A DICTIONARY OF THE ECONOMIC PRODUCTS OF THE MALAY PENINSULA

BY

I. H. BURKILL, M.A., F.L.S.
from 1912 to 1925 Director of Gardens, Straits Settlements; previously Officiating Reporter on Economic Products to the Government of India and Superintendent of the Indian Museum, Industrial Section, Calcutta

WITH CONTRIBUTIONS BY

WILLIAM BIRTWISTLE
Officer-in-charge, Fisheries Department, S.S. and F.M.S.

FREDERICK W. FOXWORTHY, Ph.D.
formerly Forest Research Officer, F.M.S.

J. B. SCRIVENOR, I.S.O., M.A., F.G.S.
formerly Director of the Geological Survey, F.M.S.

AND

J. G. WATSON
Conservator of Forests, Malayan Forest Service

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A DICTIONARY OF THE ECONOMIC PRODUCTS
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IBIS, Lac., a genus of birds of the family Ibidae, see Birds' Feathers.

ICELAND SPAR, see Calcite.

ICHNANTHUS, Beav. A small genus of grasses, family Gramineae, of tropical America, and one species in the tropics of the Old World.
I. vicinus, Merr.; I. pallens, Munro; Ridley, Flora Mal. Penins. 5, 1925 p. 231. Rumput sarang buaya (crocodile's lair grass, in common with several other grasses).
A small forest grass, found widely in the tropics; in the Malay Peninsula it is general.
Backer (K. Heyne, Nutt. Plant. Ned. Ind. ed. of 1927 p. 240) says Fodder, that it is readily eaten by cattle, and chemical analysis indicates that its food-value is satisfactory.

ICHNOCARPUS, R. Br. A small genus of woody climbers of the family Apocynaceae, found from south-eastern Asia to Australia.
A climber found throughout the area occupied by the genus; but in the Peninsula it occurs only in the north.
Its stems may be used as rough ropes, for its bark is fibrous.
The roots, stems and leaves are used in India for fever, dyspepsia, skin complaints, &c. (see Watt, Dict.), the roots in particular being employed, and they are sometimes called Sarsaparilla.
A woody climber found from India to the Philippine Islands; in the Peninsula it occurs chiefly in the hilly regions.
It is used in the Philippine Islands to make rough ropes and country fences, and is the common material intertwined in fishing-stakes.

ICIGASTER, Ridl. A monotypic genus of the family Burseraceae.
I. planchonii, Ridl., is a tree of moderate size, found in the Malay Peninsula from central Perak to Singapore.
The vernacular names, 'kilat' (in common with Pentaspadon) and 'jangkar paya', are recorded for it, but no economic information.

IGUANURA, Blume. A small genus of palms, family Palmae, found in western Malaysia.
IGUANURA

The species are very similar to each other, and it is certain that Malays do not restrict names to them individually. 'Pinang kēlasak' recorded below for the very common *I. geonomiformis*, is recorded also for *I. polymorpha*, Becc. ‘Termoh’ is recorded for the last named and for *I. spectabilis*, Ridl. For *I. corniculata*, Becc., ‘pinang angin’ is recorded.

1. *I. geonomiformis*, Mart.; Ridley, Flora Mal. Penins. 5, 1925 p. 13. Pinang boreng, Pinang buring, Pinang burong (bird's betel nut) Pinang bohung, Pinang kēlasak (?floor-mat betel), Pinang hutan (wild betel), Pinang pachai (leech’s betel), Pinang tikus (mouse, or little betel), Palas tikus (mouse, or little Licuala), Sépadan, Bunga pébanut (flower for preventing conception), Bogen (Sakai name).

A small palm found only in the Malay Peninsula, but met with almost everywhere in it.

Food. Alvins records that the Jakuns eat the fruits for betel, and Schebesta records that the Sakai do the same. According to Logan (Journ. 1, 1847 p. 255) the stem-buds are eaten by the Berembun (Bermun) tribes.

Contraceptive. Alvins says that the Jakun women eat the root and leaves as a contraceptive.


A small palm found in the Malay Peninsula and Borneo; in the Peninsula it is commonly found in forests in the northern half.

Thatching. K. Heyne (Nutt. Plant. Ned. Ind. ed. of 1927 p. 390) says that the leaves are used in west Borneo for thatching as they are very durable.

ILEX, Linn. A large genus of trees and shrubs, usually evergreen, of the family Ilicaceae, found in most of the warmer parts of the world, but rare in Europe, Africa, and Australia. There are seventeen species in the Malay Peninsula, more than half of them montane and of unknown economic value.

Medicinal. In many species of the genus bitter substances are present, and on account of them certain of their parts are medicinal. The berries may contain a purgative and emetic substance.

Used as tea. Caffeine is present in *I. paraguayensis*, St. Hil., and *I. cassine*, Linn.; and this has led the first to be used as tea. Hooper found the leaves of *I. latifolia*, Thunb., in a collection of drugs imported by the Chinese into the Malay Peninsula, and he suggests that they, too, are used in the form of a tea (Gard. Bull. S.S. 6, 1929 p. 76).

Timber. The wood is often hard and useful, but nothing is recorded regarding it in any of the Malayan species.

The berries of *I. cymosa* and a number of other species are red, and the well-established Malay name, ‘mēnsērah’ or ‘mēśirah’ seems to have been obtained from their colour. ‘Timah-timah’ is also a well-established name, but perhaps more restricted. ‘Timah’, or ‘tēmak’ is the name of certain big trees of the Dipterocarpaceae, and we may translate ‘timah-timah’ as bastard *Shorea bracteolata*, or bastard
Shorea hypochra. As the name of an undetermined species used in Penang, Curtis has recorded ‘mamba hutan’.

1. I. cymosa, Blume; Ridley, Flora Mal. Penins. 1, 1922 p. 442. Męnsirah, Męsirah, Męsirah bukit (hill męsirah), Męsirah puteh (white męsirah); neither this name nor the one before is exactly apt, Męngkiraí (perhaps in error), Timah-timah, Titimah, Titimah ręngga (red ant’s titimah), Męmbatu merah, Kelat lapis (probably in mistake for Eugenia), Akit sulai.

A tree of moderate height found throughout western Malaysia; in the Peninsula it is common in woods of the low country.

Alvins says that the timber is not durable, but may be used in house-building. Maingay (Kew Bull. 1890 p. 119) calls it a dirty white wood which splits slightly in drying, and Ridley (Agric. Bull. Straits and F.M.S. 1, 1901 p. 102) calls it a yellow, rather soft wood, and, quoting Alvins, adds that Malays consider it very inferior.

The root appears to be medicinal. Burkhill and Haniff (Gard. Bull. Medicinal. S.S. 6, 1930 p. 184) record, with a query against the determination of the tree, that a decoction may be drunk for fever, and that ripening boils may be poulticed by means of it. From Kelantan, also, it is reported that the root of ‘męsira’, with other roots, is used in making a decoction taken for fever with stomach derangements.

2. I. macrophylla, Wall.; Ridley, Flora Mal. Penins. 1, 1922 p. 442. Męnsirah, Męsirah bukit, Timah-timah bulan, Titimah bulan (moon-like, or round titimah), Timah-timah gading, Titimah gading (ivory titimah), Titimah jantan (male or big titimah), Mędang tęlok (laurel of coves or back-waters), Bunga kęling padang.

A tree of fair size found in western Malaysia; in the Peninsula it is plentiful in each of the three Settlements, and probably in most parts, though specimens have not been collected elsewhere.

The timber of a tree, thought at Kew to be this, was described by Maingay (see Kew Bull. 1890 p. 119) as a dull dark red wood, with a fine grain, not splitting in drying, used for boat-treenails. There seems to be an error in this. But the wood has uses, for Alvins stated that, though it does not resist insect-attacks, it lasts for 6 to 7 years, when used in house-building.

Alvins states, also, that poultices of its leaves are used for head-ache. Medicinal.

3. I. paraguayensis, St. Hil., is a large shrub of South America, and the chief source of Paraguay Tea. This tea was once called Jesuit’s Tea, because missionaries of that order made it known to the Old World. It is in great and steady demand in its own continent, but has captured no market overseas, though there is a small export to Italy and elsewhere.

The leaves are prepared by drying, usually by means of a wood fire, and upon the care exercised in this process much of the quality depends. The bits of stem intermingled are then removed by hand, and the leaf-blades broken up into a coarse powder. The taste of the decoction made from this powder, which is the beverage drunk, is slightly aromatic, a little bitter, and very refreshing.

The tea was known in Europe long before the tree: indeed, it was only
in 1842 that botanists obtained a more or less satisfactory knowledge of the plant from a very interesting account by Sir William Hooker (Lond. Journ. Bot. i, 1842 p. 30). Cultivation had been practised long before that time, though the chief part of the crop came from wild sources. Larger and yet larger plantations have been made of recent years.

Sir William Hooker, in his account of Paraguay Tea, recognized three different plants as varieties. His second and his third were subsequently found to be *I. amara*, Loes.—a plant widely spread in southern Brazil, which as late even as 1892, was in cultivation in European botanic gardens for *I. paraguayensis*. N. E. Brown (Kew Bull. 1892 p. 134) pointed this out, but he used the synonym *I. nigropunctata*, Miers.

The mistake by which the wrong plant reached Europe was passed on to the East. It was recorded, for instance, that 'I. paraguayensis' had been brought to India in 1870 (Watt, Dict. 1890), and to Singapore in 1876 (Rep. Bot. Gard. for 1876 p. 4), and that about the same time it was taken to Java, where, in 1882, there was a flourishing plantation (K. Heyne, Nutt. Plant. Ned. Ind. ed. of 1927 p. 982). In 1882, mention is made of it in another report of the Botanic Gardens, Singapore (p. 10); it was growing fairly well. Then, in Java, it was found impossible to propagate it, and, moreover, doubt was cast upon its identity as its leaves contained no caffeine. It seems probable that in the first attempts to grow it in Singapore, and in cultivation in Java, the plant experimented with was *I. amara*, a species to which Miers, when he described it as *I. nigropunctata*, had ascribed some use as tea, adding that it is more bitter than *I. paraguayensis*. Subsequently, in Singapore, *Elaeodendron glaucum* became substituted (q.v.).

More recent efforts have been made to introduce the true plant into the East. According to Wester (Philipp. Agric. Rev. 14, 1921 p. 316), it has been in the Philippine Islands for some thirty years; it flowers there, but had not fruited when he wrote.

The leaves of *I. paraguayensis* contain caffeine in rather variable amounts, a tannin identical with that in coffee, resin, a fat, vanillin, cholin, &c. Girola (La yerba Mate, 1931) distinguishes two types by the amount of caffeine present. The amount of tannin present is far less than in tea leaves, being only about 1·5 per cent. This tannin is peculiar in its chemical reactions, and will not tan leather.

**ILLICUM**, Linn. A small genus of trees of the family Winteraceae, found in North America, Japan, China, and with one species, *I. cambodianum*, extending southwards to the mountains of the Malay Peninsula, where perhaps also occurs another species.

The species are poisonous except *I. verum*.

The allied genus *Drimys* occurs in Malaysia, but is not known to occur in Malaya. It is aromatic, and from one species, *D. winteri*, Forst., is obtained Winter's bark, an aromatic bitter antiscorbutic, which had a great reputation, and has largely lost it because of the difficulty of obtaining supplies unadulterated.
1. *I. anisatum*, Linn. (*I. religiosum*, Sieb. and Zucc.), the Shikimi tree of Japan, was, at one time, thought to be the source of star-anise, and, under that impression, unsuccessful attempts were made to grow it in Singapore. It is actually of Chinese origin, but of long cultivation in Japan.

The whole plant is poisonous, and cases of poisoning have often been recorded; but small quantities of the fruits are used as a flavouring.

A lamp oil is extracted from the seeds.

If the fruits are distilled, a volatile oil is obtained, but it has little resemblance to that of the true star-anise (see Gildemeister, *Aether. Ole.,* 2, ed. of 1929 p. 576). It kills frogs if injected into them. The poisonous substance is an alkaloid skimmianine.


*Bakau bukit* (hill mangrove, from the colour of its wood).

A small tree, or large shrub found in French Indo-China, and widely in the mountains of Malaya.

The timber is red-brown and close-grained, but the size is too small and the tree found too far up the mountains for it to be used (Ridley in Agric. Bull. Straits and F.M.S. 1, 1901 p. 9).

The claret-coloured flowers smell of anise.

3. *I. verum*, Hook. f., the Star-anise, is a tree grown in the Chinese provinces of Kwang-si, Kwang-tung, Hai-nan and extensively in the prefecture of Langson in Tonkin. Loureiro confused it with *I. anisatum*, Linn., and so did many writers who followed him until the year 1888. The fruits have long been traded in: the first written account of them was that of a traveller named Cavendish, or Candish, who met with them in the Philippine Islands in 1588. They were bought by Clusius in London in 1601, and later a trade to Europe sprang up overland along the China–Russia tea-route, whence they were called Siberian Cardamoms. Bretschneider, Eykman, Hance and Ford, about 1881, realized that they were not obtained from *I. anisatum*; and in 1888, Hooker gave the name *I. verum* to the tree which yields them.

The fruits exported from China are retailed in Malaya as ‘bunga lawang’, or clove flowers, and as ‘adas china’, or Chinese anise; medicinally, sometimes they are called ‘adas manis’ as if they were true anise. They are used for flavouring curries and medicaments, or, medicinally, by themselves. In association with them come the slightly poisonous fruits of *I. anisatum* (see above); and it is desirable, therefore, to have means of distinguishing them, which is not easy. Greenish (Mat. Med. ed. of 1909 p. 105) gives the following instructions: ‘The Japanese star-anise fruits are less regularly developed, the carpels usually more wrinkled and provided with a more acute beak, which is commonly directed upwards, the ventral suture is usually more open and the peduncle, to which the carpels seldom remain attached, is straight. Moreover, the taste and odour are quite distinct, for the Japanese fruits have a balsamic, but not anise-like odour, and a disagreeable bitterish taste; the taste and odour are indeed the best characters by which to distinguish the genuine from the false, as they can be applied to fragments of the fruits.’
K. Heyne suggests that perhaps, in the markets of Java, besides the true Chinese anise and the seeds of the Japanese *I. anisatum*, a third kind appears.

Among their uses in Malaysia is the flavouring of certain kinds of bean kechap.

Ridley mentions the plant as an ingredient in a compound emmenagogue (*Journ. Straits Med. Assoc.* 5, 1897 p. 136). The Chinese make a medicinal tea with it, flavour foods and confectionery, and regard it as good for colic and constipation (Hooper in *Gard. Bull. S.S.* 6, 1929 p. 76). Apparently, it is used in external applications after childbirth (Hadji Bidah in *Agric. Bull. Straits and F.M.S.* 6, 1907 p. 162). It is said to be good for insomnia.

**Volatile oil.** The fruits contain about 12 per cent. of fat, most of which is in the seeds, cholesterol (but not cholin), shikimic acid, tannin, &c., as well as a volatile oil. This volatile oil, which is scarcely distinguishable from dill oil, may be substituted for it, is distilled from the fruits, largely in Tonkin. A full account of it is given by Gildemeister (*Aether. Olea*, 2, ed. of 1929 p. 563). Because the fruits yield ten times as much volatile oil as the leaves, they are distilled by preference; the leaves being used when the supply of fruit fails. There is a slight difference between the two oils, but they are substituted for one another indiscriminately in commerce. There is a full account of the distillation by Chevalier (*Journ. d'Agric. trop.* 14, 1914 p. 40).

**ILLIGERA**, Blume. A small genus of climbers of the family Hernandiaceae found in the tropics of the Old World.


A rather large climber which is found in India and eastwards to Java; in the Peninsula it occurs throughout.

Medicinal. Burkill and Haniff (Gard. Bull. S.S. 6, 1930 p. 243) found an *Illigera*, which seemed to be this species, in use in Pahang for treating boils in the groin, a poultice of pounded leaves being applied.


A slender climber found in Lower Siam and southwards to southern Johore, and in Java.

Medicinal. On the label of a Johore specimen, not quite adequate for determination, but seeming to be this rather than *I. appendiculata*, Cantley recorded that an extract of the bark is used to cure rheumatism, and he added the name 'marasapit'.

**ILLIPE**, F. Muell., see *Madhuca*; and for illipe-nuts see, also, *Shorea*.

**ILMENITE.** Titanate of iron; FeTiO₃. Ilmenite is the commonest constituent of *amang* (q.v.), the heavy impurities that accompany
ILMENITE

tin-ore in concentrates. It is easily separated by an electromagnet. Ilmenite is also one of the chief constituents of 'black sands' found on sea-beaches, for instance, in the Langkawi Islands, Puluau Aur, and the coast of Malacca Territory. Ilmenite is a source of ferro-titanium, which is used in the manufacture of rails. 'Titanium-white', a pigment said to be superior to zinc-white, is prepared from ilmenite in Norway. Titanium is also used for titanium carbide electrodes in arc-lamps, in the pottery trade, and as a mordant in dyeing leather and wool. [J. B. S.]

ILYSANTHES, Rafin., see Bonnaya.

IMPATIENS, Linn. A large genus of herbs of the family Balsaminaceae, found throughout the warmer parts of the world.

Several species are good ornamental plants. I. hawkeri, W. Bull, grows excellently in Malaya, and I. sultana, Hook. f.; also I. holstii, Engl. and Warb., which is running wild in the Taiping Hills, and can be grown in gardens in the plains. Many others have been tried experimentally in Singapore without success.

Ridley has recorded the name 'pula asam' for I. curtisii, Hook. f., a species of the Taiping Hills. It looks as if from balsam.

1. I. balsamina, Linn., is the garden Balsam, which has long been in cultivation. Before the end of the sixteenth century, it was already a familiar garden plant in Belgium and Germany, and was said, doubtless correctly, to have been brought from India. The flowers of the race grown were single.

In the East it is widely cultivated as well as wild. It occurs, for instance, in the hilly country of western India down to sea-level, and must have been familiar to the traders who, when they reached the Malabar ports, were obliged to stay in them through the rains, which is its season of growth. It occurs at times in ploughed fields as a weed. Rheede in his Hortus Malabaricus (vol. 9, 1689) described and figured it.

In Malaysia it is cultivated and, here and there, has run wild from cultivation. It is often grown in gardens in Malaya. It is widely known in Asia that the flowers may be used instead of Henna for dyeing the finger-nails, and from this it takes some of its vernacular names. It is, for instance, in Hindi 'gul mehndi' (syrup henna), and in Burmese 'dau-dalet' (dau being henna); while in Siamese 'tien', and in Malay 'ina', are applied to both the Henna-tree and the Balsam. Furthermore, Bartlett (Papers Michigan Acad. Sci. 6, 1927 p. 54) shows that in several other languages, which are used in Sumatra, Borneo, Madoera, Bali, and Bima, the same name is given to both plants. A. W. B. Hamilton records 'kimbong' as another Malay name for it as well as 'hinai pachak' and 'hinai ayam'. The first name is from the Chinese.

Some writers (Watt, Dict. 1890; K. Heyne, Nutt. Plant. Ned. Ind. Dye. ed. of 1927 p. 1003, and Laufer, Sino-iranica, 1919 p. 335) state that the leaves may be used in dyeing (the first-named in writing of the
IMPATIENS—(1) balsamina

hills of north-eastern India, the second of Java, and the third of China), but it is desirable that further inquiry should be made, as it is so much more likely that the petals are used.

‘Tahi ayam’ (fowl’s droppings) is recorded as a name used in Johore: the name, however, usually designates pests such as Lantana.

Medicinal. The leaves are used for poulticing. Rumpf recorded that they were used for poulticing broken and torn nails (cf. Lawsonia).


A herb found on the mountains of the Malay Peninsula from Kedah to Mount Ophir.

The Malay name shows that the Malays know it as a substitute for henna in dyeing finger-nails, but they do not use a plant of such inaccessible places.


Ornamental. It is cultivated in botanic gardens, on account of its great scientific interest. Its flowers are lemon-yellow or white.

4. I. platypetala, Lindl., is a common Malaysian species, which has been cultivated from time to time in the Botanic Gardens, Singapore.

Medicinal. Its leaves are medicinal in Java for poulticing; and Blume states that when finely ground up they may be given to children with dill for arrest of urine (K. Heyne, Nutt. Plant. Ned. Ind. ed. of 1927 p. 1003). Other species of the genus are known to be diuretic.

IMPERATA, Cyr. A small genus of closely allied grasses, family Gramineae, found throughout the warmer parts of the world.

Malays know the two species which occur in the Peninsula as ‘lalang’, a name so distinctive that it is not necessary to put ‘rumput’ (grass) in front of it; but in Malaysia a set of names, embodying the syllable ‘rih’ is much more widely spread (Bartlett in Papers Michigan Acad. Sci. 6, 1926 p. 10).


A big grass, larger than I. cylindrica and less common. It is found throughout Malaysia; and in tropical America there grows what is regarded as a variety of it. In the Malay Peninsula it is found chiefly in the southern half, and in particular in sandy places along the coast.

It is so like I. cylindrica that what is said below regarding paper-making, medicinal uses and alcohol, applies equally to both.

In the Philippine Islands the stems are used as a braiding material for hats (W. H. Brown in Bull. 19, Bur. For. Philipp. 1919 p. 32).


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