	<i>Solanum trilobatum</i> L./ Ma khwaeng khrua-Ma waeng khrua/ fruit/ dog bite/ crush, poultice/ Wong 2521 (Happer, 1991)
Stemonaceae	<i>Stemona phyllantha</i> Gagnep./ Sam sip kip-Sam sip kip/ root-diuretic, decoction, drink; root-pruritus (Formula-37), decoction, drink/ Wong 2424 (Gagnepain, 1934)

Table 1 Distribution of medicinal plants over different families (cont.)

Family name	Botanical name/ Local name-Thai name/ Part used/ Ethnomedical use/ Preparation/ Collector (References)
Sterculiaceae	<i>Helicteres hirsuta</i> Lour./ Khi tun-Po don/ root- malaria (Formula-18); diabetes mellitus (Formula-19)/ decoction, drink/ Wong 2409 (Phengklai, 1995) <i>Pterospermum lanceaefolium</i> Roxb./ Ham ao-Ham ao/ root/ fever/ powder, eat/ Wong 2480 (Phengklai, 1995)
Strychnaceae	<i>Strychnos nux-blanda</i> A. W. Hill./ Tumka-Tumka khao/ leaf/ fever (Formula-3)/ decoction, drink/ Wong 2365 (Griffin & Parnell, 1997)
Tiliaceae	<i>Grewia hirsuta</i> Vahl/ Khaochi yai-Khao tak/ root/ infectious diseases in early childhood (Formula-15)/ macerate in water, drink and bath/ Wong 2487 (Phengklai 1993) <i>Grewia lacei</i> Drumm. ex Craib/ Khaochi noi-Kho haem/ root/ infectious diseases in early childhood (Formula-15)/ macerate in water, drink and bath/ Wong 2489 (Phengklai 1993) <i>Microcos tomentosa</i> Sm./ Khom som-Phlap phla/ root, stem/ jaundice (Formula-9); galactagogue (Formula-41)/ decoction, drink/ Wong 2421 (Phengklai 1993)
Verbenaceae	<i>Sphenodesme pentandra</i> Jack/ Khi ka khrueta-Ho saphai khwai/ root, stem/ peptic ulcer/ decoction, drink/ Wong 3494 (Moldenke and Moldenke, 1983)
Vitaceae	<i>Ampelocissus martinii</i> Planch./ Khrueta i koi-Som kung/ root/ fever/ powder, eat/ Wong 2419 (Ridley, 1967) <i>Cissus hastata</i> Miq./ Hun-Thao khan khao/ leaf/ paralysis (Formula-7)/ crush, poultice/ Wong 2439 (Ridley, 1967) <i>Cissus repens</i> Lam./ Op aep-Som sandan/ leaf/ paralysis (Formula-7)/ crush, poultice/ Wong 2445 (Ridley, 1967)
Xanthophyllaceae	<i>Xanthophyllum virens</i> Roxb./ Saeng phu-Khang khao/ stem bark/ oozing eczema due to lymphatic disorders/ decoction, drink/ Wong 3495 (Van der Meijden, 1988)
Zingiberaceae	<i>Alpinia galanga</i> (L.) Willd./ Kha yai-Kha/ rhizome/ fever (Formula-3)/ decoction, drink/ Wong 2367 (Larsen, 1996) <i>Alpinia zerumbet</i> (Pers.) Burtt & R. M. Sm./ Kha khom-Kha khom/ rhizome/ fever (Formula-3)/ decoction, drink/ Wong 2381 (Larsen, 1996)

Table 1 Distribution of medicinal plants over different families (cont.)

Family name	Botanical name/ Local name-Thai name/ Part used/ Ethnomedical use/ Preparation/ Collector (References)
Zingiberaceae (cont.)	<p><i>Curcuma longa</i> L./ Khamin-Khamin chan/ rhizome/ bodily discomfort (Formula-31)/ crush, poultice/ Wong 2440 (Burt & Smith, 1983)</p> <p><i>Curcuma</i> sp./ Khamin chuet-?/ rhizome/ food poisoning/ eat freshly or make pill, eat/ Wong 2400.</p> <p><i>Curcuma</i> sp./ Wan fai chai dam-?/ rhizome/ peptic ulcer/ eat freshly/ Wong 2381.</p> <p><i>Curcuma</i> sp./ Wan lueat-?/ rhizome/ diarrhoea/ decoction, drink/ Wong 2383.</p> <p><i>Kaempferia galanga</i> L./ Proh-Proh hom/ whole plant/ fever (Formula-3)/ decoction, drink/ Wong 2378 (Sirirugsa, 1992)</p> <p><i>Kaempferia marginata</i> Carey/ Tup mup-Proh pa/ whole plant/ fever (Formula-3)/ decoction, drink/ Wong 2379 (Sirirugsa, 1992)</p> <p><i>Zingiber montanum</i> (Koenig) Dietr. ex Link/ Phlai-Phlai/ rhizome/ bodily discomfort (Formula-31)/ crush, poultice/ Wong 2444 (Theilade, 1999)</p> <p><i>Zingiber officinale</i> Roscoe/ Khing-Khing/ rhizome/ cough (Formula-17)/ decoction, drink/ Wong 2387 (Theilade, 1999)</p>

Table 2 Distribution of Medicinal Plants Used over different families

Family	Number of medicinal plants
Dicotyledons:	
Fabaceae (Leguminosae)	22
Euphorbiaceae	16
Rubiaceae	13
Annonaceae	12
Rutaceae	9
Apocynaceae	8
Asclepiadaceae, Celastraceae, Ebenaceae, Lamiaceae (Labiatae), Leeaceae	4
Anacardiaceae, Asteraceae (Compositae), Capparaceae, Dilleniaceae, Melastomaceae, Moraceae, Tiliaceae, Vitaceae	3
Acanthaceae, Convolvulaceae, Dipterocarpaceae, Lauraceae, Menispermaceae, Myrsinaceae, Myrtaceae, Oleacea, Simaroubaceae, Sterculiaceae,	2
Amaryllidaceae, Ancistrocladaceae, Araliaceae, Bignoniaceae, Bixaceae, Combretaceae, Connaraceae, Cucurbitaceae, Erythroxylaceae, Flacourtiaceae, Irvingiaceae, Lecythidaceae, Moringaceae, Myristicaceae, Polygalaceae, Santalaceae, Sapindaceae, Scrophulariaceae, Solanaceae, Strychnaceae, Verbenaceae, Xanthophyllaceae	1
Monocotyledons:	
Zingiberaceae	10
Poaceae (Gramineae)	2
Agavaceae, Araceae, Colchicaceae, Costaceae, Dracaenaceae, Hypoxidaceae, Orchidaceae, Pandananaceae, Smilacaceae, Stemonaceae	1

Table 3 Number of medicinal plants for a specific ethnomedical use

Symptoms	Number of medicinal plants
fever	37
bodily discomfort, diuretic	18
paralysis	12
diarrhoea, galactagogue, hallucination	9
diabetes mellitus, paralysis,	7
jaundice	6
bodily discomfort, diabetes mellitus, pruritus,	5
infectious diseases in early childhood,	4
cancer, cough, laxative, leucorrhoea,	3
headache, infectious diseases in early childhood, leukorrhoea,	2
hemorrhoid, kidney stone, peptic ulcer, snake bite, typhoid	

Table 4 Formula for use of medicinal plants found at Kutchum

Formula-Use	Botanical name	Part used	Ethnomedical used
Formula-1	<i>Elephantopus scaber</i>	whole plant	bodily discomfort
	<i>Mallotus repandus</i>	stem	
	<i>Rhinacanthus nasutus</i>	leaf	
Formula-2	<i>Argyreia osyrensis</i>	root	paralysis
	<i>Thunbergia laurifolia</i>	leaf	
Formula-3	<i>Alpinia galanga</i>	leaf	fever
	<i>Alpinia zerumbet</i>	leaf	
	<i>Annona squamosa</i>	leaf	
	<i>Bauhinia strychnifolia</i>	leaf	
	<i>Blumea balsamifera</i>	leaf	
	<i>Cinnamomum camphora</i>	leaf	
	<i>Citrus aurantifolia</i>	leaf	
	<i>Citrus hystrix</i>	leaf	
	<i>Crinum asiaticum</i>	rhizome	
<i>Dracaena loureiri</i>	rhizome		

Table 4 Formula for use of medicinal plants found at Kutchum (contd.)

Formula-Use	Botanical name	Part used	Ethnomedical used
Formula-3 (cont.)	<i>Irvingia malayana</i>	stem bark	fever
	<i>Kaempferia galanga</i>	root	
	<i>Kaempferia marginata</i>	stem bark	
	<i>Mangifera indica</i>	stem bark	
	<i>Micromelum glanduliferum</i>	stem bark	
	<i>Micromelum minutum</i>	whole plant	
	<i>Psychotria monticola</i>	whole plant	
	<i>Strychnos nux-blanda</i>	wood	
	<i>Xylia xylocarpa</i> var. <i>kerrii</i>	stem bark	
Formula-4	<i>Buchanania siamensis</i>	wood	leucorrhoea
	<i>Dillenia hookeri</i>	root	
	<i>Diospyros ehretioides</i>	root	
Formula-5	<i>Croton oblongifolius</i>	leaf	fever
	<i>Diospyros ferrea</i>	root	
	<i>Eurycoma longifolia</i>	root	
	<i>Spondias pinnata</i>	root	
Formula-6	<i>Ancistrocladus tectorius</i>	root	bodily discomfort
	<i>Phyllodium longipes</i>	root	
Formula-7	<i>Annona reticulata</i>	leaf	paralysis
	<i>Annona squamosa</i>	leaf	
	<i>Crateva magna</i>	stem bark	
	<i>Crateva religiosa</i>	stem bark	
	<i>Cassytha filiformis</i>	whole plant	
	<i>Citrus medica</i>	leaf	
	<i>Cissus hastata</i>	leaf	
	<i>Cissus repens</i>	leaf	
Formula-8	<i>Crateva magna</i>	stem bark	diuretic
	<i>Crateva religiosa</i>	stem bark	
	<i>Pandanus odoratissimus</i>	root	
	<i>Saccharum officinarum</i>	stem	

Table 4 Formula for use of medicinal plants found at Kutchum (contd.)

Formula-Use	Botanical name	Part used	Ethnomedical used
Formula-9	<i>Anomianthus dulcis</i>	jaundice	juandis
	<i>Ardisia crenata</i> var. <i>crenata</i>	root, stem	
	<i>Arcangelisia flava</i>	stem	
	<i>Ellipeiopsis ferruginea</i> var. <i>cherreensis</i>	root	
	<i>Microcos tomentosa</i>	root, stem	
	<i>Schefflera elliptica</i>	stem	
	Formula-10	<i>Cananga latifolia</i>	root
<i>Hymenodictyon orixense</i>		root	in early childhood
Formula-11	<i>Clausena harmandiana</i>	root	diabetes mellitus
	<i>Ellipeiopsis ferruginea</i> var. <i>cherreensis</i>	root	
	<i>Erythroxylum cuneatum</i>	root	
	<i>Premna nana</i>	root	
	<i>Smilax glabra</i>	rhizome	
Formula-12	<i>Mitragyna hirsuta</i>	stem bark, wood, root	galactogogue
	<i>Polyalthia cerasoides</i>	stem bark, wood	
Formula-13	<i>Capparis micracantha</i>	root	fever
	<i>Embelia ribes</i>	root	
	<i>Strophoblachia fimbriicalyx</i>	root	
	<i>Xylopiella vielana</i>	root	
Formula-14	<i>Aganonerion polymorphum</i>	root	bodily discomfort
	<i>Siphonodon celastrineus</i>	root	
Formula-15	<i>Alyxia schlechteri</i>	stem	infectious diseases
	<i>Catunaregam tomentosa</i>	root	in early childhood
	<i>Dillenia ovata</i>	root	
	<i>Grewia hirsuta</i>	root	
Formula-16	<i>Bridelia harmandii</i>	root	pruritus
	<i>Dendrolobium lanceolatum</i>	root	
	<i>Plumeria rubra</i>	wood	
Formula-17	<i>Caesalpinia sappan</i>	wood	cough
	<i>Myriopterion extensum</i>	stem, root	
	<i>Zingiber officinale</i>	rhizome	

Table 4 Formula for use of medicinal plants found at Kutchum (contd.)

Formula-Use	Botanical name	Part used	Ethnomedical used
Formula-18	<i>Helicteres hirsuta</i>	root	diabetes mellitus
	<i>Vernonia cinerea</i>	root	
Formula-19	<i>Helicteres hirsuta</i>	root	malaria
	<i>Oroxylum indicum</i>	root	
	<i>Tiliacora triandra</i>	root	
Formula-20	<i>Bixa orellana</i>	root	leucorrhoea
	<i>Clerodendrum paniculatum</i>	root	
Formula-21	<i>Erycibe cochinchinensis</i>	stem	laxative
	<i>Salacia chinensis</i>	stem	
	<i>Salacia verrucosa</i>	stem	
Formula-22	<i>Catunaregam tomentosa</i>	root	diarrhoea
	<i>Combretum quadrangulare</i>	root	
	<i>Dillenia hookeri</i>	root	
Formula-23	<i>Casearia grewiifolia</i>	root	bodily discomfort
	var. <i>grewiifolia</i>		
	<i>Cassia fistula</i>	root	
	<i>Ellipanthus tomentosus</i>	root	
	var. <i>tomentosus</i>		
Formula-24	<i>Xylia xylocarpa</i> var. <i>kerrii</i>	stem	typhoid
	<i>Diospyros decandra</i>	stem	
	<i>Dracaena loureiri</i>	stem	
Formula-25	<i>Solena amplexicaulis</i>	root	typhoid
	<i>Diospyros ehretioides</i>	root	
	<i>Dracaena loureiri</i>	stem	
Formula-26	<i>Solena amplexicaulis</i>	root	bodily discomfort
	<i>Erythroxylum cuneatum</i>	root	
Formula-27	<i>Leea setuligera</i>	root	bodily discomfort
	<i>Antidesma puncticulatum</i>	stem	
	<i>Aporosa villosa</i>	stem	
	<i>Irvingia malayana</i>	stem bark	
	<i>Moringa oleifera</i>	stem bark	

Table 4 Formula for use of medicinal plants found at Kutchum (contd.)

Formula-Use	Botanical name	Part used	Ethnomedical used
Formula-28	<i>Breynia glauca</i>	root	peptic ulcer
	<i>Bridelia ovata</i>	leaf	
Formula-29	<i>Cleidion spiciflorum</i>	root	cancer
	<i>Naringi crenulata</i>	root	
	<i>Premna nana</i>	root	
formula-30	<i>Croton crassifolius</i>	root	sneke bite
	<i>Trigonostemon reidioides</i>	root	
Formula-31	<i>Croton oblongifolius</i>	leaf	bodily discomfort
	<i>Curcuma longa</i>	rhizome	
	<i>Cymbopogon winterianus</i>	leaf	
	<i>Micromelum glanduliferum</i>	leaf	
	<i>Morinda elliptica</i>	leaf	
	<i>Zingiber montanum</i>	rhizome	
Formula-32	<i>Oxyceros horrida</i>	fruit	paralysis
	<i>Suregada multiflora</i>	root	
Formula-33	<i>Azelia xylocarpa</i>	root	fever
	<i>Sindora siamensis</i> var. <i>siamensis</i>	root	
	<i>Lepisanthes rubiginosa</i>	root	
Formula-34	<i>Crotalaria pallida</i>	root	fever
	<i>Senna occidentalis</i>	root	
	<i>Senna tora</i>	root	
Formula-35	<i>Phyllodium longipes</i>	stem	cancer
	<i>Phyllodium pulchellum.</i>	root	
Formula-36	<i>Scleropyrum pentandrum</i>	stem	galactagogue
	<i>Sophora exigua</i>	root	
Formula-37	<i>Leea indica</i>	root	diarrhoea
	<i>Tephrosia siamensis</i>	root	
Formula-38	<i>Stemona phyllantha</i>	root	pruritus
	<i>Uraria acaulis</i>	root	
Formula-39	<i>Leea rubra</i>	root	hallucination
	<i>Leea thorelii</i>	root	

Table 4 Formula for use of medicinal plants found at Kutchum (contd.)

Formula-Use	Botanical name	Part used	Ethnomedical used
Formula-40	<i>Brucea javanica</i>	root, stem	hemorrhoid
	<i>Tinospora crispa</i>	stem	
Formula-41	<i>Ficus hispida</i>	root	fever
	<i>Ficus racemosa</i>	root	
Formula-42	<i>Dendrophthoe pentandra</i>	whole plant	headache
	<i>Eulophia attenuatum</i>	tuber	
Formula-43	<i>Prismatomeris sessiliflora</i>	root	kidney stone
	<i>Xantonnea parvifolia</i>	root	
Formula-44	<i>Clausena excavata</i>	root	sneke bite
	<i>Clausena harmandiana</i>	root	
	<i>Micromelum glanduliferum</i>	root	

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