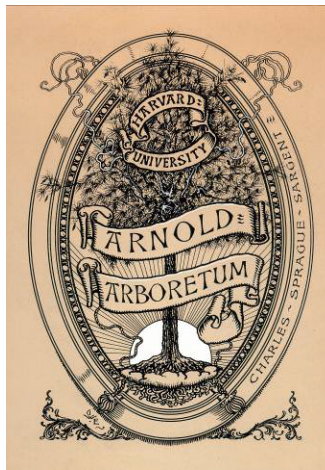


Archives III LJB

Leonard John (L.J.) Brass (1900-1971) collection 1925-1953: Guide



The Arnold Arboretum of Harvard University

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III LJB

**Leonard John (L.J.) Brass (1900-1971) collection 1925-1953: Guide
Archives of the Arnold Arboretum of Harvard University
125 Arborway, Jamaica Plain, Massachusetts**

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Descriptive Summary

Repository: Arnold Arboretum, Jamaica Plain, MA 02130

Call No.: III LJB

Location: Archives

Title: Leonard John (L.J.) Brass (1900-1971) collection 1925-1953

Date(s): 1925-1953

Creator: Leonard John (L.J.) Brass

Quantity: 14 linear inches (4 boxes)

Language of material: English

Abstract: L.J. Brass (1900-1971) served as botanist on the various Archbold Expeditions for the American Museum of Natural History. The Arnold Arboretum funded or co-sponsored several of these expeditions and received herbarium specimens and photographs. This collection depicts the flora, landscape, and ecology of the region as well as the indigenous people, their habitations, gardens, and agricultural practices.

Note: Access to Finding Aid record in [HOLLIS](#).

Additional Material: In addition to the correspondents listed in this guide Brass corresponded with Arboretum directors Charles Sprague Sargent and Elmer Drew Merrill, and staff member Ivan Murray Johnston which are listed in the [Arnold Arboretum Correspondence Database](#). The Arboretum also holds Brass images of specific taxa which are organized and filed under their Latin binomial genus and species in the historic photographic collection. The Botany Libraries Archive holds 75 field notebooks covering collection numbers 21612 to 25166 from the Fourth Archbold New Guinea Expedition 1953 and over 200 photographs from the Second Archbold New Guinea Expedition 1936-37. For more detailed expedition dates and additional image information see Brass, L.J. (Leonard J.). [Papers of Leonard John Brass](#) 1936-1953: A Guide, *Archives, Gray Herbarium Library*, Harvard University Herbaria, Harvard University, Cambridge, MA 02138.

Acquisition Information

Provenance: Most of the photographs were gifts to the Arnold Arboretum from Brass in the 1940s. Twelve images of the 1936-37 expedition were a gift to the Arboretum from the American Museum of Natural History. In 1984, Peter Shaw Ashton, then Director of the Arboretum, gave the archives prints of the photographs published in the *Journal of the Arnold Arboretum* in 1941. The papers in the collection were transferred from the Arnold Arboretum's departmental holdings to the Arboretum's Archives in 1984 and the photographs were transferred from the Historic Views file in 2000.

Processing: Kayleigh Hinckley, Larissa Glasser, Sasha Freeze, Sheila Connor, Liz Francis, 2012. Revised 2023, 2024, Larissa Glasser.

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Biographical Note



L. J. Brass at Baniara
(Milne Bay Div., Papua)
Journal of Arnold Arboretum
52: 697 (Oct. 1971)



Neuburgia corynocarpa
(A. Gray) Leenhouts
L.J. Brass 1221
Papua New Guinea

Leonard J. Brass (1900-1971) was born in Toowoomba, Queensland, on May 17 1900. He became a naturalized citizen of the United States in 1947 and, between expeditions, made his home at Lake Placid, Florida where he was associated with the [Archbold Biological Station](#) which had been established by Richard Archbold (1907-1976) in 1941. Brass founded the Herbarium at the Biological Station in the mid-1940s and was its curator until he retired in 1967. From 1945 to 1954 Archbold and Brass explored the biological diversity of

southwestern Florida and their collaboration with the Corkscrew Cypress Rookery Association and The Nature Conservancy led to the creation of the Corkscrew Swamp Sanctuary of the National Audubon Society in 1954. Brass received an honorary doctorate from Florida State University at Tallahassee in 1962. In retirement he returned to Australia and became active in the North Queensland Naturalists' Club becoming Honorary Curator of the Club's Flecker Herbarium. Brass died in Cairns, Queensland, on August 29 1971. Brass' wife, Maria Schiavone preceeded him; she died in 1954.

Brass served as botanist on the various Archbold Expeditions for the American Museum of Natural History and from 1939 to 1966 was associate curator of the Archbold Expedition collections at the Museum. Known for his outstanding contribution to the botanical documentation of New Guinea, L.J. Brass was trained at the Queensland Herbarium for which he collected plant specimens from the 1930s to the 1960s. In 1974, in [*The Journal of the Arnold Arboretum* 55: 431-434](#), George W. Gillett named a new endemic genus from the upland rain forest in North Queensland *Lenbrassia* in commemoration of Brass "whose prodigious botanical explorations in the Southwest Pacific have played a significant role in the advancement of the botany of that area." Additionally, over 180 species and genera have been named for Brass.



Lenbrassia australiana

Brass first became a collector for the Arnold Arboretum in October 1925 when he led a two-year expedition to New Guinea. The diary Brass kept during this expedition is included in this guide. In June 1932, Brass replaced

[S. Frank Kajewski \(1904-1997?\)](#) whom the Arboretum had engaged to collect plant specimens in the South Pacific Islands and who had been stricken with malaria and become involved in gold mining. Brass continued to collect for the Arboretum on the Solomon Islands and later for the Arboretum on several New Guinea expeditions led by Richard Archbold including the second of the expeditions which focused on southern New Guinea, covering Daru and along the Fly and Palmer Rivers and in the Wassi Kussa area. The third explored Netherlands New Guinea including the Snow Mountains, from Mount Wilhelmina to the Idenburg River. The last subseries in this collection (5: Photographs of Stone Age Agriculture 1938) includes Brass' images of the Baliem Valley, home to the Dani people, which had been discovered during an aerial reconnaissance flight.



© Frederic Danet courtesy
Vireya Rhododendrons Website
Rhododendron brassii

There are approximately [2,500 herbarium specimens](#) collected by Brass held by the Harvard University Herbaria. From 1939 until 1953 [E.D. Merrill \(18766-1956\)](#), Arboretum director 1936-1946 and L.M. Perry (1895-1992) his assistant, collaborator, and an authority on plants of South East Asia, published extensively on the botanical results of the Expeditions in "Plantae Papuan Archboldianae" which also included Brass' and Kajewski's earlier collections from Papua, the Solomon Islands, and the New Hebrides in the *Journal of the Arnold Arboretum*. The Arboretum also

received photographs from the expeditions that were funded or co-sponsored by the Arboretum that Brass participated in or led. This collection of 106 photographs depicts the landscape and ecology of the areas where Brass collected and includes images of the indigenous people, their villages, watercraft, houses, gardens, and agricultural practices. The plants are identified by botanical name and include Brass' collection numbers. Many of the expedition's camp sites and its flying boat "Guba" that delivered supplies by landing on lakes and rivers are also documented. There is also two images of entomologist L.J. Toxopeus. The Arboretum also holds Brass images of specific, individual taxa which are organized and filed by genus and species in the historic photographic collection.

In "Leonard J. Brass (1900-1971); an Appreciation" [*Journal of the Arnold Arboretum* 52: 695-698](#), Lily May Perry described Brass' herbarium collections as "well chosen, ample and beautify prepared; his collection data were both extensive and meticulous." Concurring with the opinion of many of his colleagues Miss Perry considered Brass "...an excellent Photographer" who confided to her that "the secret is to take your pictures early in the morning when everything is still." The notes accompanying his photographs are as detailed as those of his herbarium specimens.

Scope and Content

The collection consists primarily of Brass photographs from the Archbold Expeditions that were funded or co-sponsored by the Arboretum. The collection also contains a small amount of correspondence, expedition receipts and a transcript of the 1925-1926 expedition.

Arrangement

The collection is arranged in two series and five subseries.

Series I: Correspondence, Balance Sheets and Receipts

Series II: Photographs

Subseries 1. Papua New Guinea 1925

Subseries 2. Solomon Islands 1932-1933

Subseries 3. Second Archbold New Guinea Expedition 1936-1937

Subseries 4. Third Archbold Expedition. Snow Mountains, Netherlands, New Guinea. 1938-1939

Subseries 5: Photographs of Stone Age Agriculture 1938

Series III. Diary of Papua New Guinea Expedition (1925-1926)

Container List

Box 1

Series I: Correspondence, Balance Sheets and Receipts

Folder 1: Correspondence 1925-1942

- From L.J. Brass, Australian Hotel, Brisbane to Director, Arnold Arboretum, 8 October 1925
- From L.J. Brass, Port Moresby, Papua to Director, Arnold Arboretum, 22 October 1925

- From L.J. Brass, Rona Falls, Papua to Director, Arnold Arboretum, 2 November 1925
- From [Charles S. Sargent] Port Moresby, Papua, New Guinea to Mr. Brass, December 3, [190]5
- From L.J. Brass, Wainamura, San Cristobel to C.T. White, Government Botanist, Brisbane, August 5 1932
- From [C.T. White, Government Botanist, Brisbane] to Len [L.J. Brass] Wainamura, San Cristobal, British Solomon Islands, September 15 1932
- From [C.T. White, Government Botanist, Brisbane] to Len [L.J. Brass] Tulagi, British Solomon Islands, October 21 1932
- From L.J. Brass, Tulagi, B.S.G.P. to C.T. White, Government Botanist, Brisbane, 11 November 1932
- From [C.T. White, Government Botanist, Brisbane] to Len [L.J. Brass] Tulagi, British Solomon Islands, 1 December 1932
- From [C.T. White, Government Botanist, Brisbane] to Sir Arthur W. Hill, Director, Royal Botanic Gardens, Kew, Surrey, England. June 22 1933. (copy, in pencil)
- From [C.T. White, Government Botanist, Botanic Museum and Herbarium, Botanic Gardens, Brisbane] to D.F van Slooten, Chief of herbarium, Botanic Gardens, Buitenzorg. J A. VA. Dutch East Indies, September 13 1933
- From L.J. Brass, Brisbane, Queensland to Director, Arnold Arboretum, 23 February 1933
- From [Alfred Rehder] Curator of the Herbarium [Arnold Arboretum] to L.J. Brass c/o Mr. C.T. White, Government Botanist, Botanic gardens, Brisbane, Australia, April 6 1933 (letter is on verso of Brass' 23 February 1933)
- From C.T. White to Mr. [Alfred] Rehder [Arnold Arboretum]. BC [blind copy?] of White's letter to J.S.L. Gilmour, Assistant Director, Royal Botanic Gardens, Kew, Surrey, England, December 24 1934
- From C.T. White to Mr. [Alfred] Rehder [Arnold Arboretum] BC [blind copy?] of White's letter to A.W. Exell, British Museum (Natural History) London, England, January 3 1935
- From [C.T. White, Government Botanist, Botanic Museum and Herbarium, Botanic Gardens, Brisbane] H. Sleumer, Botanic Gardens and Museum, Berlin-Dahlem, Germany, March 19 1935
- From Frank Rinald to E.D. Merrill, Director, Arnold Arboretum, April 11 1942, forwarding copy of C.E. Lane-Poole's letter and review of Brass' "Snow Mountain" paper

2: Balance Sheets and Receipts 1932-1934.

- Four Balance sheets regarding funds from the Arnold Arboretum, dated sporadically 1932-1934.
 - "L.J. Brass. Expedition to British Solomon Islands 1932-33"
 - From 30.4.32 to 9.1.33
 - From 9.1.33 to 15/2/33 with 8 receipts attached
 - From 22.2.33 to 10.3.33 with 2 receipts attached

Box 1

Series II: Photographs

Subseries 1. Papua New Guinea, (1925-1926) for the Arnold Arboretum

Seven images mounted on four boards with information taken from both recto, in **bold**, and verso of board. Six contain the statement "Photograph by L.J. Brass 1925" (all have questions mark after the date), all seven state "Given to Arnold Arboretum, January 1945"

Folder 1:



- **The Expedition starts out.** (same on verso). 18418. (*above*)



- **Sago making. Vatata River, E.D.** (same on verso). 18415. (on same board) (*above*)



- **Hombrero Bluff, Loloki River at Junction of Sapphire** (*above left*) **and Muma River, E.D. (East Branch of Mori River)** (*above right*) (same on verso) 18417 (on same board)



- **Kivima Bay. Doroma sailing canoe at Aban Island.** Kivima Bay from Kivima Govt. Station. Betel hut palm in left foreground (*above right*) **and Doroma sailing canoe at Aban Island.** 18416 (*above left*) (on same board)

Series II: Photographs

Subseries 2. Solomon Islands 1932-1933 for the Arnold Arboretum

Fifteen images mounted on eight boards. Information taken from both recto, in **bold**, and verso of board. All are dated and include the statement "Photograph by L.J. Brass"

Folder 1:



October, 1932. 17708. M-1070.

- **Pacific Islands – Solomon. Santa Anna Island.** Part of Natagari Village on Owa Raha (Santa Anna) Island. Roofs and walls thatched with leaves of Ivory-nut palm (*Metroxylon* sp.). *Crinium* sp. No. 2818 in right foreground, Coconut palm on beachline. October 1932. (M-1070) 17708 (*above*)



September 9, 1932. 17711. M-1029.



September 9, 1932. 17711. M-1033.

- ***Araliaceae*. Solomon Islands.** 1. Detached fruiting branch. Herb. Specimen no. 2853. Waimamura, San Cristoval. Sept. 9 1932. (M-1029) (*above left*) **and** 2. Detached fruiting branch. Herb. Specimen no. 2863. Waimamura, San Cristoval. September 9 1932 (M-1033) (*above right*) 17711 (on same board)



September, 1932. 17724. M-1036.



September, 1932. 17724. M-1009.

- Pacific Islands – Solomon. San Cristoval.** 1. View of Hao River at a point near the middle of the island. September 1932. (M-1036) (*above left*) **and** 2. A typical lowland river scene. The Magoha River is about half a mile from the coast. September 1932. (M-1009). (*above right*) 17724 (on same board)



September, 1932. 17725. M-1041.



November 26, 1932. 17725. M-1004.

- Pacific Islands – Solomon. San Cristoval.** 1. Mountainous interior of island looking towards the Hao River headwaters from a mountain side near Hinuahaoro Village. September 1932. (M-1041) (*above left*) **and** 2. Forest clad mountains on San Cristobal. Taken at an elevation of about 2,500 ft. near Hinuahaoro. *Casuarina* no. 2871 on the right skyline and left foreground. November 26 1932. (M-1004). (*above right*) 17725 (on same board)



October, 1932. 17726.



September, 1932. 17726. M-1016.

- Pacific Islands – Solomon. San Cristoval.** 1. Part of Kira Govt. Station. Office and police barracks thatched with leaves of Ivory nut-palm (*Metroxylum*). Pathways bordered with trimmed *Hibiscus* and *Codiaeum*. On left a Pawpaw tree (*Carica papaya*) in fruit, with Betel-hut palms and South American rain tree (*Pithecolobium* sp.) in background. The rain trees are only 15 yrs. Old. October 1932. (No negative) (*above left*) **and** 2. Earthquake damage in the valley of Amburati River on the southern side of San Cristoval. An example of the many thousands of landslides which occurred in the disastrous earthquake of November 1932. Wild Taro (*Colocasia antiquorum*) is the first plant to appear on the slopes when re-vegetation takes place. September 1932. (M-1016). (*above right*) 17726 (on same board)



August, 1932. 17727. M-1037.



December, 1932. 17727. M-1062.

- Pacific Islands – Solomon. Vegetation.** 1. Creek bank vegetation at Waimamura, San Cristoval. Solitary large, broad leaf in foreground *Aroid* no. 2628; numerous smaller leaves on each side, no. 2641; *Angiopteris microua* no. 2711 in right background. The Bananas are a native garden variety. August 1932. (M-1037) (*above left*) **and** 2. Mountain Forest at Tiratona, Ysabel. The large, dark tree in centre is no. 3215, with *Aroid* no. 3213 climbing on the trunk. The pale barked tree on immediate right is **o.340**. Large, leafed tree on left,

Fagraea no. 3216. December 1932. (M-1062) (*above right*) 17727 (on same board)



January 3, 1933. 17728. M-1063.



January 14, 1933. 17728. M-1039.

- Pacific Islands – Solomon. Vegetation.** Edge of a garden clearing in the hardwood forests at Tataba, Ysabel. Large, flanged tree on left near pineapple plants is *Dilleneaceae*, no. 3418. January 3 1933. (M-1063) (*above left*) **and** Firekilled xerophytic trees on slopes. Living rain forest in a sheltered gully between the dry spurs and on mountain in background. Dead trees in foreground: - *Casuarina equisetifolia* on left, *Myrtaceae* no. 3471 on right; *Gulubia Hombronii* (Herb. Specimen no. 3479), and a Callitris-like *Casuarina* (Herb. Specimen no. 2871) growing in the gully. Cape Prieto, Ysabel. Photograph taken at an elevation of about 200 m. January 14 1933. (M-1039). (*above right*) 17728 (on same board)



December, 1932. 17729. M-1023.



January, 1933. 17729. M-1005.

Pacific Islands – Solomon. Ysabel Island. View of eastern end of Meringe Lagoon taken from Tiratona Village. December 1932. (M-1023) (*above left*) **and** Rain forests on low wastal hills at Tataba. January 1933. (M-1005) (*above right*) 17729 (on same board)

Box 2

Series II: Photographs

Subseries 2: Second Archbold New Guinea Expedition 1936-1937.

Forty-five mages mounted on twenty-nine boards. Information taken from both recto, in **bold**, and verso of board. All inscribed with "**Archbold New Guinea Expedition 1936-1937**" on recto and verso. First 12 images include the statement "Gift of American Museum of Natural History, N.Y.C." all include "Photo. by L.J. Brass."



September, 1936. 17871. Br. 108.



September, 1936. 17871. Br. 107.

- **Archbold New Guinea Expedition 1936-1937.** Playground of *Chlamydera cerviniventris*, side view. Papua, Lake Daviumbu, Middle Fly River. September 1936. (Br. 108) 17871. (*above left*)
- **Archbold New Guinea Expedition 1936-1937.** Playground of *Chlamydera cerviniventris* (Bower-bird), at edge of lake-fringing strip of light rain forest. Decorating fruits mostly *Gnetum latifolium*. Papua, Lake Daviumbu, Middle Fly River. September 1936. (Br. 107) 17870. (*above right*)



September, 1936. 17869. Br. 111.

- **Archbold New Guinea Expedition 1936-1937.** Pathway through rain-forest near expedition camp. Larger trees, right to left, *Eugenia* 7683, *Artocarpus* 7476, *Calophyllum* 7589 ([fissured] bark), #7767, *Calophyllum* 7589 (young tree). *Pandanus* 7636 in background and *Pandanus* 7861 at right. Juvenile *Calamus* 7492 abundant in undergrowth, and fern no.7455 forming scattered ground cover. Papua, Lake Daviumbu, Middle Fly River. September 1936 (Br. 111) 17869. (*right*)



October, 1936. 17867. Br. 113.



October, 1936. 17866. Br. 114.

- **Archbold New Guinea Expedition 1936-1937.** Fruit-bats camped in freshwater mangrove forest of *Sonneratia lanceolata*. A patch of cane grass (*Saccharum* 6582) on the bank of river. Papua, Lower Fly River, left bank about ½ mile above Cassowary Island. October 1936. (Br.113) 17867. (*above left*)
- **Archbold New Guinea Expedition 1936-1937.** Note European influence in design of houses at right and left. Coconuts, tobacco and sugarcane planted in the village. Rain forest in rear. Papua, Lower Fly River. Village on the right bank opposite Alligator Island. October 1936. (Br.114) 17866. (*above right*)



October, 1936. 17868. Br. 115.

- **Archbold New Guinea Expedition 1936-1937.** Site of Expedition Base Camp No. 4, in a bamboo grove occupying a high red bank. *Acacia mangium* standing on brink of bank: *Hibiscus tiliaceus* and *Desmodium* 8015 growing at water's edge. Papua, Lower Fly River, left bank opposite Sturt Island. October 1936. (Br. 115) 17868. (*above*)



October, 1936. 17865. Br. 120.

• **Archbold New Guinea Expedition 1936-1937.**

Nutmeg-mangrove (*Myristica* 8008) dominating rain-forest on a river terrace covered frequently by fresh water dammed back by tides. The large liane is *Entada* 8082, rooting on dry land. Note *Pneumatophores* of *Bruguiera gymnorhiza*. Papua, Lower Fly River, left bank opposite Sturt Island. October 1936. (Br. 120) 17865. (left)



November, 1936. 17864. Br. 123.



November, 1936. 17863. Br. 124.

- **Archbold New Guinea Expedition 1936-1937.** Savannah-forest of Grey Tea-tree (*Melaleuca leucadendron* var. 8247); ground cover dominated by *Ophiurus* 8254. On the left is a water-course filled with gallery rain-forest containing *Eugenia* 8283, *Acacia mangium*, and Sago-palms (*Metroxylon* 8111). Papua, Gaima, Lower Fly River. November 1936. (Br. 123) 17864. (above left)
- **Archbold New Guinea Expedition 1936-1937.** Savannah-forest. The second tree from left in foreground *Tristania suaveolens* var. *glabrescens*; others chiefly *Melaleuca leucadendron* var. 8247; fan-palms *Livistona Brassii*; shrubs *Gmelina* 6319 (broad leaves) and *Breyina* 8285; grass mostly *Ophiurus* 8254. Papua, Gaima, Lower Fly River. November 1936. (Br. 124) 17863. (above right)



January, 1937. 17862.



January, 1937. 17861.

- **Archbold New Guinea Expedition 1936-1937.** Wassi Kussa, from Tarara landing stage. Frontage strips of rain-forest rise behind nipa-palms (*Nipa fruticans*) and mangroves fringing the river. On left, *Rhizophora conjugate*. Papua, Tarara, Wassi Kussa River. January 1937. 17862. (above left)
- **Archbold New Guinea Expedition 1936-1937.** Wassi Kussa, from Tarara landing stage. Cf. n. 19. Papua, Tarara, Wassi Kussa River. January 1937. 17861. (above right)



January, 1937. 17860. Br. 142.

- **Archbold New Guinea Expedition 1936-1937.** Savannah-forest ridge sloping to a wet flat timbered with various tea-trees (*Melaleuca*) and *Banksia dentate* (low crooked tree) in background. Trees in foreground: - right to left, *Tristania suaveolens* var. *glabrescens*, *Melaleuca leucadendron* var. *wormia* *alata*. Grass chiefly *Imperata arundinacea*, sheltering *Melaleuca* seedlings. Papua, Tarara, Wassi Kussa River. (Br. 142) 17860. (above)



Papua, W.D., Middle Fly River: Wet grass-plains at Kakati.

17886.



Papua, W.D., Fly R., Daviumbu Lagoon: view from Ronald S. rigging.

17886.

- **Archbold New Guinea Expedition 1936-1937.** Papua, W.D., Middle Fly River: Wet grass-plains at Kakati **and** Papua, W.D., Fly R., Daviumbu Lagoon: view from Ronald S. rigging (Information from Recto of same board; both images on same board). Papua. 17886. (above)



Papua, W.D., Middle Fly R., Lake Daviumbu: Melaleuca leucadendron swamp-forest: rice-grass, *Oryza* n.7564, in foreground: off shore a solitary *Barringtonia* n.7914.

17874.



Papua, W.D., Middle Fly R., Daviumbu: Shoreline fringe of *Barringtonia*, n. 7914.

17874.

- **Archbold New Guinea Expedition 1936-1937.** Papua, W.D., Middle Fly R., Lake Daviumbu: *Melaleuca leucadendron* swamp-forest: rice-grass, *Oryza* n. 7564, in foreground: offshore a solitary *Barringtonia* n. 7914. **and** Papua, W.D., Middle Fly R., Daviumbu: Shoreline fringe of *Barringtonia* n. 7914. (Information from Recto of same board; both images on same board). Papua. 17874. (above)



Papua, Western Division, Fly R. near Madiri: Forest on south bank opposite forest island of Fairfax Group (slender tree with small top, probably ironwood of D'Albertis).

17876.



Papua, Western Division, Fly R., above Madiri. May 7, 11:30 A.M. Large lagoon, west bank (Wam Lagoon?)

17876.

- **Archbold New Guinea Expedition 1936-1937.** Papua, Western Division, Fly R. near Madiri: Forest on south bank opposite forest island of Fairfax Group (slender tree with small top, probably ironwood of D'Albertis) **and** Papua, Western Division, Fly R., above Madiri. May 7, 11:30 A.M. Large lagoon, west bank (Wam Lagoon?) (Information from Recto of same board; both images on same board). Papua. 17876. (above)



Papua, W.D., Middle Fly River: Road through rain forest, over which a new dug-out canoe has been hauled for launching.

17885.



Papua, W.D., Middle Fly River: Tea-tree (*Melaleuca leucadendron* var.) swamp-forest, with undergrowth of *Scleria* sp.

17885.

- **Archbold New Guinea Expedition 1936-1937.** Papua, W.D., Middle Fly River: Road through rain forest, over which a new dug-out canoe has been hauled for launching. **and** Papua, W.D., Middle Fly River: Tea-tree (*Melaleuca leucadendron* var.) swamp-forest, with undergrowth of *Scleria* sp. (Information from Recto of same board; both images on same board). Papua. 17885. (above)



Papua, W.D., Fly R.: Sturt Island: a type of flood-plain forest comprised chiefly of n. 8134, which develops a complicated system of aerial roots: *Areca* n. 8189 in foreground.

17875.



Papua, W.D., Fly R. east bank opp. Sturt Is.: Forest on low flood-plains on lower end of Sturt Is.; largely "nutmeg-mangrove" *Myristica* n. 8008), with *Areca* n. 8189 substage.

17875.

- **Archbold New Guinea Expedition 1936-1937.** Papua, W.D., Fly R.: Sturt Island: a type of flood-plain forest comprised chiefly of n. 8134, which develops a complicated system of aerial roots: *Areca* n. 8189 in foreground **and** Papua, W.D., Fly R. east bank opp. Sturt Is.: Forest on low flood-plains on lower end of Sturt Is.; largely "nutmeg-mangrove" *Myristica* n. 8008), with *Areca* n. 8189 substage. (Information from Recto of same board; both images on same board). Papua. 17875. (above)



Papua, Western Division, Fly River, 2 miles below junction of Black and Palmer Rivers. Old garden growing up to forest: large *Macaranga* #7329 in background.

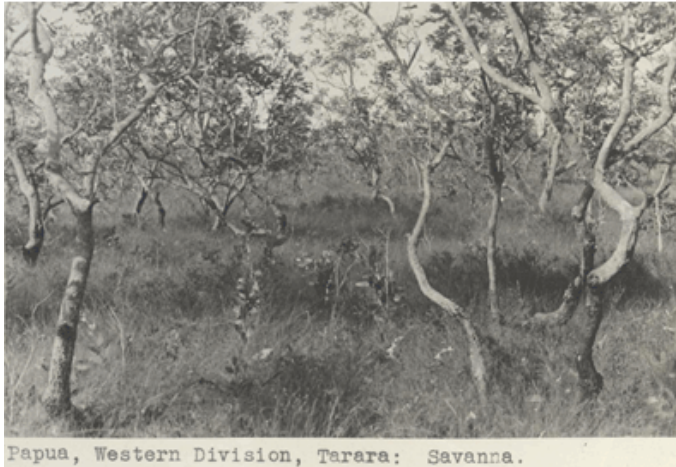
17877.



Papua, Western Division, 2 miles below junction of Black & Palmer Rivers: Healy on gravel bar 1 mi. above camp.

17877.

- **Archbold New Guinea Expedition 1936-1937.** Papua, Western Division, Fly River, 2 miles below junction of Black and Palmer Rivers. Old garden growing up to forest: large *Macaranga* #7329 in background **and** Papua, Western Division, 2 miles below junction of Black and Palmer Rivers: Healy on gravel bar 1 mi. above camp. (Information from Recto of same board; both images on same board). Papua. 17877. (above)



Papua, Western Division, Tarara: Savanna.

17873.



Papua, W.D., Penzara -Tarara: Swanje waterhole: method of catching fish.

17873.

- **Archbold New Guinea Expedition 1936-1937.** Papua, Western Division, Tarara: Savanna **and** Papua, W.D., Penzara – Tarara: Swanje waterhole: method of catching fish. (Information from Recto of same board; both images on same board). Papua. 17873. (*above*)



Papua, Western Division, Fly R., 2 miles below Junction of Black and Palmer Rivers: Interior river bank forest opposite top end garden island, tree raised on stilt roots; undergrowth mostly seedling trees.

17872.



Papua, Western Division, Fly River, 2 miles below junction of Black and Palmer Rivers: Old clearing in ridge forest: young palms and #6806 (fern) conspicuous in undergrowth; *Sclaginella* #6899 ground cover.

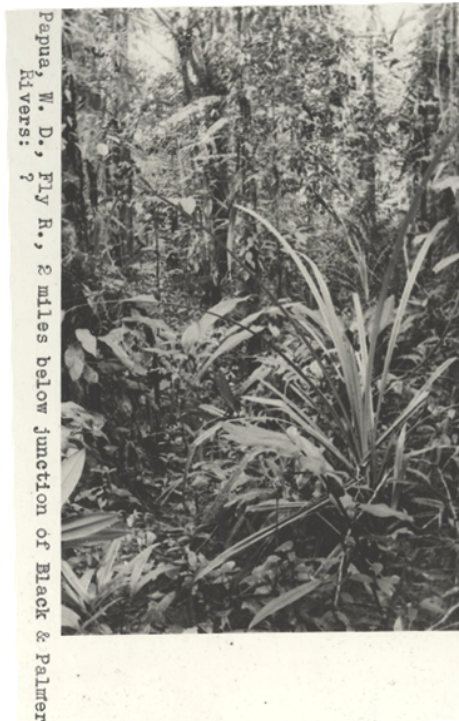
17872.

- **Archbold New Guinea Expedition 1936-1937.** Papua, Western Division, Fly R., 2 miles below Junction of Black and Palmer Rivers: Interior river bank forest opposite top end garden island, tree raised on stilt roots; undergrowth mostly seedling trees **and** Papua, Western Division, Fly River, 2 miles below Junction of Black and Palmer Rivers: Old clearing in ridge forest: young palms and #6806 (fern) conspicuous in undergrowth; *Sclaginella* #6899 ground cover. (Information from Recto of same board; both images on same board). Papua. 17872. (*above*)



17888.

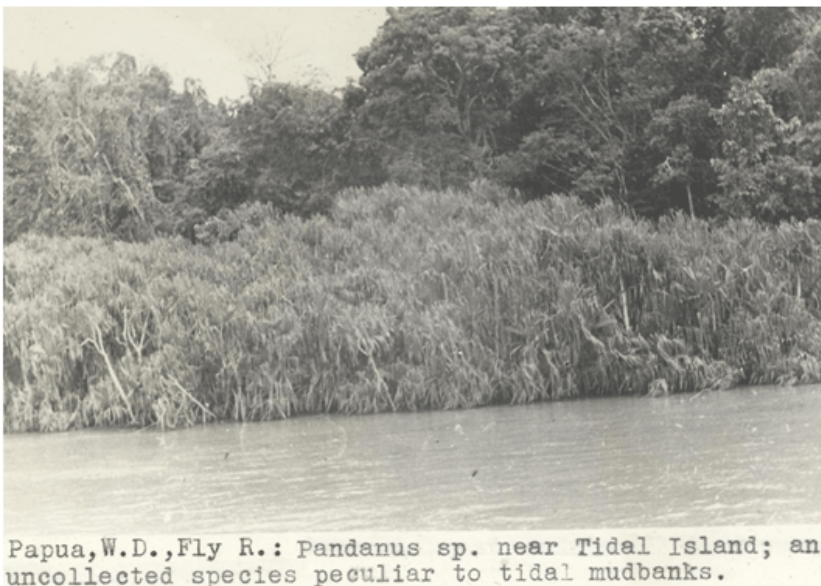
Papua, Western Division, Interior of forest on Sturt Is.



17888.

Papua, W. D., Fly R., 2 miles below junction of Black & Palmer Rivers: ?

- **Archbold New Guinea Expedition 1936-1937.** Papua, Western Division, Interior of forest on Sturt Is. **and** Papua, W.D., Fly R., 2 miles below junction of Black & Palmer Rivers: ? (Information from Recto of same board; both images on same board). Papua. 17888. (*above*)



Papua, W.D., Fly R.: Pandanus sp. near Tidal Island; an uncollected species peculiar to tidal mudbanks.

17887.

- **Archbold New Guinea Expedition 1936-1937.** Papua, W.D., Fly R.: *Pandanus* sp. Near Tidal Island; an uncollected species peculiar to tidal mudbanks. Papua. 17887. (Information from Recto) (*left*)



Papua, Western Division, Wassi Kussa River: *Melaleuca symphocarpa* savannah forest.

17884.



Papua, W.D., Penzara - Tarara: *Agonis* n. 8382 scrub near Tumbuke: trees chiefly *Banksia dentata* and *Melaleuca leuc.* var. n. 8480.

17884.

- **Archbold New Guinea Expedition 1936-1937.** Papua, Western Division, Wassi Kussa River: *Melaleuca symphocarpa* savannah forest **and** Papua, W.D., Penzara - Tarara: *Agonis* n. 8382 scrub near Tumbuke: trees chiefly *Banksia dentata* and *Melaleuca leuc.* var. n. 8480. (Information from Recto of same board; both images on same board). Papua. 17884. (above)



Papua, W.D., Lower Fly R., east bank opp. Sturt Is.: Tea-tree swamp forest (*M. leucadendron* var. 8147); with *Stenochlaena* n. 8148 climbing on trunks of trees.

17883.



Papua, W.D., Lower Fly, e. bank opp. Sturt Is.: Reed swamp (*Phragmites* n. 8226) with tea-trees (*Melaleuca leucadendron* var. n. 8147) on far side.

17883.

- **Archbold New Guinea Expedition 1936-1937.** Papua, W.D., Lower Fly R., east bank opp. Sturt Is.: Tea- tree swamp forest (*M. leucadendron* var. 8147); with *Stenochlaena* n. 8148 climbing on trunks of trees **and** Papua, W.D., Lower Fly, e. bank opp. Sturt Is.: Reed swamp (*Phragmites* n. 8226) with tea-trees (*Melaleuca leucadendron* var. n. 8147) on far side. (Information from Recto of same board; both images on same board). Papua. 17883. (above)



Papua, W.D., Fly River, Gaima Camp: *Scleria oryzoides* swamp, surrounded by savannah-forest and light rain-forest.

17882.



Papua, W.D., Lower Fly R., Gaima Camp: Banana gardens and driftwood on bank of river near Gaima.

17882.

- **Archbold New Guinea Expedition 1936-1937.** Papua, W.D., Fly River, Gaima Camp: *Scleria oryzoides* swamp, surrounded by savannah-forest and light rain-forest. **and** Papua, W.D., Lower Fly R., Gaima Camp: Banana gardens and driftwood on bank of river near Gaima. (Information from Recto of same board; both images on same board). Papua. 17882. (above)



Papua, W.D., Middle Fly River: During periods of high water in the lagoons, canoes cut corners by sliding over inundated grass flats: low trees on shoreline mostly *Barringtonia* #7914.

17881.



Papua, W.D., Fly R., Lake Daviumbu: Lake entrance channel winding through deep marsh filled with grass (*Leersia* n. 7601) and reeds (*Phragmites* n. 7904): a patch of *Hanguana malayana* near canoe in mid distance.

17881.

- **Archbold New Guinea Expedition 1936-1937.** Papua, W.D., Middle Fly River: During periods of high water in the lagoons, canoes cut corners by sliding over inundated grass flats: low trees on shoreline mostly *Barringtonia* #7914 **and** Papua, W.D., Fly R., Lake Daviumbu: Lake entrance channel winding through deep marsh filled with grass (*Leersia* n. 7601) and reeds (*Phragmites* n. 7904): a patch of *Hanguana malayana* near canoe in mid distance. (Information from Recto of same board; both images on same board). Papua. 17881. (above)



Papua, W.D., Middle Fly R., Lake Daviumbu: Canoe lane through tea-tree swamp forest.

17880.



Papua, W.D., Middle Fly R.: Canoes crossing rice-grass swamps connecting Pangwa Lagoon with Lake Daviumbu

17880.

- **Archbold New Guinea Expedition 1936-1937.** Papua, W.D., Middle Fly R., Lake Daviumbu: Canoe lane through tea-tree swamp forest **and** Papua, W.D., Middle Fly R.: Canoes crossing rice-grass swamps connecting Pangwa Lagoon with Lake Daviumbu. (Information from Recto of same board; both images on same board). Papua. 17880. (above)



Papua, W.D., Middle Fly, Lake Daviumbu: Pink Lotus-lily of the Fly, *Nelumbium speciosum*.

17879.



Papua, W.D., Middle Fly, Lake Daviumbu: Pink Lotus-Lily of the Fly, *Nelumbium speciosum*.

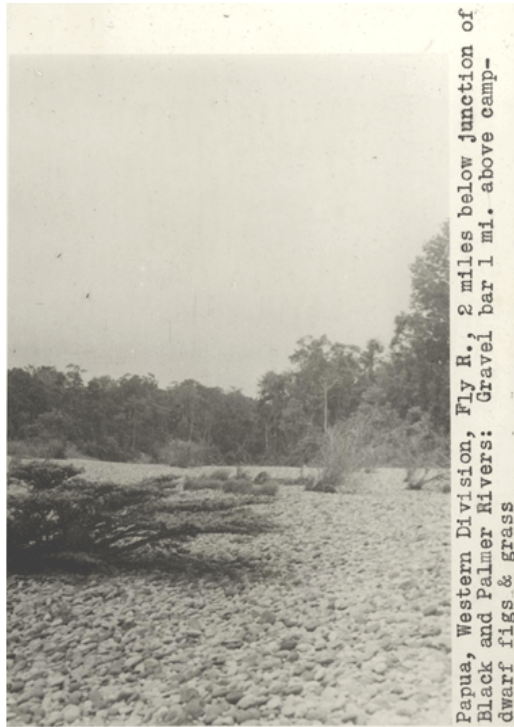
17879.

- **Archbold New Guinea Expedition 1936-1937.** Papua, W.D., Middle Fly, Lake Daviumbu: Pink Lotus-lily of the Fly, *Nelumbium speciosum* **and** Papua, W.D., Middle Fly, Lake Daviumbu: Pink Lotus-lily of the Fly, *Nelumbium speciosum*. (Information from Recto of same board; both images on same board). Papua. 17879. (above)



Papua, Western Division, Fly R., 5 miles below Palmer Jct.
Tree fern-Cyathea #6714.

17878.



Papua, Western Division, Fly R., 2 miles below junction of
Black and Palmer Rivers: Gravel bar 1 mi. above camp-
dwarf figs & grass

17878.

- **Archbold New Guinea Expedition 1936-1937.** Papua, Western Division, Fly R., 5 miles below Palmer Jct. Tree fern-Cyathea #6714 **and** Papua, Western Division, Fly R., 2 miles below junction of Black and Palmer Rivers: Gravel bar 1 mi. above camp-dwarf figs & grass. (Information from Recto of same board; both images on same board). Papua. 17878. (above)

Box 3

Series II: Photographs

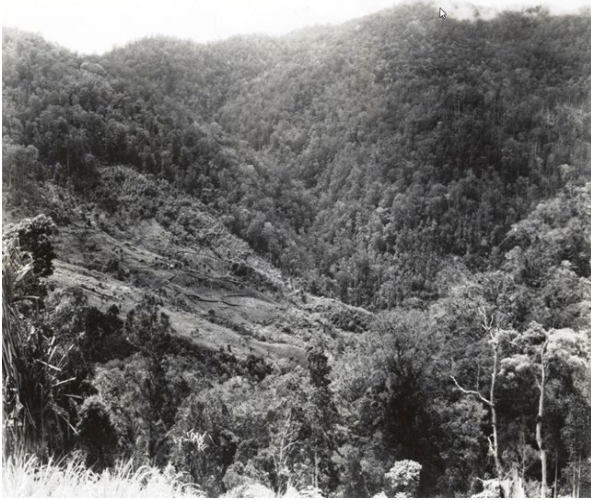
Subseries 4. Third Archbold Expedition. Snow Mountains, Netherlands, New Guinea. 1938-1939.

106 images, most mounted on board others housed in plastic sleeves, some duplicates. Information taken from both recto, in **bold**, and verso of each photograph. Almost all also include "Photograph by L.J. Brass" and "Gift of L.J. Brass, November 15 1944."

Folder:



1. Aerial Photograph of the Grand Valley of Balim River, from a position near the meeting place of the Teerink and van Arcken patrols. Most of the tree growths are secondary forests of *Casuarina*. The approximate position of the expedition's 1600 m. Camp marked X. A896. (in sleeve, no mark on image designating camp, no corresponding print mounted on board, caption from verso of print) Image published in Brass, L.J. "Expedition to the Snow Mountains, Netherlands, New Guinea." *Journal of the Arnold Arboretum* 22 (2) 271-295 (3) 297-[342] 1941. Plate 1. Figure 2. (above)



2. View over the Bele River valley from an altitude of 2350 m. on the slope opposite the 2200 m. Camp. *Nothofagus* forests cover both slopes, and *Engelhardtia* sp. And two species of oaks grow on the edge of the clearing in the foreground. *Imperata* grasslands and forest secondary communities surround the native hamlets and gardens. (in sleeve, no corresponding print mounted on board, caption from verso of print) Image published in Brass, L.J. "Expedition to the Snow Mountains, Netherlands, New Guinea." *Journal of the Arnold Arboretum* 22(2) 271-295 (3) 297-[342] 1941. (left)



3. A new garden in the forest at 2480 m. elevation – the **highest** garden seen on the expedition. Valley of the Bele River. (in sleeve, no corresponding print mounted on board, caption from verso of print, handwritten, in pencil) (above left)

4. Cultivated slopes of Bele Valley. Photograph from altitude of 2400 m. Bottom of valley 2000 m. (in sleeve, no corresponding print mounted on board, caption from verso of print, handwritten, in pencil) (*above right*)



December, 1938. 18370. B268.



December, 1938. 18369. B267.

5. **Netherlands New Guinea. Balim River.** Netherlands New Guinea: Balim River, 1600 m. Camp. 1938- 1939 N. G. Exp. Expedition camp, in a grove of *Casuarina* #11659 on south bank of the river. December 1938. 18370. B268. (*above left*)

6. Netherlands New Guinea. Balim River. 1600 m. Camp. 1938-39. N. G. Exp. Agriculture on the lower slopes and the rich bottom lands. Gardens on the slopes are walled with stones; those of the alluvial flats are drained by deep ditches, and sometimes walled with mud. [Very] little cultivation is carried out on the long deforested grassy slopes in background. December 1938. 18369. B267. (in sleeve, no corresponding print mounted on board, caption from verso of sleeve) (*above right*)



December, 1938. 18371. B269.

7. **Netherlands New Guinea. Balim River.** 1600 m. Camp. 1938-1939 N. G. Exp. View over Balim Valley from southern slopes. Expedition camp was on bank of river just out of view to the left. Limestone range across river is deforested to summit, about 2400 m. December 1938. 18371. B269. (left) (1 on board, 2 more copies in sleeves each with different captions)

2d Print (in sleeve) published in Brass, L.J. "Expedition to the Snow Mountains, Netherlands, New Guinea" *Journal of the Arnold Arboretum* 22

(2) 271-295 (3) 297-[342] 1941. Plate 4. Figure. 2. View north over the Grand Valley of the Balim, from a position just below the 1600 m. Camp. Stone garden walls pattern the valley floor and the deforested limestone range rising to about 2400 m. across the river. The tree growths consist of mixed secondary communities

in the foreground, a relic gallery strip of primary *Castanopsis* forest at the foot of the foreground slope, and *Casuarinas* on the valley bottom. (Typed) **3d Print** (in sleeve) [Netherlands New Guinea. Balim River] Town end of Balim Valley. Flora of valley 1600 m. above sea level. Ranges +/- 2400 m. The only remnant of the primary forest is in the form of a valley forest on the banks of the small stream at foot of mountains in foreground. The shrub is a pure stand of *castanopsis*. (in pencil)



December, 1938. 18361. B258.



December, 1938. 18362. B259.

8. **Netherlands New Guinea. Balim River** 1600 m. Camp. 1938-1939 N. G. Exp. Stone walled sweet potato gardens, in a setting of *Casuarinas* (#11659). December 1938. 18361. B258. (*above left*)
9. **Netherlands New Guinea. Balim River** 1600 m. Camp. 1938-1939 N. G. Exp. View over south side of Balim Valley from near native suspension bridge one-half hour below camp (opposite junction of tributary). Deforested slopes, with villages, gardens, *Casuarinas*, and extensive grasslands. Large erosion gully in upper right. December 1938. 18362. B259. (*above right*)



December, 1938. 18364. B261.

10. Netherlands New Guinea. Balim River. 1600 m. Camp. 1938-1939 N. G. Exp.

View up valley from below the camp. Low **secondary** brush in foreground. At bridgehead across river are a few relic trees (*Celtis similis* Merr. & Perry #11168 sp. nov.) of the original primary forest. Other trees nearly all *Casuarina* #11659. December 1938. 18364. B261. (in sleeve, no corresponding print mounted on board) (above)



December, 1938. 18363. B260.

11. Netherlands New Guinea. Balim River. 1600 m. Camp. 1938-1939 N. G. Exp.

View south across valley from bridgehead on opposite (north) side of river from camp. Great erosion ravine high up on slope to right. Relic clump of primary forest (*Celtis similis* Merr. & Perry) in foreground. Other trees mostly *Casuarina* #11659. December 1938. 18363. B260. (in sleeve, no corresponding print mounted on board) (above)



December, 1938. 18315. B262.

12. Netherlands New Guinea. Balim River. 1600 m. Camp. 1938-1939 N. G. Exp.

Native suspension bridge one-half hour below camp. Span about 50 m. Construction of poles and split timber, suspended and bound with lianas. The natives of the valley have only stone tools. December 1938. 18315. B262. (*above*)



December, 1938. 18366. B263.



December, 1938. 18367. B265.

13. Netherlands New Guinea. Balim River. 1600 m. Camp. 1938-1939 N. G. Exp.

Approaching the gorge below the bridge, the Balim splits up around islands [covered] with *Casuarinas* #11659 and bright green grass, cultivation extends up to about 2300 m. on the slopes. December 1938. 18366. B263. (in sleeve, no corresponding print mounted on board) (*above left*)

14. Netherlands New Guinea. Balim River. 1600 m. Camp. 1938-1939 N. G. Exp.

Although almost entirely deforested from the river banks up to 2300-2400 m. on the slopes, no more than 1% of the land is under crop at the present time. Picture shows old-established secondary grassland on the lower slopes, carrying small trees (*Ficus* #11167) and shrubs (*Desmodium sequax* Wall #11799). Taller trees are *Casuarina* #11659, probably planted by the natives. Grasses chiefly *Imperata* (alang-alang), *Sorgum nitidum* (Vahl) Pers. and *Andropogon intermedius* R. Br. December 1938. 18367. B265. (on board) (*above right*)



December, 1938. 18368. B266.

15. Netherlands New Guinea. Balim River. 1600 m. Camp. 1938-1939 N. G. Exp. A village ½ hour up river from expedition camp. Enclosed by walls of loose stone and shaded by *Casuarina* #11659. Sweet potato gardens in foreground; Bananas in village enclosure. December 1938. 18368. B266. (on board) (*above*)

2d print (in sleeve)

Alt. 1600 m. Villages are usually built in hollows, for shelter from the strong trade winds which flow up the valley from the south-east. 112. (from verso, handwritten in pencil)



16. Netherlands New Guinea. Balim River. 1600 m. Camp. 1938-1939 N. G. Exp. View over the deforested valley of the Balim from southern slopes. Expedition camp was on near (south) side of the river about center of picture. Stone walls pattern the valley floor and give a terraced appearance to the deforested limestone range rising to about 2400 m. across the river. The gardens are planted to sweet potatoes. Strips and patches of *Casuarina* (#11659) trees grow in the bottom of the valley. December 1938. 18372.

B240. (number B270 on verso of print, in sleeve, appears to once have been mounted, caption from old sleeve. (*above*))

2d print (also in sleeve)

Cultivated bottom lands of Balim Valley, N. slope of Snow Mountains, Netherlands New Guinea. Alt. 1600 m. Sweet potato gardens enclosed in stone walls; valley almost completely deforested; secondary stands of *Casuarina* perhaps having been planted by the natives, provides fuel and timber for buildings. (verso, handwritten in pencil)



17. Netherlands New Guinea. Balim River, 1600 m. Camp. 1938-1939 N. G. Exp. A native hamlet surrounded by stone walls and sheltered by Casuarinas (#11659). The round house is reserved for the men; the long houses accommodate the women and pigs. Sweet potatoes, tobacco and banana grow within the enclosures. December 1938. B257. (In sleeve, appears to once have been mounted, caption from old sleeve) (*above*)



18. Netherlands New Guinea. Balim River. 1600 m. Camp. 1938-1939 N. G. Exp. Gully erosion on a grand scale. Upper half of the erosion cut in soft yellow sandstone, extending from the bottom of the valley to the crest of a 520 m. ridge on the southern slope. It probably began on a native path, or in a garden drain. December 1938. 18373. B271. (In sleeve, appears to once have been mounted, caption from old sleeve) (*above*)



- 19.** Netherlands New Guinea. Balim Valley. B-272. Lower end of the erosion cut shown in B271. *Casuarinas* #11659 have colonized the older and more stable slopes of the cut and the edges of spoil-fan which spreads across the valley to the river. (In sleeve, appears to once have been mounted, caption from verso, typewritten) (*above*)



- 20.** Netherlands New Guinea. Balim River. 1600 m. Camp. 1938-1939 N. G. Exp. Spoil; fan below the erosion cut (see B271) and B272), edged with young forest of *Casuarina* #11659. Walled gardens in the valley and on the deforested slopes beyond the river. December 1938. 18375. B273. (In sleeve, appears to once have been mounted, caption from old sleeve) (*above*)



December, 1938. 18358. B253.

21. Netherlands New Guinea. Route Bele Camp to Balim Camp. 1938-1939 N.

G. Exp. View up lower valley of Bele from altitude 2140 m. on eastern slope. Newly planted sweet potato garden on left. Numerous planted (?) *Casuarina* #11659 on deforested slopes, and relic patches of *Castanopsis* forest. The *Pandanus* (*P. brosimos* M. & P.?) produces large oily seeds which are an important food of the natives. December 1938. 18358. B253. (above)



December, 1938. 18359. B254.

22. Netherlands New Guinea. Route Bele Camp to Balim Camp 1938-1939 N.

G. Exp. Lower course of Bele River where it flows into the Balim (or Grand) Valley. Early morning fog-bank over Balim. December 1938. 18359. B254. (above)



November, 1938. 18357. B249.



November, 1938. 18354. B245.

23. Netherlands New Guinea. Bele River. 18 km. NE of Lake Habbema. 1938-1939 N. G. Exp. View north down Bele Valley from altitude of 2350 m. on west side of valley near expedition camp. Mountains on the extreme upper right are on the north side of the Balim Valley. Lower slopes occupied by sweet potato gardens, grass, and secondary forest, Upper slopes clothed with primary Nothofagus (?) forest. November 1938. 18357. B249 (*above left*)

24. Netherlands New Guinea. Bele River. 18 km. NE of Lake Habbema. 1938-1939 N. G. Exp. [Expedition] camp at 2200 m. on the east bank of the Bele River. Secondary forest occupies old garden lands on the slopes behind the camp. November 1938. 18354. B245. (no corresponding print mounted on board) (*above right*)



November, 1938. 18353. B243.

25. Netherlands New Guinea. Bele River. 18 km. NE of Lake Habbema. 1938-1939 N. G. Exp. Upper valley of the Bele, viewed from an altitude of 2400 m. on the eastern slope. November 1938. 18353. B243. (on board) (*above*)

2d print (in sleeve) Villages, gardens and edible [*Pandanus?*] in upper valley of the Bele. Gardens about 2300 m. above sea level. 89 (handwritten, in pencil)



November, 1938. 18352. B242.

26. Netherlands New Guinea. Bele River. 18 km. NE of Lake Habbema. 1938-1939 N. G. Exp. Illustrating the advance of cultivation up the slopes of the valley, and the destruction of the forests as new areas are brought under crop to the staple food product, sweet potatoes. Note logs placed to prevent soil drift. *Cyathea magna* Copeland and *Sticherus habbemensis* Copeland conspicuous in the young woody growths in foreground. Forest a practically pure stand of *Nothofagus* (?) #11369. Altitude about 2300-2350 m. November 1938. 18352. B242. (on board) (above)

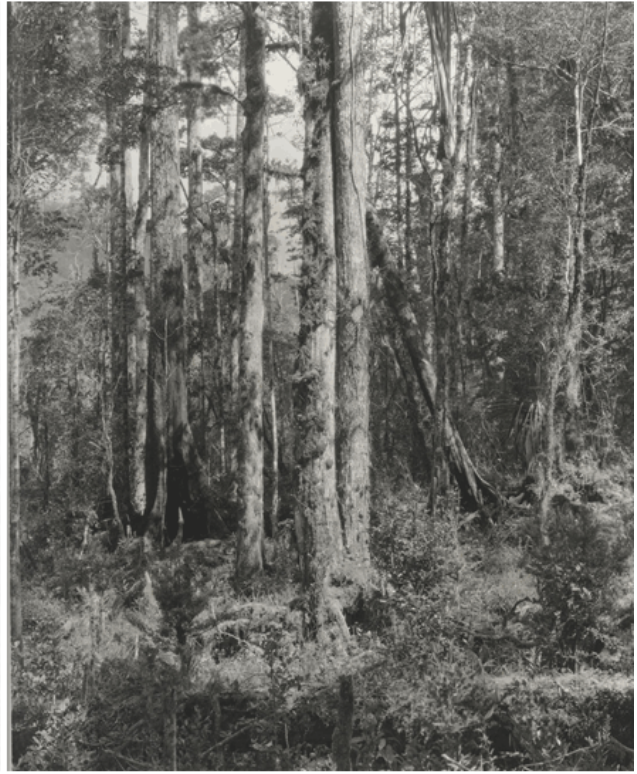
2d print (in sleeve)

New land being brought under cultivation at an elevation of 2300 m. in the valley of the Bele, a tributary of the Balim. The patch of ground in center, which is bearing its first crop of sweet potatoes, is fenced with logs, sticks, and lengths of split timber. *Pandanus*, which grow in open places in the forest, were carefully preserved when the forest was felled. Logs are laid across the slope, and rigged in position, to prevent soil drift. Above the garden is an area of partly felled forest which, from the appearance of the soil is somewhat (heavy?), and apparently it is necessary to allow the land to dry out and "sweeten" for several years before it is fit to crop. Second growth on old garden land appear in foreground.

Trees up to 15-18 inches diameter are cut with stone tools and the bigger ones brought down by burning. Sometimes big trees are ring-barked and burnt down when dry. 87. (handwritten, pencil)



November, 1938. 18356. B248.



November, 1938. 18350. B239.

27. Netherlands New Guinea. Bele River 18 km. NE of Lake Habbema. 1938-1939 N. G. Exp. Pure forest of *Nothofagus* (?) #11115 at 2450 m. cleared of undergrowth. Bushy regrowths chiefly *Rapanea* #11288. November 1938. 18350. B239. (*above left*)

2nd Print (in sleeve) Brass, L.J. "Expedition to the Snow Mountains, Netherlands, New Guinea." *Journal of the Arnold Arboretum* 22 (2) 271-295 (3) 297-[342] 1941. Plate 5. Figure 1. Typical tall forest of *Nothofagus* 11115 at 2450 m. in the Bele River valley. Most of the undergrowth and the smaller trees have been removed by the natives as a preliminary to felling the forest.

28. Netherlands New Guinea. Bele River. 18 km. NE of Lake Habbema. 1938-1939 N. G. Exp. Pure forest of *Nothofagus* (?) #11369 on a limestone slope at 2450 m.; trees 35-40 m. high; subsidiary trees mostly young *Nothofagus* #11369 and *Fagraea Bodanii* Wernh. #10541; slender sub stage trees, 10-12 m. high, include *Xanthomyrtus lanceolata* Merr. & Perry, *Pygeum melanocarpum* Merr. & Perry #11531 *Phyllanthus* #11534, and *Pandanus* sp. Trees mossy to 1-2 m.; green liverworts pendent from undergrowth. November 1938. 18356. B248. (*above right*)



- 29. Netherlands New Guinea. Lake Habbema.** (3225 m.). 1938-1939 N. G. Exp. Mount Wilhelmina viewed from grassy hollow N. E. of expedition camp. Tree ferns, *Cyathea tomentosissima* Copeland #9113 sp. Nov. Trees on right *Libocedrus papuana* F. v. M. #9241. In foreground tussocks of *Gahnia* #9047, shrubs *Drimys Brassii* A. C. Smith #9068 sp. Nov., *Rhododendron* #9139, and small *Tetramalopium* #9025 with white flowers. August 1938. 18309. B174. (above)



August, 1938. 18310. B145.

- 30. Netherlands New Guinea. Lake Habbema.** (3225 m.). 1938-1939 N. G. Exp. Open forest of *Podocarpus compacta* Wasscher #9291 and *Libocedrus papuana* F. v. M. #9241 on sheltered peaty slopes 1 mile N. E. of camp. (Alt. 3256 m.). Undergrowth largely *Rhododendron* #9024; ground mossy. In gully in foreground, shrubby growth of *Coprosma* #9028, *Rapanea* #9080 and *Pygeum retusum* Merr. And Perry #9035 sp. nov. Tussocks of *Gahnia* #9047 in forest undergrowth. August 1938. 18310. B175. (above)



August, 1938. 18311. B176.

31. Netherlands New Guinea. Lake Habbema. (3225 m.). 1938-1939 N. G. Exp. Swampy hollow filled with tall grass *Deschampsia Klossii* Ridley #9048. Right and left: tall *Podocarpus compacta* Wassch. #9291 growing in dense, very mossy shrubberies of mixed composition. Tree in left foreground *Symplocos* #9340. Crooked low trees at left: *Drimys Brassii* A. C. Smith #9068. In near foreground *Rhododendron* 24 (slender shrub) and *Blechnum Hieronymi* Brause #9442 (fern). August 1938. 18311. B176. (above)



August, 1938. 18328. B201.

32. Netherlands New Guinea. Lake Habbema. (3225 m.). 1938-1939 N. G. Exp. A somewhat marshy grass hollow and forested ridges $\frac{3}{4}$ mile N.W. of expedition camp. Clumps of *Gahnia* #9047 and various small shrubs plentiful in foreground. On the slightly raised sandy banks of the stream winding through the valley grows the tree fern *Cyathea tomentosissima* Copeland #9113 sp. nov., and between the stream and the forest are recently burned areas of grass *Podocarpus compacta* Wasscher, with rounded crown, and *Libocedrus papuana* F. v. M., with layered crown, protrude above the much lower trees which form the actual canopy and appear to dominate the forest. Same subject as #199 viewed from a different position. August 1938. 18328. B201. (above)



August, 1938. 18327. B200.



August, 1938. 18326. B199.

33. Netherlands New Guinea. Lake Habbema. (3225 m.). 1938-1939 N. G. Exp.

Grassy hollows and forested ridges $\frac{3}{4}$ mile N. W. of camp, viewed from the point of a peat-covered ridge supporting an open vegetation of shrubs [and] scattered *Libocedrus papuana* F. v. M. #9241. *Cyathea cheilanthoides* Copeland #9283 sp. nov. grows on the dry point of the ridge, and *Cyathea tomentosissima* Copeland #9113 sp. nov. marks the course of a stream meandering through the grassy hollow. August 1938 18327. B200. (Image in sleeve, no corresponding mounted print) (above left)

34. Netherlands New Guinea. Lake Habbema. (3225 m.). 1938-1939 N. G. Exp. A

somewhat marshy grass hollow and forested ridges $\frac{3}{4}$ mile N.W. of expedition camp. Clumps of *Gahnia* #9047 and various small shrubs plentiful in foreground. On the slightly raised sandy banks of the stream winding through the valley grows the tree fern *Cyathea tomentosissima* Copeland #9113 sp. nov., and between the stream and the forest are recently burnt areas of grass. *Podocarpus*, with rounded crown, and *Libocedrus papuana* F. v. M., with layered crown, protrude above the much lower trees which form the actual canopy and appear to dominate the forest. August 1938. 18326. B199. (above right)

2n print (in sleeve)

Brass, L.J. Expedition to the Snow Mountains, Netherlands, New Guinea. *Journal of the Arnold Arboretum* 22 (2) 271-295 (3) 297-[342] 1941. Plate 3, Figure. 2. A grassy hollow, and ridges covered with closed subalpine forest of *Vaccinium*, *Podocarpus* and *Libocedrus*, at an elevation of -3250 m. on the north side of Lake Habbema. The tree-fern *Cyathea tomentosissima* Copel. Lines the banks of an entrenched stream, and between the stream and the forest is a patch of newly burnt grass.



August, 1938. 18325. B198.

35. Netherlands New Guinea. Lake Habbema. (3225 m.). 1938-1939 N. G. Exp. Outlet stream of the lake, flowing in a grassy valley between forested ridges. Stream edged by tall *Carex* #9211 and beds of *Lepironia* (?) #9443 surrounding boat) and containing large quantities of submerged *Potamogeton* #9513. Shrubs (*Drimys Brassii* A. C. Smith #9068, *Styphelia* cf. *Vanderwateri* Wernh. #9459, *Rhododendron* spp., *Rapanea* #9080), tree ferns (*Cyathea tomentosissima* Copeland #9113 sp. nov.) and tussocked-forming *Deschampsia Klossii* Ridley #9048. *Libocedrus papuana* F. v. M. #9241 protrudes above the forest and *Podocarpus compacta* Wasscher is grouped on right. August 1938. 18325. B198. (left)



August, 1938. 18329. B202.



August, 1938. 18330. B203.

36. Netherlands New Guinea. Lake Habbema. (3225 m.). 1938-1939 N. G. Exp. Edge of subalpine forest scorched by a recent grass fire. Border shrubberies of *Drimys Brassii* A. C. Smith #9068 sp. nov. and *Coprosma* #9144. Large trees in forest edge *Podocarpus compacta* Wasscher. Tree fern *Cyathea tomentosissima* Copeland #9113 sp. nov. August 1938. 18329. B202. (above left)

37. Netherlands New Guinea. Lake Habbema. (3225 m.). 1938-1939 N. G. Exp. Dry, stony, remnant ridges of sandstone in a somewhat marshy grass valley at head Of lake. Ridge in foreground sparsely vegetated with stiff tuft grasses, clumps of the large sedge *Gahnia* #9047, prostrate *Vaccinium ciliatipetalum* J. J. Sm. #9181 and *Lycopodium* #9186, *Gleichenia squamosissima* Copeland sp. nov. (erect in the grass), and the small shrubby Composite #9327. *Drimys Brassii* A. C. Smith #9068 sp. nov. (right) and very stunted *Libocedrus papuana* F. v. M. appear as larger woody plants. Grey, white, and green lichens (#9330, #9331, #9332, #9333, #9168) cover exposed rocks. August 1938. 18330. B203. (above right)



August, 1938. 18331. B204.

38. Netherlands New Guinea. Lake Habbema. (3225 m.). 1938-1939 N. G. Exp.

Tree ferns (*Cyathea tomentosissima* Copeland #9113 sp. nov.) lining a stream in a broad grassy hollow ½ mile east of camp. On both sides of hollow are peat-covered sandstone ridges supporting open stands of *Libocedrus papuana* F. v. M. #9241 and *Rhododendron* shrubberies. Grass clumps in foreground (and throughout valley) *Deschampsia Klossii* Ridley #9048. A native shelter of brush and tree fern fronds on bank of stream in lower center. August 1938. 18331. B204. (above)



August, 1938. 18332. B205.

39. Netherlands New Guinea. Lake Habbema (3225 m.). 1938-1939 N. G. Exp.

Grassland tree fern, *Cyathea tomentosissima* Copeland #9113 sp. nov., on sandy banks of a stream. Note young *Libocedrus papuana* F. v. M. #9241 scattered through grass along foot of ridge on right. August 1938. 18332. B205. (above)



August, 1938. 18324. B196.



August, 1938. 18323. B195.

40. Netherlands New Guinea. Lake Habbema. (3225 m.). 1938-1939 N. G. Exp. Subalpine forest or ridge giving place to shrubberies and ultimately open grassland. Forest composed of an open stand of conifers (*Podocarpus compacta* Wasscher, *Libocedrus papuana* F. v. M. #9241 and *Phyllocladus hypophyllis* Hook. F. #9090) overtopping a dense low canopy layer of *Vaccinium dominans* Sleumer #9290 and *Decaspermum Lorentzii* Lauterb. #9225. Shrubberies largely *Styphelia* cf. *Vanderwateri* Wernh. #9459, *Rubus paradoxus* Ridley #9133 (dome-shaped masses), *Rhododendron* spp., *Coprosma* #9028 and *Drimys Brassii* A. C. Smith #9068 sp. nov. *Cyathea tomentosissima* Copeland #9113 sp. nov. (tree fern) in shrubs and grass. Trees on left: i *Libocedrus* (fissured bark) and 3 *Podocarpus*. Excurrent tree tops on skyline are *Libocedrus*, pyramidal top in centre *Phyllocladus*, and the rounded ones *Podocarpus*. Sedge tussocks (*Gahnia* #9047) in foreground. August 1938. 18324. B196. (above left)

41. Netherlands New Guinea. Lake Habbema. (3225 m.). 1938-1939 N. G. Exp. Center foreground: *Myrmecodia* #9446 epiphytic on *Podocarpus compacta* Wasscher, and on the branch of the same tree the fern *Hymenolepis revolute* Bl. #9071 growing erect in mosses and hepatics. Mossy tree on right (behind branch of *Podocarpus*) *Symplocos* #9340. On left – trunk of another *Podocarpus compacta*. Composition of tall shrubbery cut off in lower foreground (left to right) *Rhododendron* #9139 (broad leaves right of tree) and *Vaccinium dominans* Sleumer #9290. *Libocedrus papuana* trees in background. August 1938. 18323. B195. (above right)



August, 1938. 18322. B194.

42. Netherlands New Guinea. Lake Habbema.

(3225 m.). 1938-1939 N. G. Exp. Expedition camp and Mount Wilhelmina viewed over lake. Ridge vegetation – open stand of *Libocedrus* rising above *Rhododendron* #9024 shrubberies and very mossy thickets of low trees (largely *Phyllocaldus hypophyllis* Hook. F. #9090, *Pygeum retusum* Merr. And Perry #9103 and *Xanthomystur Dielsiana* Merr. And Perry #9018.) August 1938. 18322. B194. (above)



August, 1938. 18321. B193.

43. Netherlands New Guinea. Lake Habbema. (3225 m.). 1938-1939 N. G. Exp. Mount Wilhelmina viewed over expedition camp and Lake Habbema from altitude of 3265 m. on Grand Valley Divide (due NE camp). In foreground open forest of *Libocedrus papuana* F. v. M. and bigmossy *Podocarpus compacta* Wasscher. In right foreground *Araliaceae* #9091 (umbrella tree). Tree ferns in the grassy valley are *Cyatheatomentosissima* Copeland #9113 sp. nov. August 1938. 18321. B193. (above)

2nd print in sleeve

Brass, L.J. "Expedition to the Snow Mountains, Netherlands, New Guinea" *Journal of the Arnold Arboretum* 22 (2) 271-295 (3) 297-[342] 1941. Plate 3. Figure 1. Mt. Wilhelmina viewed over the expedition camp on Lake Habbema from an altitude of 3265 m. on the rim ridge of the Grand Valley. *Podocarpus papuanus* Ridl. And *Libocedrus* sp. protrude above a patch of closed *Vaccinium* forest in the foreground. The ridges about the lake carry an open stand of *Libocedrus* growing in *Rhododendron* shrubberies and low-tree thickets.



August, 1938. 18320. B191.



August, 1938. 18318. B189.

44. Netherlands New Guinea. Lake Habbema. (3225 m.). 1938-1939 N. G. Exp. Interior of subalpine forest on limestone ridge (under Grand Valley Divide) about 1 mile NE of camp. On left a big tree of *Podocarpus compacta* Wasscher and the pendent green-flowered orchid #9351. Other trees, *Vaccinium dominans* Sleumer #9290 (above left)

45. Araliaceae #9091 (umbrella tree). Undergrowth of *Drimys hatamensis* Becc. #9491 (small tree with broad leaves), and growing in the thick brown moss, the ferns *Ctenopteris allocata* (v.A.v.R.) Copeland #9466 (pinnate) and *Selliguea feei* Bory #9487 (broad, ribbed leaves). *Selliguea* also epiphytic with orchid #9350 and *Ctenopteris whartonia* (C. Chr.) Copeland #9470. August 1938. 18320. B191. (above right)



August, 1938. 18317. B188.

46. Netherlands New Guinea. Lake Habbema. (3225 m.). 1938-1939 N. G. Exp. Mount Wilhelmina from hill ¼ mile SSW of expedition camp. Terrain in foreground and near distance consists of peaty ridges covered with a discontinuous small tree and shrub community, heavily mossed on ground, of which the chief constituents are *Xanthomyrtus dielsiana* Merr. & Perry, *Phyllocladus hypnophyllus* Hook f. and *Rhododendron* #9024, overtopped by *Libocedrus papuana* F. v. M. #9241 and Araliaceae #9091. August 1938. 18317. B188. (left)



August, 1938. 18316. B186.

47. Netherlands New Guinea. Lake Habbema. (3225 m.). 1938-1939 N. G. Exp. View of expedition camp and Mount Wilhelmina. Ridges covered with shrubberies and mossy thickets of low trees overtopped by an open stand of *Libocedrus papuana*. August 1938. 18316. B186.



August, 1938. 18315. B184.



August, 1938. 18314. B183.

48. Netherlands New Guinea. Lake Habbema. (3225 m.). 1938-1939 N. G. Expedition flying boat "Guba" at the wharf. Heights of Nassau Range in background; in foreground, *Isoetes* #9440 growing in the shallows of the lake. August 1938. 18315. B184. (above left)

49. Netherlands New Guinea. Lake Habbema. (3225 m.). 1938-1939 N. G. Exp. Dr. L.J. Toxopeus, entomologist, arrives from the coast. Trees – *Libocedrus papuana* F. v. M. The sago leaf "atap" (right) was flown in from the coast for use in camp construction. August 1938. 18314. B183. (above right)



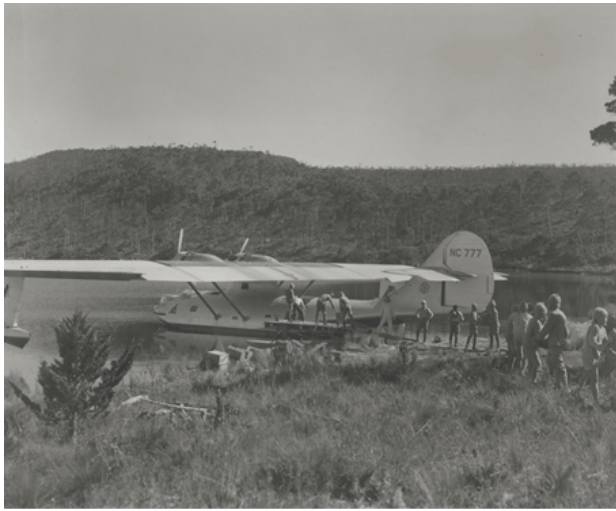
August, 1938. 18334. B211.

50. Netherlands New Guinea. Lake Habbema. (3225 m.). 1938-1939 N. G. Exp. Types of vegetation at 3260 m. on slope of Grand Valley divide about 1 mile north of camp. Transition from tussock grass (*Deschampsia Klossii* Ridley #9048) in limestone sinkholes on right through shrubberies (*Rhododendron* #9024, *Drimys Brassii* A. C. Smith #9068 sp. nov.) to closed forest on crest of ridge to left. *Podocarpus compacta* Wasscher and *Libocedrus papuana* F. v. M. #9241 conspicuous in forest: smaller trees mostly *Symplocos* #9340 and *Pygeum retusum* Merr. & Perry #9103. *Cyathea cheilanthoides* Copeland #9283 sp. nov. (tree fern) in grass and shrubby edges. On ridge running across background is an open stand of *Libocedrus papuana* growing high above *Rhododendron* shrubberies and mixed, very mossy low tree thickets on peaty soil overlying sandstone. August 1938. 18334. B211.



August, 1938. 18333. B210.

51. Netherlands New Guinea. Lake Habbema. (3225 m.). 1938-1939 N. G. Exp. Moss-cushioned low *Libocedrus papuana* F. v. M. #9241 on the grassy slope of a wet, peaty ridge; one tree supports a large specimen of *Myrmecodia* #9446. Small leaved *Rhododendron* #9024, *Drimys Brassii* A. C. Smith #9068 sp. nov., and *Pygeum retusum* Merr. & Perry (broad leaves) from shrubberies surrounding the trees. August 1938. 18333. B210. (left)



August, 1938. 18313. B181.



August, 1938. 18312. B180.

52. Netherlands New Guinea. Lake Habbema. (3225 m.). 1938-1939 N. G. Exp.
The expedition flying boat "Guba" being unloaded at the wharf. August 1938.
18313. B181. (*above left*)

53. Netherlands New Guinea. Lake Habbema. (3225 m.). 1938-1939 N. G. Exp.
Expedition camp. In foreground *Libocedrus* and open shrubberies of
Rhododendron #9024 with clumps of *Gahnia* #9047. August 1938. 18312. 180.
(*above right*)



October, 1938. 18347. B234.

54. Netherlands New Guinea. 2800 m. Camp. Lake Habbema. 2800 m. Camp, 9 km. NE of Lake Habbema: 1938-1939 N. G. Exp. Native house in a planted *Pandanus* grove; ruffbark over circular, double walls of stakes partly covered with *Pandanus* leaves on the outside. In background tall forest of *Nothofagus* (?) #10243; upper branches cushioned with liverworts and mosses and hung with orchids. Large gouty epiphyte, *Myrecodia* #10689, conspicuous on one of the trees. October 1938. 18347. B234. (*left*)

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House in a planted *Pandanus* grove at 2800 m. on north slope of ? mountain. ? (handwritten in pencil)



October, 1938. 18348. B236.

55. Netherlands New Guinea. 2800 m. Camp. Lake Habbema. 2800 m. Camp, 9 km. NE of Lake Habbema: 1938-1939 N. G. Exp. Pure open forest of *Nothofagus* (?) #10243 on a slope at 2960 m. alt. Trees cushioned with brown hepatics. Tall undergrowth of *Papanea* #10258, *Rhododendron* #10250, *Pygeum rigidum* Koehne #10844 and young *Nothofagus* (?)#10243. October, 1938. 18348. B236 (above)



October, 1938. 18345. B227.

56. Netherlands New Guinea. 2800 m. Camp. Lake Habbema. 2800 m. Camp, 9 km. NE of Lake Habbema: 1938-1939 N. G. Exp. Expedition camp: arrival of a transport train from Lake Habbema. Camp situated in a planted *Pandanus* (*P. brosimos* M. and P. ?) grove, in *Nothofagus* ? forest. October 1938. 18345. B227 (above)



October, 1938. 18349. B237.



June, 1938. 18305. B161.

57. Netherlands New Guinea. 2800 m. Camp. 9 km. NE of Lake Habbema.

2800 m. Camp, 9 km. NE of Lake Habbema: 1938-1939 N. G. Exp. Heavily "mossed" open forest of *Nothofagus* (?) #10243 on the crest of a ridge at 3000 m. Trees covered with brown hepatics to 5-8 m. above the ground. Epiphytes *Selliguea*, *Humata*, *Poypodium* spp., *Rhododendron* #10668, and various orchids. Thick ground cover of liverworts, and undergrowth of tangled orchids, *Styphelia nubicola* Wernham #10663 and *Vaccinium debilescens* Sleumer #10648. October 1938. 18349. B237. (above left)

58. Netherlands New Guinea: Hollandia.. 1938-1939 N. G. Exp. Rain-forest path. June 1938. 18305. B161. (above right)



June, 1938. 18308. B168.

59. Netherlands New Guinea.

Hollandia. 1938-1939 N. G. Exp. Old deforested slopes on north side of Hollandia Bay. Ferny glade (*Dicranopteris linearis* (Burm.) Underw. #8807) with *Deplanchea* #8821 (big leaves) growing in fern, and clump of small palm #8891 in regenerative forest in background. June 1938. 18308. B168. (left)



June, 1938. 18307. B166.

60. Netherlands New Guinea.

Hollandia. 1938-1939 N. G. Exp. Old deforested slopes on north side of Hollandia Bay. In foreground sparse ground cover of sedge #8802 and (shorter) grass *Eriachne pallescens* R. Br. #8881. Tallest tree on extreme right *Xanthostemon papuanus* Lauterb. vel. aff. #8801. *Casuarina* #8820 June 1938. 18307. B166. (left)



June, 1938. 18302. B158.



June, 1938. 18301. B156.

61. Netherlands New Guinea. Hollandia.. 1938-1939 N. G. Expedition. Interior of tall primary rain-forest on limestone at 80 m. alt.: trees unknown: climbers mostly aroids: ground cover *Selaginella caudata* (Des.) Spring #8830, etc. June 1938. 18302. B158. (above left)

62. Netherlands New Guinea. Hollandia. 1938-1939 N. G. Exp. View over upper end of town: Government offices, establishment of field police, gezaghelber's residence. Plantings of coconuts, bananas, papayas, breadfruit, Kapok, and *Casuarina equisetifolia*. June 1938. 18301. B156. (above right)



June, 1938. 18400. B157.



April, 1939. 18405. B306.

63. Netherlands New Guinea. Hollandia. 1938-1939 N. G. Expedition. Edge of a clearing in tall rain-forest on limestone hills at average 60 m. alt.: in foreground Lalang – grass (*Imperata cylindrica*): next a strip of second growths containing *Homalanthus populneus* (right), *Dammaropsis* (big leaves), etc. June 1938. 18400. B157. (above left)

64. Netherlands New Guinea. Bernhard Camp. (alt. 50 m.), Idenburg River. 1938-1939 N. G. Exp. Rarely flooded rain-forest of river plain. Big tree on right is *Mastixiodendron pachyclados* (K. Sch.) Melchior #14097, in centre *Intsia palembanica* Miq. #13542 (with pitted bark). A scrambling *Korthalsia* sp. abundant. Undergrowth of slender trees of few spp. and *Pandanus* sp. 3-5 m. high; fan palms (*Licala* #13774); sparse ground layer of seedling trees and palms. April 1939. 18405. B306. (above right)



March, 1939. 18403. B279.



April, 1938. 18387. B297.

65. Netherlands New Guinea. 1200 m. Camp. Idenburg. 1200 m. 1938-1939 N. G. Expedition.: 1200 m. Camp, 6 km. S.W. of Bernhard Camp, Idenburg River. 1938-1939 N. G. Exp. *Calamus* #13015 filling a windfall opening in rain-forest. *Zingiberaceae* #12130 on right. March 1939. 18403. B279. (above left)

66. Netherlands New Guinea. Bernhard Camp. Idenburg River. (50 m. alt). 1938-1939 N. G. Exp. Expedition flying boat "Guba" at the anchorage about 1 km. above Bernhard Camp. Camp hidden by forested point on left. Flood plain rain-forest on banks of river. April 1939. 18387. B297. (above right)



January, 1939. 18376. B275.



April, 1939. 18394. B302.

67. Netherlands New Guinea. Bernhard Camp. Idenburg River. (50 m. alt), Idenburg River. 1938-1939 N. G. Exp. Camp on January 4 1939. Water nearly 9 m. above dry season level. January 1939 18376. B275. (above left)

68. Netherlands New Guinea: Bernhard Camp. Idenburg River 1938-1939 N. G. Exp. Subsidiary collecting camp at 75 m. altitude at foot of the mountains behind Bernhard Camp. The tall fan palm in edge of the camp clearing is #13775. The large stumps and logs in camp are *Intsia palembancia* Miq. #13542. April 1939. 18394. B302. (above right)



April, 1939. 18396. B305.

69. Netherlands New Guinea: Bernhard Camp. Idenburg River. (alt. 50 m.) 1938-1939 N. G. Exp. Flooded rain-forest, consisting of a pure stand of *Wormia macrophylla* (Lauterb.) Gilg & Werderm. #14114, laden with epiphytic ferns, and supporting the large climbing fern *Stenochlaena palustris* (Burm.) Bedd. #13938. Epiphytes: *Goniophlebium subcordatum* Copeland #14045 sp. nov. and *Nephrolepis Thomsoni* v.A.v.R. #14111 with long pinnate leaves; *Asplenium nidus*, *Asplenium pseudophyllitidis* Copeland #14047 sp. nov., and *Microsorium punctatum* (L.) Copeland #13819 with simple broad leaves; *Vittaria zosterifolia* Willd. #13941 and *Zingiberaceae*. Depth of water (on April 26, 1939) 1.75 to 2 m. April 1939. 18396. B305. (left)



April, 1939. 18388. B298.

70. Netherlands New Guinea. Bernhard Camp. Idenburg River. (alt. 50 m.), 1938-1939 N. G. Exp. Flood conditions at Bernhard Camp April 30, 1939. Camp situated on an old cut-off bend of the Idenburg (far side of the picture). Tall trees on left are an almost pure stand of *Mastixiodendron pachyclados* (K. Sch.) Melchior #14097. April 1939. 18388. B298. (above)



April 26, 1939. 18391

71. Netherlands New Guinea: Bernhard Camp. Idenburg River. (alt. 50 m.). 1938-1939 N. G. Exp. Characteristic stand of swamp-forest *Mitragyna speciosa* Korth. #13909. In center some floating *Echinochloa stagnina* (Retz.) Stapf #13785 and a leafless though living specimen of *Barringtonia spicata* Bl. #13927. *Cyclophorus lanceolatus* (L.) Alston #13782 and an orchid creeping on tree at right. Depth of water 3.5 m. April 26 1939. 18391. B299. (left)



April, 1939. 18393. B301.

72. Netherlands New Guinea: Bernhard Camp. Idenburg River. (alt. 50 m.). 1938-1939 N. G. Exp. Beds of floating grass (*Echinochloa stagnina* (Retz.) Stapf #13785) and face of flooded rain-forest in a side creek. The tall trees (*Mitragyna speciosa* Karth. #13909) near canoe stand in 3.5 m. of water. Forest flooded to a depth of about 2 m. Large lianes on left are "d'Albertis Creeper" (*Mucuna Warburgii* Laut. & K. Sch. #13789). *Hibiscus tiliaceus* forms most of the low forest margin vegetation behind the canoe. April 1939. 18393. B301. (above)



April, 1939. 18395. B303.

73. Netherlands New Guinea: Bernhard Camp. Idenburg River. (alt. 50 m.).

1938-1939 N. G. Exp. Semi-swampy rain-forest of the flood plain, subject to only occasional inundation by the river. *Wormia macrophylla* (Lauterb.) Glig & Werderm. #14114(not well seen on left) forms a large part of tree stocking. *Asplenium* spp. including *A. nidus*, *Poypodium* spp., and *Vittaria zosterfolia* Willd. #13941 common epiphytic ferns. The amphibious fern *Microsorium pteropus* (Bl.) Copeland #13781, wild rice (*Oryza Ridleyi* Hook. f. #13810) and a sedge (*Hypolytrum* #13974) form a thin, layered undergrowth. April 1939. 18395. B303. (above)



April, 1939. 18397. B307.



April, 1939. 18398. B308.

74. Netherlands New Guinea: Bernhard Camp. Idenburg River. Bernhard Camp, Idenburg River (alt. 50 m.). 1938- 1939 N. G. Exp. Flood plain seral forest consisting of a pure stand of *Timonius* #14034. Sapling bread fruit (*Artocarpus incisa*) appearing in open parts. *Pothos* #13943 climbing on the trees; and *Scleria* #13937 and *Zingiberaceae* #14116 protruding above water. Depth of water 1.3 to 1.5 m. (April 3 1939). This is a characteristic seral forest on silt islands. April 1939. 18397. B307. (above left)

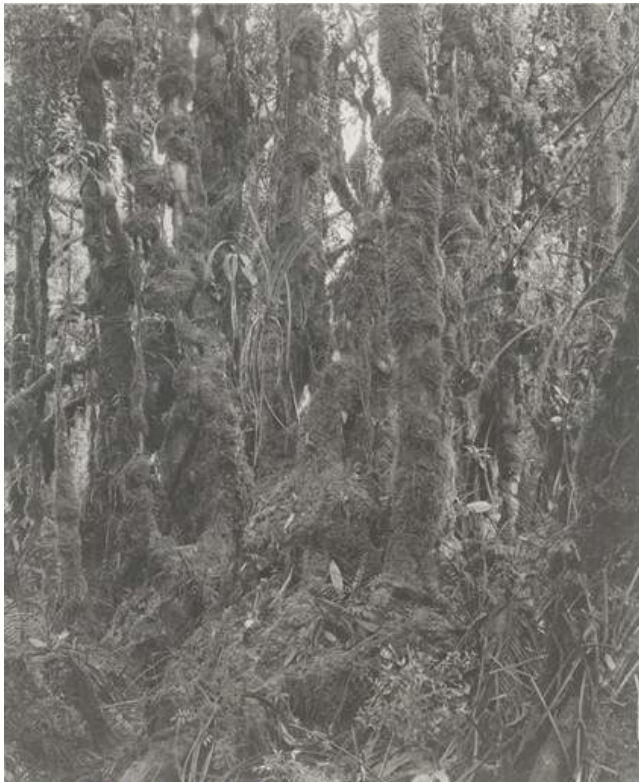
75. Netherlands New Guinea: Bernhard Camp. Idenburg River. Bernhard Camp, Idenburg River (alt. 50 m.). 1938-1939 N. G. Exp. A pure stand (except *Ficus* sp. on left) of *Wormia macrophylla* (Lauterb.) Gilg & Werderm. #14114 in rain-forest of the river flood-plains. Stem of the common liane *Dalbergia rivularis* Merr. & Perry #14080 sp. nov. in foreground. Large-leaved substage tree in foreground. *Garcinia Hollrungii* Lauterb. #13949, others *Syzygium rectangulare* Merr. & Perry #13930 sp. nov. *Asplenium nidus* epiphytic on right; on left simple *Microsorum punctatum* (L.) Copeland #13819. April 1939. 18398. B308. (above right)



April, 1939. 18392. B300.

76. Netherlands New Guinea:

Bernhard Camp. Idenburg River. (alt. 50 m.). 1938-1939 N. G. Exp. Rain-forest on a rich alluvial flat elevated a little above the flood plain. Few large trees, and these prominently buttressed; many saplings and a few substage trees such as *Gnetum* #13890. Palms (#13744) with leaves, and a young *Borassus* (?) #13775 conspicuous in undergrowth; plentiful low undergrowth of herbaceous *Elatostema* #13798, *Ophiorrhiza* #13812 and small *Begonia Kelliana* Irmsh. #13748 and tree seedlings. Climbing *Lomagramma sinuata* C. Ch. f. *papuana* C. Chr. #13752 on left centre (large pinnate leaves). April 1939. 18392. B300 (left)



March, 1939. 18386. B294.

77. Netherlands New Guinea: 850 m.

Camp. Idenburg River. 4 km. S.W. of Bernhard Camp, Idenburg River. 1938-1939 N. G. Exp. Mossy *Nothofagus* (?) forest on the crest of an exposed ridge at 900 m. altitude. Trees: *Nothofagus* (?) #13147, *Phyllocladus major* Pilger #13520, and *Podocarpus papuana* Ridley #13146. *Pandanus leptocaulis* Merr. & Perry #13328 sp. nov. (a dwarf species) appears as undergrowth. Liverworts form most of the "mossy" covering on trees and ground. March 1939. 18386. B294.

Also 2d print in sleeve

Brass, L.J. "Expedition to the Snow Mountains, Netherlands, New Guinea" *Journal of the Arnold Arboretum* 22 (2) 271-295 (3) 297-[342] 1941 Plate 5. Figure 2. "Mossy" low forest of *Nothofagus* 13147 at an elevation of 900 m., 4 km. southwest of Bernhard Camp. *Pandanus leptocaulis* Merr. & Perry appears in the undergrowth. Hepatics form most of the thick bryophyte cover on trees and ground. (left)



18406. 662-7 & 662-6.

78. Netherlands New Guinea. Idenburg River. *Cyathea contaminans*. Idenburg River -- Netherlands New Guinea. Alternative print for the tree fern. This is *Cyathea contaminans* (Wall.) Copel. in young second growth rain forest Idenburg River, Netherlands New Guinea. Photo. L.J. Brass. Courtesy Biological Explorations Inc. Richard Archbold **and** Rapidly developing vegetation filling an opening caused by a fallen tree in the primary forest, Idenburg River, Netherlands New Guinea. Photograph. L.J. Brass. Courtesy Biological Explorations Inc., Mr. Richard Archbold. 662-7 and 662-6 (on same board) (*above*)



18407. 662-4.

79. Netherlands New Guinea. Idenburg River. Perhaps not sufficiently good to run. However the plant [in] the foreground is *Ficus* sp. representing "stenophylly" in shrubs and small trees growing along streams subject to sudden "flash" floods. Photograph Brass etc. 18407. 662-4. (*above*)



**80. Netherlands New Guinea
Bernhard Camp. Idenburg River.**

1200 m. Camp, 6 km. S.W. of Bernhard Camp, Idenburg River. 1938-1939 N. G. Exp. Expedition camp in rain-forest. Large trees include two *Syzygium* spp. Epiphytic aroids conspicuous on the trees, and a climbing bamboo (*Dendrocalamus* #12828) abundant. March 1939. 18377. B277. (above)



March, 1939. 18389. B293.



March, 1939. 18385. B291.

81. Netherlands New Guinea. m. Bernhard Camp. Idenburg River. 4 km. S.W. of Bernhard Camp, Idenburg River. 1938-1939 N. G. Exp. Mossy *Nothofagus* (?) forest at 900 m. on exposed crest of a ridge. Chief dominant *Nothofagus* #13147. Woody undergrowth mostly composed of the small tree *Astronidium novo-guineensis* Merr. & Perry #13312 and 1.5 to 6 m. high. *Cyathea biformis* (Ros.) Copeland climbing in tree on left. March 1939. 18390. B296. (above left)

82. Netherlands New Guinea. m. Bernhard Camp. Idenburg River. 850 m. Camp, 4 km. S.W. of Bernhard Camp, Idenburg River. 1938-1939 N. G. Exp. Edge of a new clearing in flood plain rain-forest. Tall palm *Orania* #13375, fan-palm *Licuala* #13436, tree ferns *Cyathea geluensis* Ros. #13345. Trees mossy, and covered with epiphytic ferns, climbing *Dendrocalamus* #13327, *Freycinetia* spp. and *Piper* spp. March 1939. 18385. B291. (above right)



March, 1939. 18390. B296.



March, 1939. 18378. B280.

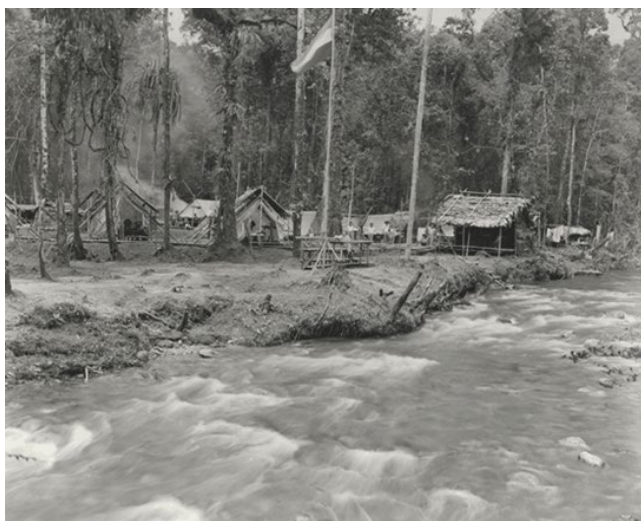
83. Netherlands New Guinea. m. Bernhard Camp. Idenburg River. 850 m. Camp, 4 Km. S.W. of Bernhard Camp, Idenburg River 1938/1939 N. G. Exp. Interior of floodplain rainforest. March 1939. B293 (*above left*)

84. Netherlands New Guinea. Idenburg River, S.W. of Bernhard Camp. 1200 m. Camp, 6 km. S.W. of Bernhard Camp, Idenburg River. 1938/1939 N. G. Exp. Giant banana in a rain-forest ravine at 1000 m. alt. A young, sterile plant: stem 6.70 m. long x .67 m. diameter at base. March 1939. 18378. B280. (*above right*) **NOTE:** Photograph is missing from recto of board, but by all indications, it is the same photograph as described housed in plastic sleeve.



March, 1939. 18379. B281.

85. Netherlands New Guinea. m. Bernhard Camp. Idenburg River 850 m. Camp, 4 km. S.W. of Bernhard Camp, Idenburg River. 1938-1939 N. G. Exp. *Agathis Labillardieri* Warb. #12911 tapped for resin by forester Versteegh. *Shorea* spp. tapped by this method in Sumatra, March 1939. 18379. B281. (*left*)



March, 1939. 18380. B282.

86. Netherlands New Guinea. m. Bernhard Camp. Idenburg River. 850 m. Camp, 4 km. S.W. of Bernhard Camp, Idenburg River. 1938-1939 N. G. Exp. Expedition camp in rain-forest at 850 m. on Araucaria Creek. March 1939. 18380. B282. (left)



November, 1939. 18381. B283.

87. Netherlands New Guinea. m. Bernhard Camp. Idenburg River. 850 m. Camp, 4 km. S.W. of Bernhard Camp, Idenburg River. 1938-1939 N. G. Exp. Expedition camp at 850 m. on Araucaria Creek. On right, flat-branching *Ficus* #13222, *Saurauia conferta* Warb. #13644, *Saccharum spontaneum* L. #13264. March 1939. 18381. B283. March 1939. 18386. B294. (above)

Also 2d print in sleeve Brass, L.J. "Expedition to the Snow Mountains, Netherlands, New Guinea" *Journal of the Arnold Arboretum* 22 (2) 271-295 (3) 297-[342] 1941. Plate 6, Figure 1. Expedition camp in flood plain rain-forest at 850 m. on Araucaria Creek, 4 km. southwest of Bernhard Camp. (also on verso) view northeast over the Meervlakte and the Idenburg River from the 2150 m. Camp of the expedition.



March, 1939. 18382. B285.



March, 1939. 18383. B286.

88. Netherlands New Guinea. m. Bernhard Camp. Idenburg River. 850 m. Camp, 4 km. S.W. of Bernhard Camp, Idenburg River. 1938-1939 N. G. Exp. *Zingiberaceae* #13270, in second growth rain-forest on the bank of a stream. March 1939. 18382. B285. (above left)

89. Netherlands New Guinea. 850 m. Camp. Idenburg River. 850 m. Camp, 4 km. S.W. of Bernhard Camp, Idenburg River. 1938-1939 N. G. Exp. Left to lower right: seral rain-forest (largely white-barked *Homalanthus* #13268) on a sandy flood bank of the river, containing the tree fern *Cyathea contaminans* (Wall) Copeland #13647, *Schuurmansia Henningsii* K. Sch. (large leaves), and, on the outer edge, the wild sugar cane *Saccharum spontaneum* L. #13264, Low, flat tree reaching out over the water is *Ficus* #13228. Upper right: base of a steep ridge. The tree with open top is *Castanopsis* #13521. March 1939. 18383. B286. (above right)



March, 1939. 18384. B289.

90. Netherlands New Guinea. m. Bernhard Camp. Idenburg River. 850 m. Camp, 4 km. S.W. of Bernhard Camp, Idenburg River. 1938-1939 N. G. Exp. *Agathis* (*A. Labillardieri* Warb. #12911) forest at 900 m. altitude. *Pandanus* sp. and young palms (*Gulubia* #13099) abundant in the undergrowth, Moss plentiful on lower storey trees and on ground. March 1939. 18384. B289. (left)



June, 1938. 18304. B160.

91. Netherlands New Guinea. Tabati Village, north end of Jautefa Bay, near Hollandia. 1938-1939 N. G. Exp. Lower right corner and mid distance show xerophytic brushes of coastal limestone hills: planted coconuts: Mount Bougainville in distance right June 1938. 18304. B160. (*above*)



June, 1938. 18303. B159.

92. Netherlands New Guinea. Jautefa Bay, near Hollandia. 1938-1939 N. G. Exp. *Cordyline* (?) #6857 in dry brush on coastal limestone hills: mangrove (*Rhizophora conjugata* – right) in foreground. June 1938. 18303. B159. (*above*)

of



93. Netherlands New Guinea. Jautefa Bay, near Hollandia.

1938-1939 N. G. Exp. Some houses Tabati Village in foreground: rain-forest and secondary grass on old garden lands across bay. June 1938. 18306. B164. (left)

94. Netherlands New Guinea. 3800 m. Camp. Mt. Wilhelmina. 1938-1939 N. G. Exp.



Foreground: Subalpine forest *Vaccinium dominans* Sleumer #9422 sp. nov. and *Rapanea* #9936; with *Rhododendron* #9833, *Coprosma* #9939, *Styphelia obtusifolia* var. *hypoleuca* J. J. Sm. #9911 and *Symplocos* #9937 forming a narrow but very dense marginal shrubbery. *Coprosma* #9939, bearded with brown hepatic #10150, also appears in the tussock-grass (*Deschampsia Klossii* Ridley #10060) glade. Background includes expedition camp, and the southeast termination of the main ridge of Mt. Wilhelmina (sandstone) topped by "de Stier". September 1938.

18343. B224. (above)

Also 2d print in sleeve Brass, L.J. "Expedition to the Snow Mountains, Netherlands, New Guinea" *Journal of the Arnold Arboretum* 22 (2) 271-295 (3) 297-[342] 1941 Plate 2, Figure 1. Strips and patches of *Vaccinium-Rapanea* subalpine forest at 3800-3900 m. on the north slope of Mt. Wilhelmina. *Coprosma* 9939 grows among tussocks of *Deschampsia Klossii* Ridl. in the foreground. In the background is the eastern termination of the summit ridge, and in the lower left the 3800 m. Camp.



95. Netherlands New Guinea: Mt. Wilhelmina, 3800 m. Camp. 1938-1939 N. G. Exp. Subalpine forest straggling up to about 3900 m. on a north facing slope at lower end of Scree Valley. Grassy glades filled tussock-grass (*Deschampsia Kkossii* Ridley #10060) and brown and yellow moss cushions. *Coprosma* #9939 (shrub or small tree) and grey cushions of *Astelia* #10217 among the grass tussocks of the open depression in the foreground. Photograph from altitude 3830 m. Forest mostly *Vaccinium dominans* Sleumer #9422 sp. nov. September 1938. (above)



October, 1938. 18404. B226.

96. Netherlands New Guinea. Mt. Wilhelmina. 3800 m. Camp. 1938-1939 N. G. Exp. Interior of subalpine forest (*Vaccinium dominans* Sleumer #9422 sp. nov.). Mosses, hepatics and *Meringium Forsteri* (Ros.) Copeland covers the trunks of the trees. Forest lighting sufficient to allow the entrance of the tall shrub *Styphelia rubicola* Wernh. #9910. The fern *Selliguea feei* Bory #10009 erect in ground moss on right. October 1938. 18404. B226. (left)

2nd copy in sleeve Brass, L.J. Expedition to the Snow Mountains, Netherlands, New Guinea. *Journal of the Arnold Arboretum* 22 (2) 271-295 (3) 297-[342] 1941. Plate 2. Figure 2. Interior of the strip of *Vaccinium-Rapanea* forest shown in the right foreground of Fig. 1. Mosses, hepatics and *Meringium Forsteri* (Ros.) Copel. cover trees and ground. *Selliguea Feei* Bory appears in the ground moss on right, and *Styphelia nubicola* Wernh. forms the inner part of the border shrubbery on left.



September, 1938. 18341. B222.

- 97. Netherlands New Guinea. Mt. Wilhelmina, 3800 m. Camp** 1938-1939 N. G. Exp. Lake at 3660 m. on north side of Main Divide, viewed from altitude of 3800 m. on bluff near camp. Crest of Main Divide to right and in background. Subalpine forest and somewhat marshy alpine grassland. Lower slopes partly deforested by fire. Scattered *Drimys Brassii* A.C. Smith #10111 sp. nov. (compact tree) and *Coprosma* #9939 on grassy shelf in foreground. September 1938. 18341. B222. (above)



September, 1938. 18340. B220.

- 98. Netherlands New Guinea. Mt. Wilhelmina, 3800 m. Camp.** 1938-1939 N. G. Exp. Grassy crests rising to about 4250 m., north of camp. Fossil ferrous beds of marly limestone form the narrow ridge disappearing behind the bluff at point marked X on left. Rocks of white limestone (termination of ridge extending to right) in forest at position O. broken, very stunted low forest of *Vaccinium* and *Rapanea* straggles up rocky slope in foreground. Photograph from altitude 3880 m. September 1938. 18340. B220. (neither X nor O marked on image) (above)



September, 1938. 18344. B225.

99. Netherlands New Guinea. Mt. Wilhelmina 3800 m. Camp 1938-1939 N. G. Exp.

Edge of subalpine forest of *Vaccinium dominans* Sleumer #9422 sp. nov. Border shrubs removed to show characteristic brown and green moss cushions. Brown liverworts hang from the upper branches. The subsidiary trees showing larger leaves than the *Vaccinium* are *Drimys Brassii* A.C. Smith (left and center). September 1938. 18344. B225. (above)



September, 1938. 18338. B217.

100. Netherlands New Guinea. Mt. Wilhelmina, 3800 m. Camp. 1938-1939 N. G.

Exp. The Scree Valley, above expedition camp. Screes of white limestone on north side of Main Ridge. Wilhelmina-top partly hidden by mist. Slopes on right hand side of valley, and angular rocks in foreground, are of sandstone. Yellow and brown mosses form mats and cushions on rocks in near foreground. The tussock grass is *Deschampsia Klossii* Ridley #10060. *Drimys Brassii* A.C. Smith #10111 sp. nov., *Rapanea* #9936, *Coprosma* #9939 and *Rhododendron* #9833 form stiff shrubberies among the rocks, and the *Coprosma* ranges up the open tussock-grass slopes (left and centre) to about 4100 m. Photograph made at altitude 3800 m. September 1938. 18338. B217. 2 copies, both mounted on boards. (above)



September, 1938. 18339. B219.

101. Netherlands New Guinea. Mt. Wilhelmina, 3800 m. Camp. 1938-1939 N. G. Exp.

Expedition camp with main ridge of the range and Wilhelmina-top. *Coprosma* #9939 scattered over the uneven grassy pocket in foreground. The lower slopes support stunted subalpine forest dominated by *Vaccinium dominans* Sleumer #9422 sp. nov., broken by grass. *Drimys Brassii* A.C. Smith #10111 sp. nov. and *Rapanea* #9936 assume dominance and the forest degenerates into scattered tree clumps and shrubberies at about 3900 m. Above 4000 – 4050 m. the large woody plant is *Coprosma* #9939, which occurs as a low tree or shrub on open grass slopes at about 4100 m. Geological structure: Main ridge is of sandstone from extreme left to gap at point marked X; the rest of it is limestone. Peak on extreme right is sandstone, which extends across the valley marked S. Big rock at position O is of limestone, as is also the truncated ridge on which it stands. September 1938. 18339. B219. (above)



September, 1938. 18336. B214.

102. Netherlands New Guinea. Mt. Wilhelmina, 3800 m. Camp.

1938-1939 N. G. Exp. Expedition camp with Wilhelmina-top in right background. Figure: L.J. Toxopeus. Bamboos for the radio mast were dropped by parachute. Large shrub in right foreground *Coprosma* #9939. Low, very mossy subalpine under sandstone ledge of the waterfalls and straggling up the slopes to 3900 m. on left. Limestone screes visible in distance, above the central waterfall. September 1938. 18336. B214. (left)



September, 1938. 18335. B213.

103. Netherlands New Guinea. Mt. Wilhelmina, 3800 m. Camp. 1938-1939 N. G. Exp. View from broken limestone ridge ¼ mile east of camp (waterfall towards left marks position of camp) Subalpine forest of *Vaccinium dominans* Sleumer #9422, etc., broken by rocks and grassy glades, occupies the ridge foreground and straggles up the slopes to altitudes of 3900-4100 m. Geological structure of summits: extreme right – fossiliferous marly limestone (A); double peak – sandstone (B); Wilhelmina-top and Main Ridge – limestone (C); continuation of Main Ridge beyond notch on extreme left skyline – again sandstone (D). White rocks in foreground and mid distance are limestone; the grey rocks are sandstone. September 1938. 18335. B213. (above)



September, 1938. 18399. B397.

104. Netherlands New Guinea: Mt. Wilhelmina. Netherlands New Guinea: Mt. Wilhelmina. 1938-1939 N. G. Exp. Snow-capped summit of Mount Wilhelmina (4750 m.); Lake Habbema (3225 m.) on lower right. September 1938. 18399. B397. (*left*)

105. Papua New Guinea 1938-1939. 3rd Archbold Expedition. Snow Mountains, Netherlands, New Guinea. Note from Peter Ashton to Sheila Connor, May 29 1984 regarding the transfer of photographs published in ["The 1938-39 Expedition to the Snow Mountains, Netherlands New Guinea"](#) in the *Journal of the Arnold Arboretum* 22 (2) 271-295 (3) 297-[342] 1941. Copy of pages from *Journal of the Arnold Arboretum* consisting of the "Explanation of Plates" and the 12 figures represented in the 6 plates.



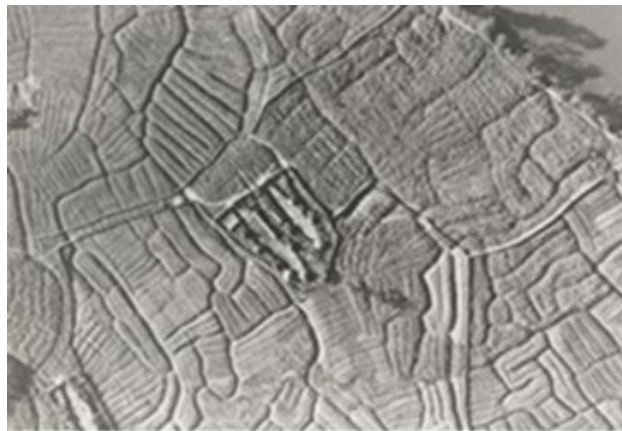
Also includes unlabeled print of Plate 6, Figure 2. (*left*)

Series II: Photographs

Subseries 5: Photographs of Stone Age Agriculture 1938 (10 photographs)

Folder

- 1. Photographs of Stone Age Agriculture.** 1 letter from **E.D.** Merrill, Arnold Arboretum, Jamaica Plain, MA to Oakes Ames, Harvard University Botanical Museum. December 11, 1939, regarding transfer of photographs from the Arnold Arboretum to the Botanical Museum. Nine photographs of people and farmland in New Guinea. Published in: "Summary of the 1938-1939 New Guinea Expedition." *Bulletin of the AMNH*, 79, (3) also published in Brass, L.J., *Stone Age Agriculture in New Guinea* 1941. All captions, handwritten in pencil, are taken from verso of images.



- Alluvial. Villages on alluvial banks of Balim River, at 1600 m. alt. The walls here will be of mud. Note walled lane leading to upper village, and the deep drainage ditches. 5-185. (*above*)



- A village on sweet-potato gardens at 2300 m. in the valley of Bele (pronounced *Bear-lair*.) River, a southern tributary of the Balim (pronounced *Ba-leem*). Several specimens of edible *Pandanus* about village. Weeds from the gardens are piled on top of the fences of split timber. 497-20. (*above*)



- A man of the Pesigam. This might make a good slide if trimmed. 419-30. (*above*)



- A man of the Pesigam tribe, with stone adze hooked over shoulder, and holding cooked sections of fruithead of edible *Pandanus*. [Drum?] consists of [prunus?] gourd, belt of split [saltan?], hair net and a bunch of dried intestines of some animal, worn as charms or ornaments. The pesigam inhabit the valleys of both Bele and Balim. 484-8. (*above*)



497-44

- A Pesigam with stone axe and string bag. 497-44. (*above*)



518-4.

- A big village, surrounded by sweet potato gardens on lower slopes of valley of the Balim. Altitude about 1600 m. Village and gardens enclosed in stone walls. Gardens trenched for drainage and the soil hilled into [bricks?]. Bananas grown in village enclosure. Note shelters provided for pigs on fallow land above the village. Houses thatched with grass (*[Emperata?]*). 518-4. (*above*)



492-26.

- Cultivation extends up the slopes of the valleys to about 2400-2500 m. Above that, when the soil is too [peaty?] and perhaps too cold for the staple root crops, the natives make small clearings, or enlarge down-fall openings in the forest, in which they plant *Pandanus*. This pandan is planted for its large, oily [trunk?]. The picture shows a house in one of the groves, at 2800 m. altitude, Roof of bark: round, double walls of stakes driven into the ground, the space between the walls filled with with dry [ferns?], etc., and, for greater warmth, the outers wall covered with pandan eaves. A big sheet of bark wood as a door. Night temperature at this altitude usually 6.5 – 8 °C as low as 45 degrees [Celsius] in [bottom?]. 492-26. (above)



460-39.

- A mud-walled garden in valley of Balim River. Alt. 1600 m. Garden planted with sweet-potatoes (leaves turned up by wind), with a row of [land?] on far side. The big dry ditch in foreground forms a sunken road & is walled at the far end to keep out pigs. Note big erosion[cut?] in upper right, also straggling growth of *Casuarina*, which provides firewood and materials for building and fencing. 460-39. (on verso). (above)



460-32.

- Sweet potato gardens at 1600 m. elevation on banks of Balim River. Note deep drainage trench, topped with a low mud wall, on left. Other walls of loosely piled stones. Evidence of cultivation, past and present, can be seen on the deforested slope across the river. 460-32. (on verso). (above)



460-30.

- Cultivation on a stony slope in the valley of Balim. Alt. 1600 m. Men digging with sharpened sticks. Note stones piled in neat heaps in the garden, and structure of the stone wall. Trees *Albizzia* #11176 and *Casuarina* #11172. 460-30. (above).

Series III. Diary of Papua New Guinea Expedition 1925-1926

Sixty-eight facsimile pages of the typescript of the diary written by Leonard J. Brass during his Papua New Guinea Expedition for the Arnold Arboretum, October 9 1925 to June 6 1926. Includes letter from J.S. Womersley, Division of Botany, Papua New Guinea to R.A. Howard, Arnold Arboretum and one map showing the Papuan journeys of L.J. Brass 1925-1926. The original bound typescript is held at [Botany Libraries](#).

TERRITORY OF PAPUA AND NEW GUINEA

MAY 7 1975

Please address all correspondence
to the Chief of Division

Ref: JSW/AS

Please Quote
In Reply

No. 121-17-2

Division of Botany,
Box 314,
Lae, New Guinea,

30/4/75/

Memorandum for—

Dr. R. A. Howard,
The Arnold Arboretum,
22 Divinity Avenue,
Cambridge,
MASSACHUSETTS U.S.A. 02138.

Dear Dick,

I now have the typescript of the 1925-26 L. J. Brass diary. I am sending you a copy of this so that you can decide for yourself whether it is J.A.A. material. I also am preparing maps of his three separate journeys - the first minor excursion to Hula is covered on the map for the second trip. In Brisbane last week I discovered an album of prints, obviously taken during the first expedition. Although not annotated many can be related to references to a photograph having been taken in the diary. Further searching revealed the box of negatives. I have these in Lae with me now and will have them cleaned and a new set of prints made. I also discovered C. T. White's list of identifications of the collections. The original field book still eludes me. All in all we now have material for a reasonably complete account of the expedition. I intend to put this together even if immediate publication is not possible. Your further thoughts will be much appreciated.

With kindest regards,

Yours sincerely

J. S. Womersley
J.S. WOMERSLEY.)
Assistant Director, Botany.

1) historical (1st edition on his own)
historical
mis. long D marginals as well.

2)

collections
1) typescript only
2) in list - separate

Biog
2
B73.8

ARNOLD ARBORETUM

Diary of L.J. Brass

p.1. 1925, Oct. 9th, Friday.

Left Pinkenba¹⁷ (Brisbane River, ed.) at 9p.m. by S.S. 'Morinda' for Port Moresby. Railed my two packing cases and a large swag bag containing collecting and camp gear to Pinkenba¹⁷, myself travelling down by car later. Took train to Ascot and there hired a car for remainder of journey.

I found on going to Roma Street parcels office (the main railway station for country trains in Brisbane, ed.) to take delivery of the cabin trunk containing all my working clothes and books that it had not arrived there, and although the very courteous officials in charge made the fullest enquiries that the short time at their disposal would allow, no trace whatever could be found of it. I have in consequence to sail without

p.2. knock-about clothes, raincoat, blankets, books, ^[and] many more indispensable things which the trunk contains. I wrote from the ship lodging with the Railway Department a claim for the value of a trunk lost in transit between Crows Nest and Brisbane and its contents; and I also wrote Burns Philp requesting them to receive and forward it on to Port Moresby, should it be recovered.

Wrote to the Arboretum reporting commencement of duties; to Cap. Sanders (1) thanking him for letters of introduction to the Resident Magistrates of Buna and Kokoda (incidentally these were left by me on Whites' (2) office table); and to my sister Myra (3) whom I could not see before sailing.

October 10th. Saturday.

p.3. Strong N.N.W. wind blowing-off shore, almost a head wind at times. Sea very calm; and I ^{do} ~~did~~ not think any of the passengers have felt the effects of mal-de-mer as yet. We are steaming very close inshore, ^{so} close that at times wild horses can be seen feeding just beyond the beach. Passed Double Island Point about 8.30am and Sandy Cape at 3p.m. All along the coast the

X hills appear to rise from the water's edge. The elevations nearest the beach
 are apparently sandhills. Occasional rock promontories were observed, and
 everywhere along the coast large and small areas of shifting sand, with a few
 dead trunks of small trees protruding here and there above their bare and
 ever changing surfaces, are very conspicuous. The vegetation is of a
 p.4. decidedly xerophilous type. The low hills are covered with scrub of low
 height growth and varying density. In the sandy grassy hollows slightly
 larger growth is attained, but nowhere could the vegetation observed be
 termed other than stunted.

October 11th., Sunday.

Strong breeze continues to blow from N.N.W. No land to be seen at daylight,
 nor did we sight any until early in the afternoon when high hills of the
 mainland began to loom through the haze of the horizon and several rugged
 X islands appeared ahead. Our day's run to 12 noon was 227 miles. Divine
 services celebrated by an ex-missionary attached to Papuan Industries Ltd.
 Towards evening the wind freshened, early in the night the windward portion
 p.5. of our lower passenger deck forward was continually wet by spray.

October 12th., Monday.

Passed through Whitsunday Passage at sunrise and came abreast of Bowen
 at 11 o'clock. Wind still dead ahead, but has moderated considerably, and now
 we are within the great barrier reef the water is calm. The port holes
 are open today for the first time. Today is noticeably warmer, several of
 the passengers have changed into white suits, but I find the air too cool
 for that. Off Gloucester Island, near Bowen, is anchored one of the "Port"
 line of steamers awaiting a settlement of the British Seamen's Strike. (X)

She was taken out by the officers and engineers six weeks ago, to save payment of harbour dues. A number of passengers are busy writing letters to post at Cairns. I have written to the Railway Claims Branch enclosing in the letter orders to Rothwells (4) and Biernes (5) for clothes to replace those lost in my trunk. The letters to be posted only in the event of the trunk being still unfound on the 31st inst. Also wrote home and to Ina (6).

October 13th., Tuesday.

Arrived in Cairns at 12.30p.m. and remained there till 3 o'clock. Received on the ship a letter from Mrs B. Hunter (7) regretting that as they had to return to ⁴Yungaburra on the day previous they were unable to see me in Cairns. Wired reply. We shipped here about 20 passengers, mostly men bound p.7. for Bootless Inlet. Passed out of the barrier reef through Trinity Passage late in the afternoon.

October 14th., Wednesday.

At sea, no land in sight and water very calm. Passed very close to Osprey Reef early in the morning. This large coral reef extends for about 12 miles in a N.W.-S.E. ^(direction) and is reported to contain somewhere within its limits a safe deep water harbour.

October 15th., Thursday.

The high lands of the Astrolabe Range (8) could be dimly discerned at sunrise towering through and above their enveloping masses of morning mist clouds. This is my first glimpse of New Guinea and the scene is very grand p.8. and impressive of grandure and majesty. As we approach the coast the morning haze gradually disappears, the outlines become more distinct, presently the dry coastal hills rise from the horizon and soon the white roofs of buildings can be seen indicating the position of Port Moresby. This part of the coast is protected or made dangerous by a coral barrier which is

plainly seen as we approach the land and through which we pass by a narrow passage - Basilisk Passage. About 3 miles along the reef east from the entrance is the wrecked "Pruth" (9) standing on an even keel, high out of the water. Nearer are the remains of the old Govt. steamer 'Merrie England' (10) X which ran on the reef and was burned some years ago. As we neared the

p.9. X jetty, port officials, medical officers and European constable came aboard and we all had to answer a roll call and file through the music saloon for inspection. We drew into the jetty at about 12 o'clock, when about 100 natives with variously elaborately frizzed wiffuns; many coloured skirts; plaited armlets and ^{Leglets} ~~lights~~; and exhibiting skin diseases in various forms and stages, were grouped to receive us; the only white man there was the ganger in charge of the native labourers. Lockwood (11) and I procured a room at the top hotel, the "swagger" place of the two houses possessed by Tim Ryan and Port Moresby, and after considerable difficulty had our luggage transported thither by native carriers and a nigger driven motor lorry. only suggested possible meaning would be

p.10. Natives do all work of a laborious nature. They work the ships' winches (not very cleverly), drive lorries, quarry, build, (under the supervision of white men) wooden and concrete buildings, attend the electric light plant, cook and do numerous other jobs. All hotel work excepting bar tending is done by them. They are fairly efficient waiters but I have some difficulty making them understand me, having no knowledge of their pidgin. { as by ... }

In the afternoon Lockwood and I walked out to Hanuabada and Elevala villages and to the gardens beyond. A good motor road is built along the beach to these places and to the country beyond. Coconut trees of great height grow along the foreshore, and large numbers of bananas, the only

p.11. crop noticed under cultivation in the trimly kept and securely fenced native gardens. Hanuabada and Elevala are built on piles. The houses are strongly and neatly built of palm thatch on a polewood frame and are huddled close together from the waters edge to a distance of several chains out over the sea, with here and there a lane or passage way to

to allow the ingress and egress of canoes. The dwellings facing the beach are built with a narrow platform in front under the overshot roof, and several feet below this a larger platform on which are strewn cooking pots etc. The L.M.S. (12) have a large mission station here. Noticed among other p.12. plants a Cycas probably media; Psoralea bullocana?? and Ipomoea pes-caprae.

October 16th., Friday.

Called on Mr. Champion, (13) Government Secretary and presented my letter from White. Was well received and promised assistance in carrying out my project. Saw Mr. Hartlyy (14) Chief Clerk of the Lands Department, who in the absence of Stannisforth Smith (15) offered to do all he could to help me. Was given use of S.S.'s office until he returns and permitted to see all reports and correspondence relating to forestry matters. Asked Sutton, (16) the European Constable, to get me a cook boy and another boy to use in collecting near the town. Walked a little way along Ela Beach in the evening and through the town park. X

p.13. October 17th., Saturday.

Failed to get a boy for local use. Had my collecting gear shifted up to the museum which was lent to store my specimens etc. Started to make a list of Lane-Poole's ⁽²⁴⁾ collection. Walked up to the water catchment and reservoir and descended to Ela Beach by a steep, thinly jungled gully. Collected fl. and fr. (flowering and fruiting ed.) specimen of a large diffuse shrub, no. 501 (Diospyros ^{villosa} ~~ferrea~~ var ed.) and a small tree no. 502 (Alectryon repando-dentatus) in the gullies of the dry forest land; and no. 503 (Suriana maritima^m) an erect littoral shrub with narrow ⁿ cuneate, pubescent and somewhat fleshy leaves. The hills behind P.M. (Port Moresby ed.) are covered very sparsely with Eucalypts (2) (Euc. papuana and E. alba ed.)

p.14. with patches of light rain forest in the gullies and sheltered places.

Here and there among the Eucalypts are little clumps of xerophilous shrubs, climbers and small trees which seem to belong to the rain forest type. Saw, but did not collect - Abrus precatorius, Freycinetia sp., Cycas (?) media, and an Anthis tira (= Themeda australis ed.) the dominant grass of these hills. Some naturalised plants noticed: Ricinus communis, sisal hemp, Sida^a acuta.

October 18th., Sunday.

Wrote to Lane-Boole.

October 19th., Monday.

Unpacked my big case containing drying tank, etc. and found my two Winchesters of Formalin broken in pieces and all my field labels, seed packets and sundry collecting gear wet with the contents. Ross(17), Government p.15. storekeeper, offered to assist in getting tucker boxes and camp gear. Have not managed to get a cook boy yet.

October 20th., Tuesday.

Left the jetty wharf at 9.30 am for a run down the coast on the Govt. auxiliary "Elevala". "Elevala" is ordered to convey M.P.O. Graham (18) to Hula, from which place accompanied by Mrs. G. he will patrol the coast to Samarai. We have also on board Panton (19) who is conducting a survey of the Kemp Welch river: and Mr. & Mrs. A.E. English (20): and Skilly (21), a trader from Hula. ^uOur course is within the barrier reef. Soon after we cleared the harbour, and rounded Parker Point (now spelt Paga ed.), a very stiff S.E. breeze ^asprang up and soon freshened into a good strong blow causing p.16. a very nasty short roll against which we made slow progress. A number of villages, most of them ^umarine, are seen scattered along the coast.

Kapa Kapa, a large marine village and the landing place for Rigo Govt. Station was reached at about 3 o'clock in the afternoon. English has a trading depot here and residence two or three miles inland. A very large native festival, or as the Anglican boys term it "Christmas", was in progress at the village, which we went ashore to see. Immediately after we dropped anchor Graham sent his police boy ashore to inform the villagers of our desire to land, and within a few minutes a large double canoe manned by half a dozen fine light skinned men all in dancing garb came out to take us ashore. We were paddled and poled along until our canoe grounded on the p.17, sand about 20 yards from the beach: when the canoe men jumped into the water and carried us ashore. A great crowd of men, women and children⁺⁺ mostly the latter⁺⁺ met us on the beach and followed us wherever we went, noting our every movement and taking the greatest interest in all we did. In a large clump of coconut trees near the landing and close to the rest house an oblong plot of land about an acre in extent had been enclosed by temporary two-storied structures roofed and closed in behind with thatch of coora-coora (Kura-Kura grass Imperata cylindrica ed.) and palm leaves. At one end of the enclosure was a high staging of scaffolding topped by long poles and completely covered with bunches of bananas, betel nut, yams etc., even to the tips of the long poles^(which) towering above the crowns of the coconut p.18, trees, were bent with the weight of their loads of fruit. Each of the enclosing stalls was stacked with sweet potatoes, bananas and numerous other native foods and presided over by the owner of the garden that produced it or the person who contributed it to the feast. Ranged down the centre of the enclosure was a long double row of mat baskets into which, to the accompaniment of joyous yells and chanting, a running crowd of decorated men and women would at intervals deposit little offerings of food carried in small hollowed out dishes of wood. Everyone seemed in the best of good spirits: a kindly good tempered crowd, with the exception ^{perhaps} of a few of the older men who regarded us somewhat haughtily & warily. X

- Boys and young girls romped about, ~~and~~ astonishing numbers of boys and young girls were everywhere, continually getting in the way as children will on such occasions. Some show of order was kept among the lesser fry by stern-faced ^functionaries who strolled about with small canes in their hands with which they administered sharp taps on the head of young misdoers. Generally speaking these people are comparatively free of sopoma (22) and other skin diseases so common among the natives. I could not help being impressed with the fine clean healthy appearance and beautiful physique of most of the young men and women. Many of them were most gaily and tastefully ornamented with beautiful and elaborate feather head-dresses, shell neck^{ac}laces and neck plates, woven and beaded armbands, leg ornaments and belts. Tattooing in subdued designs is almost universal. The commonest form of facial marking ^{is} ~~are~~ ^{x?} a broad band on both sides of the face from the ear lobes to the corners of the mouth and several lines from the lower lip to the point of the chin. The bodies and arms are frequently tattooed, especially among the women. Bright flowers and leaves are worn in the hair and stuck in the armbands and other convenient places. An old native presented Mrs. Graham with a bunch of ripe bananas which we ate as we viewed the festival; my first taste of native garden produce, and very good too. Took a number of snaps including one of Mrs. Graham with a group of young men in dancing costume. Collected near the village nos. 504 Capparis lucida; 505 Tournefortia mollis; 506 Bauhinia ⁱⁿ binata and 507 Alstonia longissima, a small tree with reticulate large lanceolate leaves and tail-like fruit and milky sap.

Returned to the boat at dark and all through a restless night could hear the beating of drums, loud shouting and singing.

October 21st., Wednesday.

Weighed anchor soon after daylight and continued our way down the coast to Hula, near the mouth of Kemp Welch River, where we arrived about 10 a.m. ^x

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Hula is on Hood Peninsula, a low sandy cape covered with coconut trees and native gardens. The houses, built on piles several hundred yards from the shore, are smaller and not so well built as in the villages nearer Port Moresby. One peculiarity noted is that the roof of every house dips to seaward. Mr. and Mrs. Skilly and family of three fair haired children live here, also an L.M.S. missionary named Bradbury (23) whom I did not see. Had lunch with the Skilly's. Skilly has a trading station here, another at Kal^o seven miles away on the Kemp-Welch and transports goods for the rubber estates up that river. He has a motor lorry driven by a man named Vidir or Vider running between Hula and Kal^o, and a lugger carrying from Hula to Port Moresby. Went out to Kal^o on the lorry and returned before lunch. Collected nos. 508 to 511. Procured a boy to carry my bag and spent the afternoon collecting about Hula. Went west along the beach to where a small creek p.23. runs into the sea, then inland between the mangroves fringing the creek (or swamp) and native gardens. Collected specimens of 16 plants, mostly littoral types. Nos. 512 to 527.

The country behind Hula is open undulating sandy ridges, covered with coora-coora (Imperata) and has probably been cleared of timber by the natives. This type of country extends inland for about 2 miles, The first mile being mostly garden patches. Most of the gardens are dotted here and there with a species of Pandanus. About two miles inland strips of low swampy country carrying jungle and sago palms begin to occur: as the river is approached the vegetation becomes more luxuriant and some fair sized trees were observed. The road passes through several villages in the [Kororua] jungle: built on high piles and surrounded by stake fences. These village p.24. houses have a shabby appearance, the populations are not so clean and healthy looking as the beach peoples and seem to be decreasing, judging from the deserted state of the villages. Had dinner with the Grahams at the rest house. They will camp here for a week or so and then travel the coast to Samarai.

October 22nd., Thursday.

Left Hula at daybreak and anchored in Port Moresby about 2.30 p.m. The
 X 'Morinda' is due in today. Spent remainder of day writing letters. Wrote the
 Arboretum sending statements of my expenses to date: White, Lane-Poole (24)
 and Ina. Sent post cards home and to S.E.A., S.M.N., A.L., A.L.G., L.N.B.,
 and B.H. (25)

p.25. October 23rd., Friday.

Took specimens to the Museum for drying and completed correspondence.

October 24th., Saturday.

Procured 3 boys. Two from Vailala and one, whom I have appointed boss
 and personal boy, from near Kerema. Gave them each a week's ration and a
 ramie and told them to be ready to sign on on Monday morning.

p.25. October 25th., Sunday.

Walked beyond Elevala in the afternoon and took a distant view of P.M.
 Saw at Elevala the two large lakatois that are going to the Western district
 on the annual trading voyage by these people.

p.26. October 26th Monday.

Signed on for 12 months at £1 each per month. Poaho, personal boy;
 Kao and Lahibo, labourers. Paid 3 months wages in advance and £1 each as
 return fare to villages. Interviewed Champion, who loaned me old B.N.G.
 reports containing as appendices lists of plant determinations.

October 27th., Tuesday.

Lockwood left by "Varoe" for west coast to examine sago areas. Dried
 plants and finished copying White's determination of Lane-Poole material.

October 28th., Wednesday.

Placed orders with B.P. & Co (26) for stores and obtained from Govt.
p.27. stores 3 tucker boxes, a camp stool, camp stretcher and 14 lbs. gran.
carbide (for acetylene lamps ed.)

October 29th., Thursday.

Left P.M. at 9.30 for Rona Falls on motor lorry. Engine trouble compelled us to stay some hours at Sapphire Creek where we lunched. Took Mrs. King of the rest house with us to the Falls. Rona Falls are about 4 miles up the Laloki from Sapphire Creek rest house. The falls which are about 800 feet in height; the river drops into a deep narrow valley formed by Hombrom Bluff on the north and Mt. Warirata (2600 fr.) on the south. The ridges and spurs of the valley are savannah; rain forests clothe the gully slopes and fringe the river. Put my gear in the Govt. shed.

p.28. October 30th., Friday.

Walked to Bisiatabu mission and had lunch with Mr. & Mrs. Peacock and Mr. & Mrs. Bateman. On the way back to the falls called at Bisiatabu Village to arrange for carriers. Unfortunately all the Koiari people have left or are about to leave for a big festival down the river; so I cannot procure carriers till Wednesday at the earliest. The road to Bisiatabu zig-zags over the Laloki spurs for about 3 miles where a low level bridge spans the river. Half a mile beyond the river the road leaves the Sogeri track crosses a little creek and ascends a coora-coora covered slope to the summit of the divide ending on Hombrom Bluff. On top savannah covers the
p.29. ridges, and rain forest of more luxuriant growth than along the river occurs on the slopes and in the gullies. Collected nos. 528 - 533.

October 31st., Saturday.

Collected along the track to foot of falls and obtained specimens of 24 plants. 12 woody plants including 2 Macaranga, 3 Ficus and 1 Myrtaceous tree; 4 ferns; several small twiners and herbaceous plants among them a Balsam growing in crevices of spray wet rocks at foot of falls and on the cliff face. The scant rain forest of the left bank carries few large trees. Several orchids ~~not~~ flowering, and a number of rather coarse ferns were noticed. The right bank slopes appear to carry a more luxuriant growth of jungle.

p.30. November 1st., Sunday.

Ascended Warirata by a very steep track leading from the rest house and walked along the summit of the southern drop of the range. Dry savannah forests cover the ridges of the Laloki fringe of the mountain. East from the old coffee plantation rain forests appear to clothe both heights and gullies. From the east edge a very fine view is obtained of the country from Tupuslai to a great distance westward and an excellent view of the great mountains of the interior is seen from the site of the old plantation house.

I lost my two collecting boys early in the day and could therefore^c gather very few specimens. Am quite sure that Kao and Lahilo gave me the slip

p.31. intentionally. The loss of the day's collecting annoyed me greatly and I thought seriously of dismissing the offenders and sending them back to Port; but decided however to give them a further trial. Collected nos. 558-560 which included a species of Nepenthes (N. mirabilis (Lour.) Druce) growing in dry savannahs.

November 2nd., Monday.

Drying specimens. Wrote to the Arboretum and White letters ^(Miss) will go south by the 'Leikerra' (25).

November 3rd., Tuesday.

Drying specimens. The tropical drying tank is not a success. It dries
 p.32. thin-cuticled and not very sappy plants satisfactorily but cooks rather
 than dries anything fleshy, with a thick cuticle. The Kolaris are returning
 from the feast in numbers today. Interviewed the Bisiatabu policeman and asked
 for carriers to take me on tomorrow but I think my chance of getting them
 is very small.

November 4th., Wednesday.

No carriers this morning. Peacock who is down from the mission today
 X says that Douby, the Bisiatabu policeman, will send them along tomorrow.
 Still trying to dry specimens.

November 5th., Thursday.

Five of the fourteen carriers required turned up at 11 o'clock this
 X morning. Rather than lose more time here I packed them and my own boys
 p.33. with as much as they could carry and proceeded to Bisiatabu.

November 6th., Friday.

Spent the day collecting. Gathered nos. 561-581.

November 7th., Saturday.

7 This is the S.D.A. sabbath so I am resting today and drying specimens.
 Wrote to Ina and mum.

November 8th., Sunday.

X Collected Nos. 582-596. The mission is giving a feast to relatives of
 the Bisiatabu boys and girls today. Many of the people are from towards Sogeris, so
 I should get carriers from among them to take me there.

p.34. November 9th., Monday.

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Went down to Rona Falls to appeal to the authorities per telephone for a policeman to procure me carriers. I find that getting carriers is going to be my greatest difficulty and without police assistance to round them up I will have to spend much of my time in doing this, time which should be spent collecting. Champion was attending an executive meeting so I could not speak personally with him. He however sent a message to the effect that the required assistance could not be given. Stayed the night at Rona Falls.

November 10th., Tuesday.

Called up Champion at 9.30 a.m. and was again informed that no help p.35. would be given by the Government. Native police may only be used by Govt. officers. Suggested that I try to arrange with one of the plantations to do my carrying etc. etc., evidently trying to persuade me that I would not need one of his precious policemen. Asked if it were possible to have my visit made official. Was promised a reply in the course of the morning. Morning passed and at four o'clock no word. Rang Champion at his office at a few minutes to four (Rona time) and was informed that he had gone home. At 5 o'clock tried his house and found him to be away at the tennis courts. Disinclined to waste any more time on people who so lightly forget p.36. promises. I wrote asking to be advised by letter of the decision of H.E. (29) to whom I presume the matter was referred, and set out for Bisiatabu at about quarter to six. A heavy shower had fallen along the road making the ground just wet enough to stick to ones boots and make walking unpleasant.

November 11th., Wednesday.

Took Kao and Lahibo and went along the Sogeri road about a mile beyond the Efogi turn off. Did some collecting there and along the road to the junction of the tracks. Went along the Efogi road about half a mile and

gathered a few specimens (Muss., No. 557-613)

Then Sent Kao down to Rona Falls to enquire for mail and to bring a mat of rice
 p.37. up: detailed Poaho to watch the drying tank: took Lahibo and went to Bisiatabu
 Village to arrange for carriers to take me on to Soger. The people there
 do not wish to carry. Douby, however, after telling me that all his people
 x dead, making houses, or otherwise engaged, promised to send out to the garden
 x houses and have 8 carriers at the mission on Sunday-if they would come.
 I wish I had the authority to compel them to come. Douby's promises are like
 the proverbial pie crust, very easily broken. *leaves all day. In the afternoon*

Collected along the gullies between the village and the site of the old
 mission. At the old mission is a specimen of Araucaria (probably Gunninghamii)
 grown from a seedling brought down from Efogi by a Fijian mission teacher.
 p.38. The tree is about 20 to 30 ft. high. Collected nos. 612-625. Among these
 plants a Banksia (B. dentata) from dry savannah slopes, and a Grevillea
 (G. subargentea C.T.W.=G. papuana ^{F. Muell.} ed.) from edge of rain forest.

November 13th., Friday.

A policeman from a mountain village near Efogi brought word from the
 Govt. in Port M. instructing Douby to find carriers for me. The policeman
 called at the mission early in the morning and after breakfast I went over
 to the village and interviewed the old scoundrel, striking the iron while
 it was hot, so to speak. He promised me six carriers to take my stuff still
 at Rona to Soger, and eight more to shift me from Bisiatabu. Collected from
 Douby's village to Soger road and along the mission. In the afternoon
 p.39. walked along the old road towards Hombrom Bluff. Collected nos. 626-634, which
 include Casuarina modiflora (actually C. papuana ed.) and Melaleuca leu. var.
 (this is not a variety of M. leucadendron but M. dealbata ^{S.T. Blake.} ed.)

November 14th., Saturday.

S.D.A. sabbath. Drying specimens. About 12 o'clock seven carriers arrived with my boxes etc. from Rona Falls. Paid them with cloth and beads and informed them that I require tomorrow morning six o'clock 12 or 14 people to carry me to Sogeri.

November 15th., Sunday.

No carriers from the village. Drying specimens all day. In the afternoon again went to talk to Douby. Could not get anything definite from him or at any rate nothing that I could believe. Said he had spoken to the V.C. (village p.40. constable ed.) of Kageri regarding carriers. Two of the mission girls, one of them the house boss, ran away this evening after a squabble with some of the other girls. Missionaries very disturbed.

November 16th., Monday.

Peacock left for Port after daylight. Runaways returned soon after his departure. Last evening Peacock interviewed some people who had been doing some work for him, regarding carrying my stuff to Sogeri this morning. Three men and six women came along prepared to carry. Started them off about 6.30, also gave Kao and Lahibo a box to carry. Called at Bisiatabu and met on the track ten more people coming to lift my gear. Sent four of the boys to take two boxes left at the mission. Took Poaho with me and went p.41. by the Koitaki way to Sogeri. Arrived at the plantation just before a heavy downpour of rain and was taken by Godson (30) to his house. Paid 8 of the carriers in money - 2/- each and the other 5 with cloth and beads. Kao and Lahibo objected to carrying very much and arrived in a very surly state of mind. Kao refused to take a swag bag up to my room, where upon I took the bag up and dumped it on his head. He defied me for a time but eventually did as he was bid.

Rained on and off all afternoon and during the evening. About a mile on the Rona side of Koitaki light rainforest, on deep rich red volcanic soil, ^{or} ^{is all common} entirely takes the place of Eucalypt savannah. Forests seem more luxuriant p.42. than about Bisiatabu.

Had morning tea with Mrs. Sefton (31) when passing and later shown through the rubber houses by Patterson (32) who is erecting a new factory. Paid Peacock £4 for board. Charged £2 to the Arboretum.

November 17th., Tuesday.

Collected nos. 635-651. Followed old track up mountain east of plantation to summit of high spur where there is an old village. Jungle to the top of the spur rather light and brushy and carrying few large trees. Beyond the village toward Iawarere rises a peak covered with a type of forest differing from any yet seen. The timber is large and clean- p.43. barrelled and is comprised of only 3 or 4 dominant species carrying large finely branched crowns and thin leaves, which shut out most of the light from the forest floor and preventing to a great extent the growth of secondary stories of vegetation. Most of the small bushes etc. seem to be young mixed stands of the dominant forest trees. The damp forest floor is moss covered and rich in several species of small, delicate ferns, few of them bearing sori at this time. No. 642 Fagraea aurantiaca sp. nov. (F. ^{SMOORE} aurantiodora ed.) is one of the dominant species of this association. Descended the mountain toward the Iawarere Road and got drenched by a heavy thunder shower on the way home.

Gathered several species of Ficus (F. castanea, F. xanthosyce sp. nov.) One of them, F. clusiaefolia sp. nov. a fine large tree on summit of a spur; p.44. This tree branches very close above the ground, sends down adventitious roots from the trunk and main branches and bears an oblong fruit 1" long coloured orange mottled with light green on a remarkable enlarged flattened

peduncle. Another species, F. ^(the plant is F. myrsicarpa n.d.) rhys is a small tree bearing fruit

$\frac{3}{4}$ " dia. on thin leafless branches 3-4 feet long clustered low down on the trunk and scattered on upper trunk and main branches.

November 18th., Wednesday.

Collecting and searching for carriers. Crossed river near bottom end of the plantation and followed track past Govt. rest house to village on high spur about a mile beyond. The village is very small, only about 3 habitable houses, and all people were away. Numbers of sapora trees, crotons, ^{red} dracaenas are planted in the village, and a Cassia with long round pods, resembling C. brewsteri; another C. sp. - a shrub with angular branches, annatto and bananas grow in the surrounding brush. Learned from a Koiari shooting boy that the policeman of this village, one Dooby, had been dismissed by the government. The Govt. rest house, on the main road to Kokoda is in a wretched state of repair. Holes in the roof, walls missing, steps broken, etc. Collected nos. 652-661, mostly riverine types. No. 661, Elmerillia sericea sp. nov. (= E. papuana ed.) is a large very conspicuous tree growing on spur leading to village. In a small patch of swamp surrounded by coora-coora I found Gmelina ? sp. - Callicarpa pentandra v. cunninghamiana p.46. f. pentamera and a small Myrtaceous tree- Jambosa goniocalyx with large, pale, angular flower buds - nos. 657-658. A climbing Piper - P. corylistachyopse⁵ also collected. W. Trelease

November 19th., Thursday.

Enquiring for carriers. Crossed over to no. 2 plantation where I met Dowley (33), who is in charge. According to Dowley, who is one of those colossally self-opinionated inefficients who harbour a perpetual grudge against everything and everyone, No 2. produces considerably more than half the total output of the estate and particularly as regards staff, is most shamefully neglected.

Went to Sogerl guided by two boys sent by Dowley. The village is perched on the summit of the very high spur separating the two plantation sections. When p.47. still a mile away from the village rain began to fall heavily, making walking along the steep track very unpleasant. Arrived at the place in a thoroughly wet condition and received a very kindly welcome from the V.C. He took me to his neat and thoroughly weather-proof little house and seated me on a low stool before the fire with a plate of bananas by my side while we talked business. He promised 13 carriers for Saturday and will probably keep his word. Stumbled and slipped back to the plantation through heavy rain and directly after arrival had my mails thrust into my hand by Bumpkin the cook-boy. Letters from Ina, Mum, Lambert (34), Francis (35) and from p.48. the Railway Dept. Qld. advising the recovery of my lost trunk. Finished letters to Ina and Mum and wrote White. River high and overflowing its banks below the house.

November 20th., Friday.

Wrote Lambert, Johnston (36) and Aunt Ethel (37). Had a look through the rubber factory in the morning. The whole place is new and contains a very fine plant of rubber-making machinery driven by suction gas. The new smoke houses are not yet erected and all or most of the sheet rubber is packed over to No. 2 to be smoked. Godson returned from Koitaki where he was weatherbound last night on his way home from Rona. Lahibo and Kao arrived from Rona with two mats of rice.

p.49. Drying specimens and preparing to leave for Iawarere in the morning.

November 21st., Saturday.

November 21st., Saturday.

V.C. lined up before sunrise in military fashion 8 men, 5 women and sundry children to carry me to Iawarere. Assigned them their loads and started them on the road at 7 o'clock. Had breakfast with Godson

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and followed an hour later overtaking the carriers about three miles along the road. For some distance the track follows the Laloki branch running through Sogerí and Koitaki plantations rising gradually into very steep ridges or spurs running from the Laloki - Kemp Welch divide which is crossed about four miles from Sogerí. From the top of this divide Lawarere plantation p.50. can be clearly seen 8 or 9 miles down the Musgrave branch of the Kemp Welch. The road drops down a spur by a steep zig-zag to the river below, A stoney-bottomed swift-running shallow stream and follows it down to the plantation. Two miles from the plantation the road crosses the river. A mile further on, on a low damp flat next the river, is situated a Govt. rest house. Arrived at the plantation about 2.30 p.m. and was kindly provided with lunch by Mrs. Toysey (38). Raining off and on all the afternoon. Lawarere is a rubber plantation of some 400 acres owned by the BNG Co. It is managed by W.D. Toysey who controls a staff of about 100 boys. The Lawarere country is very p.51. mountainous and the vegetation differs somewhat from that of Sogerí and other places visited. Although the elevation is only 800 feet (at the plantation house) the foothill type of forest predominates on all elevations of any height, and extends right down the damp creek ravines to the river in places. Rainfall 118 inches. Limestone appears to be the principal rock, a very light-coloured marble was noticed in one locality, slates and broken quartz are plentiful. A quartz reef, evidently large, is crossed by the track from Sogerí about 2 or 3 miles from the river crossing. Large caves showing stalagmites and stalagtite formations exist in several places near the plantation.

November 22nd., Sunday.

Pottered around the plantation with Toysey in the morning. Collected a p.52. few things on the river track in afternoon - Terminalia sp. a large riverine tree with slender beaked fruit and Planchonia timorensis (=P. papuana ed.) another large riverine tree included.

November 23rd., Monday.

Went out past the saw pit in the direction of Digonagora Village and collected Nos. 663-680. Forests carry some heavy timber and little undergrowth. On account of great height of many trees specimens very hard to obtain. Forest floor rich in musci (mosses ed.) and filices (ferns ed.)

November 24th., Tuesday.

Collected up spur toward Iawarere Village. Forests a mixture of rain forest and foothill types. Collected Nos. 681-689. Among these are several large trees. No. 681 Pasania aspericupula is fairly common on the slopes.

p.53. It is a large straight-boled tree with wood similar to the European oak. Looked through the rubber factory. Voysey seems to turn out very good rubber though much handicapped by extremely old and apparently worn out plant..

November 25th., Wednesday.

X Accompanied by Voysey, collected from saw pit to Maria's village and down the river a mile beyond. Some very fine timber on this track. Forest of great height growth in the ravines and along river. Very little undergrowth, X Collected Nos. 690-702.

Had lunch on the river bank at furthest point reached. Obtained some very fine fish, some of which we wrapped in leaves and baked on coals for our lunch

Again had trouble with Lahibo.

p.54. November 26th., Thursday.

Wrote Austin (39) and Champion. Drying specimens all day. Have let too many specimens accumulate and will have difficulty in drying them before Saturday. Have arranged with Iarere the Moroka policeman to have carriers

ready to shift me towards Kapa - Kapa on Saturday

November 27th., Friday.

Drying specimens. Four carriers arrived from a distant village and were issued ~~with~~ a pannikin of rice apiece.

November 28th., Saturday.

Iarere (Iari) came along with four more men and five women from his village.

The carriers did not all arrive till 10 o'clock: before eleven I had them started; following half an hour later with my personal boy and the V.C.

- p.55. River still a little high from yesterday's rain. Was carried across on the shoulders of two boys keeping myself balanced by firmly grasped handfuls of their woolly hair. The general course travelled was about twenty points west of south from Iawarere. A fairly wide newly cut track leads from near the river to old Iaritari village, a cluster of four houses on the summit of a high hill commanding a fine view of the high mountainous country which surrounds the place. In several places the track follows the beds of creeks, crosses several high spurs and is for the most part fairly hard going. Some steep ascents have to be negotiated but the track in most
- p.56. places is of ample width and footing good. Reached Iaritari just in time to shelter from a heavy rain storm. Arrived at about 1 o'clock and wished to push on to Borabere but my carriers were very reluctant to make a start and about the middle of the afternoon light rain began to fall on which I deemed it advisable to camp for the night and push on early in the morning. Purchased for my carriers and personal boys with 5 sticks of tobacco two large bunches of bananas, and about 40 lbs. of taro and sweet potatoes. Am camped in one of the deserted houses, the best in the village. The place is very smoke stained and rather dilapidated but fortunately weatherproof. In it are two Hanuabada pots, some small fishing nets and hanging from the roof, three large nets of about 12"
- p.57. mesh made of $\frac{1}{4}$ " cord for catching pigs. There are also three cane fences

of about 2 feet diameter made of stout cane on which are loosely fastened a stout net for placing over the pig's head. An old drum, a woven sleeping mat, and several palm spathe dishes completed the furniture. Collected on the track nos. 703 (Castanopsis acuminatissima) and 704. No. 704 is Lithocarpus lauterbachii with very large and stout acorns. The only tree seen was of medium height and growing in a small patch of foothill forest. Generally speaking the flora of Iaritari and locality is of a type intermediate between the rain forest and foothill types. Trees and other plants generally associated with both types being intermixed.

p.58. November 29th., Sunday.

Paid Moroka carriers 4 sticks of tobacco each, gave Iarere 4 cartridges, and 5 sticks tobacco to buy food for carriers on return journey. Gave Iarere a note for Voyseys. Fourteen Iaritari people slept at old village in readiness to transport me to Borabere^e the next village. Uri, ~~and~~ex-Sogeri shoot boy, is in charge. Until recently Uri held the position of village constable but was stripped of his ramie and ^{curb}band of office by P.O. Thomson, for, in his own words "chucking away his woman" and taking into his house a new and younger one. Started at about 7 o'clock. Road has recently been cleared of undergrowth to a width of 8-10 feet all the way from Iaritari old village (The new village is about $\frac{1}{2}$ mile distant from road) to Borabere.

p.59. Some very interesting country passed through, particularly riverine forests differing from any yet seen as regards a large number of species. Travelling is good all the way. The track drops down to a large creek from Iaritari which is followed down for some distance and crossed 6 times. It then crosses

the point of a divide to another and larger tributary of the Kemp Welch which is followed for a short distance and crossed 3 times. Barabere is on a high spur with a drainage fall on all sides as is usual with mountain villages. It is the largest village seen on this trip, being comprised of 8 houses of various types of construction, some of them fairly large. One is on high piles like the houses of Kalo of other inland villages near the coast. The rest house is neatly built and new. Boragadoo the V.C. is a big man possessed of a fine new blue serge ramie and a huge and extensive smile. He is a genial and friendly fellow speaking not a word of English. Paid carriers two sticks tobacco and bought food for them. The villagers are bringing me plenty of yams, taro, bananas, sugar cane etc. A few spoonsful of salt or sticks of tobacco purchase sufficient food to last my boys. I am fortunate in being able to get native food for my rice supply is very low. Have used only four pannikins of rice since leaving Iawarere. Poaho, under the tutelage of Kao and Lahibo, who are evidently experienced cook boys, is doing very well. Collected on the track today Nos. 705-713.

November 30th., Monday.

Collected along river and about village. Rain forest formations prevail.

Many old garden clearings covered with young growths of Macaranga etc.

Collected nos. 714-728 which include a Eugenia (Xambosa aff. longipes) and the large tree Pterocarpus indicus common about Iawarere and here,

with winged Terminalia-like fruit, from the wood of which the natives make their drums. No. 717 a small monopodial branched tree, was first met with at Bisiatabu where flowering specimens were collected.

Had trouble with Poaho who when told to do some work he had neglected to do while I was absent from camp refused duty. He is evidently a surly little devil.

p.62. December 1st., Tuesday.

Drying material. Gathered about the village nos. 729-734. Some common weeds not collected are Euphorbia pilulifera, Ageratum conyzoides, Oxalis corniculata, Asclepias curasavica. Planted around the village are a number of fine healthy young Cocos nucifera and at the old village about $\frac{1}{2}$ mile to the west is a small grove in bearing. There are the furthest inland healthy and bearing coconuts I have seen. The altitude I should say is about 1000 feet.

People still willing to supply food of which I have sufficient. Gave Boragadoo 1/- for 3 fine young coconuts. Lost my big clasp knife near the p.63. village yesterday and recovered it today. No pigeons again today. All the boys have had a trial as shooters; they are a lot of duds. Am having trouble to dry some of my Lawarere plants and have had to throw away a few sets.

December 2nd., Wednesday.

Left Borabere at about 6.30 a.m. Reached Uniosi about 8 miles at noon and Wauleotobada at 5 p.m. Estimated total distance 14 miles. Rather tired after long walk. Had 12 men and 5 women from Borabere and 6 men and 2 women from Uniosi. Road somewhat rough to Luhaimundaboo 3 miles from Borabere after that fairly good travelling to Uniosi. A branch of the Wujiva river is p.64. followed down from Uniosi to Wudatobara and is crossed 26 times on the way. The luxurious rain forests of Borabere gradually become lighter toward Uniosi. Uniosi is on the edge of the dry belt. Quercus (Pasania aspericupula) no. 681 occurs close to Uniosi almost on the edge of the dry belt. Very extensive bamboo forests clothe the bank of the Wujiva right down to the edge of the coora-coora and Eucalyptus country. The Wudatobara country resembles in many respects the Port Moresby hinterland. Eucalyptus tereticornis and the yellow flakey butt species cover many of the hills. Light rain forest brushes ascend the mountain hollows and cover some of the ridges,

p.65. heavier belts of timber occur near the river. Larger areas of open savannah.

Wudatobara is a large village built on a rather flat and clayey point close to the river. Rest house roughly built, small and fairly clean. Collected nos. 735-746.

December 3rd., Thursday.

Drying specimens. Collected on the river bank nos. 747-756.

December 4th., Friday.

Collecting and drying specimens. Went up left hand branch of Hunter or Wujava river. Path leads through light gully rain forest carrying some fair sized trees, and patches of savannah for about a mile. The country becomes

p.66. more hilly from there on and the vegetation almost wholly savannah types.

Collected Nos. 757-777. Among these a small large leafed Eucalypt (E. alba).

Two other Euc. occur but are not in flower or fruit. One is Lane-Pooler's

p.67. Euc. tereticornis, the other a tall straight trunked species with rather rough brown bark, upper bark yellowish. Leaves yellowish green and undulate.

December 5th., Saturday.

Set out about sunrise and travelled through Rigo to Kappa Kappa. Distance about 10 miles. First 6 miles over high savannah hills and across gullies lined with rain forests, Passed through a fair-sized village about 5 miles from Wantolobara. Some 3 miles from Rigo the savannahs end and light sparse

p.67. formations of rain forest begin. Country very dry and vegetation suffering from want of rain. The track at about a mile from Rigo joins a formed road leading from Kappa Kappa to the Govt. Plantation inland on the Kemp Welch.

Rigo is a very old Govt. station and numbers of coconuts and other useful

p.70. trees have been planted on the flat land below the hill on which the residence is built. Woodward (40) the A.R.M. away in Port with a bad arm. Had lunch

with the Englishes (20) and went on to the coast in the afternoon. Carriers very reluctant to go down to the coast. Arrived at rest house at about 5 o'clock

p.68. Paid carriers (20) with tobacco and trinkets and gave them some rice. Rest house not over clean and roof in very bad repair. Rain comes through all along ridge. Collected on the road nos. 778-783.

December 6th., Sunday.

Resting all day. Early in the evening Short (41) the L.M.S. man stationed at Rigo called and took me to his house for the evening. Got wet on way up and rain continued all night so stayed the night with him. At one time the training college for native teachers was situated here and judging by the concrete terrace walls etc. it was a very fine place. Short lives in a small galv. iron place built by himself and is very comfortable. A rather cultured and refined man and a nice chap.

p.69. December 7th., Monday.

Collected along the coast to a point a mile west of village. Secured mostly mangrove formation types, among them 6 Rhizophoraceae, Sonneratia alba, Nos. 784-798. A fringe of mangroves line the water's edge; immediately behind are basin sand flats or small sand hills and toward the point dry brushy hills rise from the waters edge.

December 8th., Tuesday.

Collected along coast east of village. Secured Nos. 799-812.

December 9th., Wednesday.

Went up to Rigo and collected back along the creek to Kappa Kappa. Nos. p.70. 813-826. No. 817 Citrus sp. (Echinocitrus brassii sp. nov.) a small bush of slender erect habit with drooping branches grows abundantly in several places along the creek flats in rich black soil. Fruit bright scarlet to 3 cm long

x 2 cm broad. Quantity of seed gathered.

* Inspected part of English's plantation of Ficus rigo. Planted perhaps 20 years ago this has been neglected until the present rise in the rubber market. It is being cleaned up and a few trees tapped experimentally. The herring-bone system is being tried. Trees seem copious yielders. English says he cannot
x find an efficient coagulant. He is trying several things in an amateurish way. Evidently knows little about rubber.

p.70. December 9th., Tuesday.

p.71. December 10th., Thursday.

Drying material. Poaho extremely sulky today and refuses absolutely to do as he is told. Disappeared about 1 p.m. and has not returned. Other boys say he has gone to Port Moresby. Mimosa (42) returned from Port and left for Hulp. Vanapa^a anchored behind village.

December 11th., Friday.

x 'Vanapa' left soon after daylight.

Drying specimens. Boys very jumpy last night. Asked my permission to sleep on the verandah and during night roused me from my slumbers with the murmured information that Furri-Purri (44) men were walking about and requested me to fire a shot. A wierd sort of night, all kinds of noises about the house.

p.72. Whenever I awoke could see one of the boys sitting up in his blanket on the verandah keeping watch. They must have slept very little during the night. Learned this morning of the death of a man in the village last night.

There are no entries in the diary between Dec. 15th and 1st, 1926.

December 12th., Saturday.

Walked up to Rigo to pay English for stores obtained from his Kappa Kappa store. Gathered fruiting specimens of Ficus rigo. English gave me two
x bottles of latex from his trees which I promised to send to Brunnick for analysis. Drying specimens. 7 a.m. and soon after clearing the harbour

December 13th., Sunday.

Waiting for "Maimara".

December 14th., Monday.

Still waiting for boat. 'Morinda' due in today.

p.73. December 15th., Tuesday.

'Maimara' has not come in from Hula yet. Running short of rations. Right out of many things. Got more rice for boys and some wretched tinned salmon from English's store. Govt. launch expected down from P.M. tonight with Woodward, who is returning from sick leave and his wife. Will go on launch to Port if she comes along.

Saw a native woman baking some earthenware pots. A fire is made of the lower rhachis of coconut leaves on which the pots are placed bottom up and more sticks piled vertically around them. The pots are baked in pairs and left on the fire about 10 minutes, when they are rolled out and dabbed all over with strong tannin from the bark of some tree. The application is made with a piece of coconut husk frayed out at one end. Small patches on the rim burnt by the fire are rubbed with a hard unripe banana. After the tannin is applied the pots are put back in the embers for a few minutes and when black are taken off and left on the sand to cool.

(There are no entries in the diary between Dec. 15th and Feb. 2nd, 1926. ed.)

p.75. February 2nd., Tuesday 1926.

After waiting two days on board awaiting completion of repairs to engine exhaust pipe I left Port Moresby on the 'Vaimauri', Capt. Dean (47), for the Vailala River. Departed about 7 a.m. and soon after clearing the harbour had to drop anchor for several hours to effect engine repairs. We were here

passed by the Govt. yacht 'Laurabada', bound for Darce^{ce} with the governor and M.O. Graham on board. After the engines were got going satisfactorily we proceeded along the coast as far as Red Scar Head, where we anchored for the night close under the Head in Caution Bay. Experienced a rather stiff head wind on way along the coast which much retarded our progress. Picked up^{8.30} in ^(11.00 AM) distress off Red Scar Head the ^dAired^c Hill mission cutter "Mystic", six days out of Port Moresby. Her rotten old sails all torn to pieces and her yards hanging at all angles. Her jib, staysail and mizzen were in rags and the mainsail split. Her native crew had put about and were drifting back to Port. M. when we picked them up. Took a walk ashore and collected a few littoral plants. The littoral flora, but for a very dense forest of tall straight ^xboléd mangrove bordering a creek bank, much resembles that of the coast between P.M. and Kapa Kapa. A small plantation of young coconuts near the landing appear to be thriving excellently.

February 3rd., Wednesday.

Arrived in the forenoon at Obu. Discharging cargo all day at Obu and Hisiu. An unpleasant, rainy day. Did not go ashore. The whole sea front here is taken up by coconut plantations, only a narrow strip of bush being left just behind the beach to prevent erosion. The dominant beach plant is apparently a species of Pandanus. At one or two points where no fringe of vegetation is left erosion on a fairly large scale is taking place. Spent the night at anchor off Obu.

February 4th., Thursday.

Weighed anchor early in the morning and proceeded along the coast to Yule Island. Discharged cargo for the R.C. Mission and Kairuku Govt. station. Anchored at the western end of Hall Sound till 10 o'clock at night when

a course was set for Kerema. The Yule I. rocks are evidently soft yellow sandstones. The Sacred Heart Mission has a very fine station on the Island. It is the head station ^{are situated} of their mission. Numerous branch stations inland on the mainland beyond the coastal strip claimed by the L.M.S. as their sphere of labour.

p.78. February, 5th., Friday.

At daylight we were some miles to the westward of Cape Possession and west of south from Mt. Yule whose square topped crest seemed in the clear early morning atmosphere to tower very close to us but which in reality must be some forty miles from the coast. It is very plain to see that we are now passing country with a very heavy rainfall. The vegetation of the black sand beaches is luxurious and large areas of sago swamp can be seen beyond the beach line and at river estuaries. Crossed the bar and anchored at Kerema at about 1 a.m. Met here Thompson, A.R.M. (48), and Caldwell (49), ^{*} inspector of native plantations. Went ashore and visited the government station. With the exception of the R.M.'s house all the buildings are of native materials, excepting the floors, perhaps, in some cases; they are ^{*} well built neat and clean. Surrounding the station on two sides is a

p.79.

plantation of probably 2000 young Para rubber trees, many of them of tappable age. The numerous broad paths dividing the station grounds are bordered with pineapples. Codiaeum, saporas, mangoes etc. are planted here and there. The whole place has an orderly and well kept appearance. Took two photographs, one of the station as viewed from the ship. The other looking out over the harbour from the hill above the landing place. Anchored for the night off Priddle's (50) and went ashore for dinner. Met Mrs. Priddle and Mrs. McDonald (51). Dean and Botton (52) had to be assisted aboard eventually

February 6th., Saturday.

Lost our anchor as we broke ground; no attempt made to recover it. Sent

mails ashore at Mordisi (53) plantation and arrived at the Vailala bar

p.80. at 11 a.m. This bar is much dreaded by coastal shippers in the south east season, but at this season with the wind off the land the crossing is not attended by any difficulty. A long sand spit of apparently recent deposit and sparsely vegetated projects on the eastern side of the river mouth; on the western side there is a little projection. Immediately within the entrance large masses of Nipa (*Nypa ed.*) occur, clothing the low muddy banks to the waters edge and extending back some distance from the river. Some low mud banks at the bends are covered with a pale foliated tree with which I am unfamiliar (ⁿ*Sonneratia lanceolata*). The breeding and feeding tree, so Dean informs me of large colonies of firefly. Sago palms were noticed in many places, several other palms and a number of trees that I could not recognise.

As we ascend the river, the banks become gradually higher and sago palm and dense jungle supercede the Nipa (or bare) of the mud flats. Higher

p.81. well drained banks support the heavier body of forest, many trees being of great size. About five miles from the mouth on the right hand side a large area has been cleared for cultivation of rice under the Native Plantations ordinance. Ihu, the landing place and stores depot of the New Guinea Oil Exploration Company is on the right bank, six miles from the mouth. This is to be my base while in the Vailala district and here I landed with my gear and stores. The Oil Co's aux. scow, 'Vaiyari', was tied up at the small landing stage or wharf when we arrived. Stacked on the high bank are heaps of bore casing ranging to 15½" diameter, casks of cement and odds and ends of oil borer's equipment. A large store shed is well fitted with stocks of

p.82. food, tools and a great variety of small stores of all description. Apparently no money has been spared in obtaining an up to date plant complete in every detail. The house, an ill-built new place with galvanised iron roof and split sago rachis walls, is approached by a line of duck boards, an indication very suggestive of the weather conditions generally prevailing in this portion

of the Territory. Indeed the work unobserved of men could not quite be noted

in the configuration of the land and the luxuriousness of the vegetation ample evidence of a very bounteous rainfall. I was interested to find that the duck boards mentioned are hatch planks from the wrecked "Pruth" Smith (54), the companies secretary, and Wray (55), a native labour overseer, live at Ihu. Met here Donald McDonald (56), of Vaivari plantation about half a mile further upstream, a very old resident known to the natives as Madora (57).

p.83. February 7th., Sunday.

Went with Wray & Smith to McDonald's house for dinner, and rain falling in the evening prevented our return to Ihu until the following morning. McDonald talks very interestingly of the gulf country and when in a certain condition tells tales which it were wise perhaps not to accept as gospel truth. Noticed a number of very beautiful butterflies.

February 8th., Monday.

Feeling rather off colour and not inclined for work. Checked over my stores and prepared to commence collecting in the morning.

February 9th., Tuesday.

Collected along Hohoro road to a distance of about half a mile. Gathered p.84. nos. 904-921. Mostly small trees or bushes, succulent monocotyledons and aroids. Collected and photographed a small species of Areca. At this point most of the land for a distance of $\frac{1}{2}$ mile back from the river has been cleared for gardens at some time and is now with a thick growth of grass, the usual Macarangas and other species commonly found as regrowth in deforested lands. A low clay ridge on the right hand side of the road and extending to near the river supports a forest of good height growth and timber volume. A tree with large pinnate leaves and wood resembling cedar

is fairly common, but no large trees of the species were seen.

February 10th., Wednesday.

Collected nos. 922-932 along Hohoro road.

p.85. February 11th., Thursday.

Raining most of the morning. Collected in the afternoon nos. 933-939.

Saw a very fine pink orchid near the Ihu clearing on a tree so infested with wasps and ants that it was impossible to reach it.

February 12th., Friday.

Crossed the river to Lepokina where the Vailala villagers are clearing 35 acres of rice land. Collected nos. 940-958, a number of large trees in this gathering. The land being cleared carries a number of large soft wood trees, scattered palms, pandanus and bamboos. A few chains back from the river the ground becomes swampy, Pandanus being dominant. X

p.86. February 13th., Saturday.

Gathered near Hohoro road nos. 959-970.

February 14th., Sunday.

Drying specimens.

February 15th., Monday.

Gathered along Hohoro road nos. 971-979.

February 16th., Tuesday.

Collected across river at Lepokina, nos. 980-993. Included in this

gathering are Sonneratia lanceolata, the firefly tree, 2 species of Pandanus

(P. lauterbachii, P. scabribracteatus sp. nov.), a Terminalia and Sarcocephalus cordatus and Anthocephalus indicus. Vaivari arrived with mails. Letters from White, Bursar of Harvard College enclosing bill on ~~Pay~~^{Pay}ing and Co. London for £27.5.2. Letters also from Johnston, Horne, (58) Ina, Mrs Voysey.

p.87. February 17th., Wednesday.

Drying material and writing mails.

February 18th., Thursday.

Drying specimens and writing mails.

February 19th., Friday.

Collected along Hohoro road. Cycas circinalis and numerous ferns. Vaivari left for Port with mails. Posted letters to Prof. Sargent, the Bursar, White, Bank Wales, B.P. & Co., Gibson (59), Ina, Mother, Johnston. Coghill (60) up from Orokelo. While talking of Papua and native customs the conversation turned to conjectures of the origins of the present day tribes. Coghill states that many years ago he found in a cave on Woodlark Island a large jar or urn carved in an Egyptian fashion and containing human bones. He also mentions the existence on the same island of a line of ovoid shaped

p.88. smooth stones placed in line about $\frac{1}{4}$ mile apart and extending across the

island from shore to shore. The line passes right over the summit of a mountain, on the top of which are two upright stones about 7 feet high and several feet apart. Across the top of this a horizontal slab pointed exactly north and south. Geologist Stanley (61) is reputed to have examined this line, and to have said that the ^{1 m}CROWLECH stones are of rock not known to occur in New Guinea, Samoa being the nearest place it had been found in. X Coghill also related a tale told by an old prospector of a flagged road running from Milne Bay toward the west, which can be plainly traced in several

places. I myself have seen a Koiari wood carving of a grotesque human head greatly resembling the famous Easter Island carvings.

p.89. February 20th., Saturday.

Collected at Orokolo Bay and on the road thence nos. 1012-1030. Only a few littoral types gathered. The original beach flora here has, with the exception of Hibiscus tiliaceus, Ipomoea pes-caprae, Dolichos sp. and perhaps a few other species, entirely disappeared. The whole of the foreshore seen is crowded with dense masses of a littoral leguminous tree called by the natives KAIUPA, Desmodium umbellatum. The dense native population is probably responsible for the denudation of this area and the almost complete extermination of what was probably a rich beach flora at one time. One species of mangrove of tall and slender habit was seen on the banks of a small salt creek; it was not flowering so specimens were not gathered. Terminalia okari and Eugenia sp. (with large flat red fruits) were seen in native plantations.

p.90. February 21st., Sunday.

Went with Smith and Graham to Maira coconut plantation three miles up river from Ihu in a small outrigger canoe. Had a hard struggle against the swift running current all the way up; and were carried quickly homewards by the same current. Collected 3 more species, nos. 1031-1033, among them the justly renowned D'Albertis creeper, Mucuna warburgii. It is just commencing to bloom, only a few festoons here and there, and one can quite understand the enthusiasm of the discoverer when he describes the display of rich crimson flowers made by the plant when in full bloom.

Maira plantation has not been worked for two years and now is a wilderness of grass and weeds. Most of the planted land seen is badly drained and few of the trees away from the river frontage show good growth. The house is

red tiled, larger and airy but it will very soon be completely destroyed by white ants if not attended to.

p.91. February 22nd., Monday.

Visited the Hohora^o oil boring site and was much impressed with the country and with the work being done in preparation for the drilling. The head driller (Moore) expects to have everything ready for the commencement of the actual boring within a few weeks. The well site is on a very rotten and unsettled Tertiary formation broken by a fault line along the crest of the ridge close above the rig. Small mud volcanoes are plentiful right along the ridge and a large gas blow is located close at hand. When a lighted match is held close above the surface of the crater the gas takes fire and flares for two or three feet high, lasting for several minutes. The gas is probably methane. It is odourless and when burning smells slightly

p.92. of methylated spirits. Gathered numbers 1034-1050. Returned on the Ford truck with Wray - an extremely rough ride over an uneven corduroy road.

February 23rd., Tuesday.

Spent the morning collecting and photographing palms and Pandanus - nos. 1051-1053. In the afternoon photographed Metroxylon sp. - sago palm - and gathered near the river towards Vaiviri plantation nos. 1054-1060.

February 24th., Wednesday.

Collected beyond Vaiviri towards Aroara, nos. 1061-1071. Captured a very pretty little yellow snake and preserved it in formalin to be forwarded to Brisbane Museum later on. Lunched with MacDonald and dined with Humphries at his new rest house across the river.

February 25th., Thursday.

Gathered behind MacDonald's plantation nos. 1072-1077. The most interesting find for the day is a specimen of Hernandia papuana C.T.W. with much enlarged and inflated involucre.

Vaiviri from Port with mails and cargo.

February 26th., Friday.

Drying material and preparing for trip to the Purari Delta on Vaiviri.

February 27th., Saturday.

Left Ihu at about 9 a.m. and anchored off Coghill's trading station at Orokolo Bay at noon. Lunched ashore and in the afternoon sailed for the Delta which we entered just after dark by the wide Romilly Sound mouth. Went up a narrow creek to Kaimari Village where we anchored at 8 p.m.

Our anchor had scarcely dropped before a large swarm of dugouts put off

p.94. from the shore and gathered dozens deep around our sides. The V.C. came off to pay his respects and cadge a little tobacco and very soon our decks were crowded with very scantily clad natives, much to the disgust of the Sydney-bred wife of the skipper. They brought off a few crabs and bananas to trade with the crew. Kaimari is one of the largest villages in the Territory: the population is, I am told, about 2000. Some idea of its size may be gathered by the fact that when we anchored practically the whole village was obscured, in spite of the bright moonlight, by smoke from cooking fires on which the evening meal of crabs and sago was being prepared.

Further west were encountered. The rain forest much resembles both in appearance

February 28th., Sunday.

Inspected in the morning part of the village. Took a number of p.95. photographs. The village is built on very low ground and intersected by numerous small creeks, and divided (into) three or four sections by wide

waterways. The thoroughfares are bridges or walks made of sticks and poles raised four or five feet above the ground. These streets are about ten feet wide usually, narrower platforms lead off to the house. Proceeded to the sawmills on the Wame River after looking through the village. The delta lands are very low lying, most [of it] seems to be mere swamp with a narrow border of drained land fronting the waterways. On the very low land near the sea where the water is salt, tall mangrove growths clothe the frontages and probably the interior also of the islands formed by the numerous creeks and rivers. A little higher up Nypa fruticans begins to show here and there p.96. in the mangrove fringe, and eventually displaces all other vegetation on the higher banks. Sonneratia lanceolata is associated with the Nypa palm in this zone. Nypa occupies the higher banks in the bends while the mangrove covers the lower points. This mangrove is the feeding and breeding tree of large colonies of fire flies which cover certain individual trees so thickly that in the night the whole tree glows with a soft greenish light which is reflected quite distinctly on the water. As the rivers are ascended and the banks rise higher above the water the Nypa disappears, giving place to a more varied flora of rain forest types. Rhizophoraceae re-appears above the Nypa zone occurring here and there behind the Sonneratia fringe of the lower banks and again in the inland small mud creeks and swamps. Sonneratia occurs occasionally well into the rain forest areas and was observed near p.97. the sawmill, the highest place reached up river. No sago was observed below the rain forests. This palm was only seen growing sporadically on the lower ground in the rain forests, no large masses such as are said to occur further west were encountered. The rain forest much resembles both in appearance and type composition that of the lower Vailala lands. The similarity is

so pronounced that I consider a fuller investigation would not be warranted, [✓]
taking into consideration the short amount of time at my disposal.

We remained tied up to the bank until noon on Monday, when, our timber cargo
being all aboard, we dropped down the river to the sound and up one of the [✓]
Kaipara system of waterways a few miles where we anchored in 5 fathoms at
p.98.5.30 p.m. The sandflies which caused us great annoyance while tied up on the
bank of the Wase are not present here in such large numbers. ⁸⁾

March 2nd., Tuesday.

Pulled up a creek for about 3 miles in the dingy and landed at (un-named)
Village or rather group of three villages. The natives here are very shy
and, with the exception of a few of the older men and the V.C., disappeared [✓]
into the houses or otherwise hid themselves. These villages are built on
little raised sandy knolls and surrounded by palisades or pig fences of ^{two 11's}
bamboo about five feet high and are connected one with the other by raised ^{is a main}
platforms or roadways. Entrance is by means of small platforms in the form of ^{unusual opening}
a style on either side of the surrounding fence. We were received by the
aforesaid elders at the main entrance to the principal village and escorted
through the place. The houses are all of the high-fronted type supported by [✓]
an amazing number of small piles and very strongly and neatly built. The
whole village is remarkably clean and tidy and the inhabitants apparently free
from the unsightly skin diseases so common to the Papuan native. After we
had walked a little way through the village, and the people had become more [✓]
accustomed to our presence, several of the more daring and inquisitive of the
small boys joined our procession, and before long some of the women could be [✓]
noticed poking their heads out from the black depths of their houses, but few [✓]
of them dared show themselves fully and even these usually retreated out of

view if our gaze happened to be directed toward them. When we were leaving for the boat I purchased from the V.C. for half a stick of tobacco two very p.100. good examples of cassowary bone daggers. Purchased from a man in the village the large scarlet fruit of a Cucurbitaceous vine and collected leaf specimens nearby. The fruit, called FORA, is eaten after being either boiled or roasted in the coals (Trichosanthes ed.).

The delta flora, or at least that of the lower portion is poor in species. Only 19 plants were gathered, nos. 1073-1096.

Left our anchorage at noon, cleared Ronilly Sound entrance a couple of hours later and anchored off Coghill's plantation at 6.30. Coghill's place is close to Oroko village and only a few yards back from the black sand beach of Oroko bay. The arboreal types of the original beach flora have entirely disappeared from this locality. A fringe of tall coconut trees line the beach for miles. Close behind the raised beach the land is swampy and the vegetation p.101. chiefly sago and betel nut palms. Went ashore for dinner and got very wet in the surf. Remained at Coghill's for the night.

March 3rd., Wednesday.

Walked through the village in company with Mrs Coghill and Mrs Alexander. The village is very clean and well swept. Only the main houses are built in Dubu style, the others are mostly square roofed like the Manuabada houses. Inspected the dark interior of a large dubu and was not particularly impressed with its contents.

Left Coghill's at 10.30 and again succeeded in getting thoroughly wet in the surf. Tied up at Ihu at 1 p.m. Interpreter LAPI on loan from Humphries arrived two days ago.

has this
noticed
don't

March 4th., Thursday.

Borrowed a canoe and collected along the river banks below Ihu. Secured nos. 1097-1110. Among these plants is a Mucuna, a Bambusa (B. brassii sp. nov.) and Terminalia okari. The latter is much planted by the natives both here and in the Delta but has not as yet been observed in the wild state. A solitary example of T. catappa was seen growing in the Kapaira village visited while in the Delta.

March 5th., Friday.

Drying specimens. Raining heavily from the S.E. most of the morning.

March 8th., Monday.

Iapi to Vailala to procure double canoe and 16 paddlers for up river trip.

p.103. March 9th., Tuesday.

× Iapi returned with canoe and required number of paddlers. Left Ihu at 10 a.m. passed Maira at 11.15 and arrived at rest house on Kira Creek at 1 p.m. where on account of the strong current of flood water in the river I decided to halt for the night. Gathered at Kira nos. 1111-1115. Found that I have left behind my formalin can and one or two other items of equipment, dishes, toilet soap, etc. Very little change in vegetation so far. Mosquitoes very bad.

March 10th., Wednesday.

p.104. Got a good start from Kira at 3 minutes to 7. Not quite so much water in the river this morning but the current still very strong. The river above Kira narrows considerably and the flora changes to some extent, tall trees and large tangled vines to the waters edge. The thick cane grass thickets, so characteristically occupying the lower river points, disappear about two miles above the junction of Kira Ck. Almost horizontal stratified

beds of mudstones dipping to the north, conspicuous at various places of erosion along western bank. After a while the cane grass brakes again occupy the river banks; apparently no villages between Kira and Akanda. Reached Akanda at 4 p.m. Could have done it in an hour less but thought it advisable to make several halts to rest the paddlers. Akanda is quite a small place; 3 houses and a dubu surrounded by a high fence of sharpened sticks. The rest house is excellent. An african oil palm planted in the village by G. (Governor p.105. ed.) Murray some years ago is thriving well and flowering freely. A number of others planted in rows outside the village are stunted by the heavy weed growth around them and are not more than 3 or 4 feet high. Saw nothing of special note in the way of plants today. Mucuna d'Albertisii flowering in places but not in any abundance.

March 11th., Thursday.

X With the exception of the V.C. and one other all the Akanda men are in goal for not keeping roads in order or some such offence. Cannot on that account procure men or canoes for my return down the river so a start was made for Kewa about 5 hours or 10 miles further up at 7.40. Vailala men very anxious to turn back. Cook boy sick with fever.

p.106. Passed Upoia when the hilly country commences at 9 o'clock. River has fallen about four feet below recent flood mark. Some brown foam still coming down from the rapids and water running fast.

Got into a very bad swirl in a big bend above Upoia. It swept the canoe right round and carried us downstream a bit. Had my hands on my bootlaces for awhile.

Reached Loma at 11 o'clock. Photographed long straight reach above this place. High banks of vegetation with hill in distance, exp. 100, app. 4., at f 100

cloudy sky, paddlers in foreground. Stopped at noon to rest the paddlers and took three photographs of canoe and men, ex. 25, app. 5. Stopped at Hairabo for lunch at 2.45, the largest village yet seen on the river. There is no dubu, the houses square foofed and without walls. The women very scantily attired; some after the Delta fashion, some with a bunch of leaves fore and aft, Others in the conventional fibre lava lava tinted brown, yellow and black. Photographed cloud effects across river, exp. 25, app. 32,. Ended the days journey with our arrival at 4.30 at Hewa, a miserable village on the western bank. A truly wretched place. Surrounded, the new village by a low pig fence of rotten bits of wood laid horizontally, the old by a mass of grass to the house poles. The inhabitants are small and scaly, the only average sized man seen being the village policeman. The bananas however are good. Those people have a fine lot of bows and arrows arranged in their rafters. The land at Hewa and for some miles below is sandy and seemingly without any elevation of surface which might be called a hill. From Akanda to about 2 miles below Kairabo hills of tertiary mudstones narrow the river to a swift stream flowing between high muddy banks. Some beds of black sand observed just below Kairabo. The clay hills carry a flora differing from that of the sandy country which I will examine if possible on my return down river.

The Govt. rest house has been left to rot in a sea of grass. The rice house being in good repair was selected for a camp. 12 bags of rice in the rice shed adjoining, 6 bags at Kairabo.

March 12th., Friday.

Went to Dudia, a small village on a hill 4 miles from the river. The road after the first mile which is tall rain forest carrying a good deal of large timber, passes by means of sticks and logs over sago swamp with an occasional

heavy rain last night probably greatly increased the flow for I could hear the roar from my camp this morning but did not notice it before.

low clayey hill. Gathered nos. 1116-1129 along road. The Citrus hystrix ×
found at Romilly sawmills occurs again here in a similar habitat, stiff
wet clay. The fruit are yellow when ripe, I am informed, and are not eaten ×
by the natives. Its flavour when ripe is sour. 67

Canoe returned to the coast. Paid 6 sticks (of tobacco) per day for
canoe hire and 3 sticks each to the paddlers. The villagers brought me
a very fine pineapple and some eggs. The latter failing to pass the water
test were rejected much to the disgust of the vendor who was told by one of
my boys to return them to the hen and soon he would have some chickens. 68

p.110. March 13th., Saturday.

Crossed the half flooded river in a small outrigger canoe which when
we were all aboard had scarcely 2 inches of free board, and ascended the river
to about 3 miles above Hewa. Gathered along the river and in swampy forest
close to the river nos. 1130-1145. In the day's gathering is a small plump
mango (Mangifera minor) with few fibres, and a large liane from the wood ×
of which the natives obtained by boiling a yellow dye for their textiles. ×
About a mile above Hewa the drainage from the sago swamps enters the river
in a rather remarkable manner, ⁶ lying exposed in the high river bank, and
at the present state of the river partly covered by the water, is a bed of ×
substance of vegetable composition, and resembling very young brown coal 69

p.111. under an overburden of loam varying from 3 to perhaps 8 or 10 feet thick.

From the bedding line between the two strata and through fissures in the
vegetable bed streams of water gush forth with great force. One of these
streams is a foot through and quite two feet wide and makes a roaring sound
that can be heard a mile away. Embedded in the strata are numbers of logs
and larger pieces of wood, brown and soft from decay and age. The natives ×
say that water escapes through these outlets all through the year. The
heavy rain last night probably greatly increased the flow for I could hear
the roar from my camp this morning but did not notice it before.

March 14th., Sunday.

Photographed the river below camp on F 16, exp. 1/5 at 25. Looked through the rice plantation, part of which is carrying a good rat~~oon~~oon crop.

p.112. March 15th., Monday.

The Dahiti men who were to take me down the river had not turned up at 9.30 so made a start with my own boys. Picked the Dahiti men up half a mile below the camp. They had come overland from their village and on the way had encountered a pig which, being Papuans, they had to chase. Left Kairabo at 10.30 with 7 canoe men from that place and Dahiti and the Dahiti policeman. Purchased at Kairabo 5 ransies for a stick of tobacco each. Collected a few plants along the river to Upoia where I lunched and afterwards walked two miles inland. Very poor country at Upoia; a collection of clayey hills marked with innumerable irregularities. The old oil boring site has been burnt

p.113. over and very little remains of the work of the white men but an old rusty rig, a few native houses near the river, and charred stumps of old European buildings. Reached Akanda at 4.45 p.m. Gathered today nos. 1146-1160.

March 16th., Tuesday.

Reached Ihu at 1.15, 4 hours from Akanda. Gathered along the river nos. 1161-1167 including a Pandanus which I photographed (Pandanus leptocarpus sp. nov.)

March 17th., Wednesday.

Drying and packing specimens for shipment to Port Moresby. Went up to Hohoro in the afternoon. Moore expects to commence drilling tomorrow.

March 18th., Thursday.

Sent boys down to Vailala East village with plants and went with Smith and Graham to see the bore started. Photographed during the day the derrick, hoisting of the block, sending the bit down, the first turn of the rotary table and actual start of drilling, and the white staff. The "spudding in" took place at 4.45 and the hole sank 16 feet in 20 minutes. Everything worked well and the start made without a hitch of any kind. Returned to Ihu for the night.

March 19th., Friday.

Borrowed a canoe and 4 boys from Smith and arrived at Vailala at 10 o'clock. Boils becoming troublesome. Gathered nos. 1168-1187.

March 20th., Saturday.

Visited Scotty Crussi (62), trader, 3 miles along the beach. Scotty has a native wife and has traded for 15 years along the Gulf coast. He accompanied Shackleton on one of his South Polar expeditions and lost all his toes through frost bite. The beach front between Vailala and Crussi's has for the most part been denuded of the original beach flora, seemingly by the agency of the native. The dense young regrowth occupying this area is characterised principally by Premna, no. 1023 (Barringtonia), Scaevola koenigii, Hibiscus tiliaceus (1) Pandanus (2) and Erythrina indica. Ipomoea pes-caprae, Dolichos sp. fringes the tide mark all along the beach as does Ischaemum muticum and ferns, no. 1173, Polypodium scolopendria, to a lesser degree. Tacca sp., the large yellow guava, no. 1175, Triumfetta bartramia, Sida acuta, young Barringtonia and Casaytha sp. occur commonly amongst the regrowth, and several Cyperaceae grow sporadically in the loose sand.

This flora extends to the extremity of the recently formed loose sandy Harlachnii point.

March 21st., Sunday.

Drying material in preparation for the journey toward Kerema tomorrow.

March 22nd., Monday.

Started the carriers (16) along the beach before 7 o'clock and waited myself until 9 o'clock hoping that the 'Vaiviri' would come along with the mails from Port Moresby, which she failed to do. Stayed an hour at Scotty Crussi's and reached Kiuru at 2 p.m. Along the less thickly populated beach between Crussi's and Kiuru the primeval strand trees clothe the beach almost to the tide limit. Pandanus spp., Barringtonia, no. 1188, (Azolla biflora), and Terminalia catappa being the dominating species. Gathered nos. 1188-1197.

p.117. March 23rd., Tuesday.

Left Kiuru at 9 a.m. in order to reach the Bluff at low water and arrived at Kerema, delayed by several stops along the beach, at 4.30. The beach line between Kiuru and the Bluff is occupied by young growth of Frema, Acacia, Barringtonia etc. and native coconut groves. At the Bluff the rain forest comes right down to the Barringtonia, Terminalia, etc. that fringe and overhang the beach, making it impossible to walk along when the tide is in. For several miles past this point towards Kerema the beach trees are just recently dead, probably through senile decay aided by rising of the beach. Photographed the stranded "Era" which Gillespie is attempting to refloat. Gathered nos. 1198-1202.

p.118. March 24th., Wednesday.

Collected at Cape Cupula and about the station, nos. 1203-1219. Amongst these plants is a phyllodinous Acacia (A. auriculaeformis), a solitary large tree on the edge of a mangrove creek below the A.R.M.'s residence.

The Cupula is of tertiary clay formation. Very little of the original small growth rain forest remains and that usually when the broken topography makes the land unsuitable for gardening. A few native gardens were seen here and there but most of the land supports a flora of the usual rain forest regrowth types of Macaranga, ilima and various other species of small trees and bushes. Now that the country is becoming safe under Govt. influence the villagers from near the station venture further inland and have established gardens on the Murisa and other rivers running into Kerema Bay.

p.119 March 25th., Thursday.

Collected along road to boat shed on main beach, along the beach and mangrove swamp borders, nos. 1220-1230. Male and female inflorescences of the common beach Pandanus with syncarpous drupes gathered at the base of Cape Cupula. Lying exposed at the base of this cape is a bed of grit or sandstone underlying the clay formation and sharply inclined to the east. Humphries has promised for tomorrow a canoe and six paddlers to take me up the Murisa River as far as Gillespie's camp, where I remain until Monday or Tuesday.

p.120. March 26th., Friday.

Packed up the night before and with Sergt. Gubian and 6 "debunas" was on the beach ready to embark at 7 o'clock. The large canoe provided by Humphries was however, not there, having been appropriated by some of the six boys and taken up the river. Procured a small double canoe and with some of my gear, my two boys and 4 prisoners started up the river, leaving Gubian to secure another canoe and follow with the remainder of my outfit. Had a rather thrilling passage across the harbour in my crazy craft which, being very low in the water, shipped the small seas at such a rate that I had to keep two boys constantly bailing to keep her afloat.

The mangrove lined entrance of the Murua is about a mile from the Govt. station across open water. Three or four small rivers enter the sea at this inlet, forming a small delta of mangrove covered islands. Sonneratia alba grows at the mouths of these rivers and for some small distance up on low muddy banks; S. lanceolata occurs higher up where the water is not so salty, or even quite fresh, the line of division between the two species being fairly sharply defined. Three species of Rhizophoraceae were noticed in the mangrove formations. Rhizophora[#] sp., Bruguiera sp. and no. 1348 (ed.), a small leafed and slender fruited species not previously observed in Papua. Nypa fruticans is plentiful in places behind the mangroves and in pure stands beyond the tall mangrove region. A number of cosmopolitan, littoral or estuarine species were seen and collected. The Murua branches about two miles above the entrance, one stream apparently running straight down from the hills, the other, that followed by me, tending at first through low country in a N.E. direction. Undulating beds of conglomerate are lying exposed in the banks at no great distance from the junction; this is the sago belt, the sago swamps lying back from the banks and for the most part obscured from view by the river bank fringe of hygrophilous vegetation and scattered rain forest trees. Beyond the sago areas the banks are high and well drained and of sandy loam overlying beds of gravel and conglomerate. Where the river commences to shallow not far above the junction, the gravelly nature of the bottom is disclosed, and before one journey's far up the stream bars become rather too frequent in the narrow crooked channel.

This is the first gravelly creek seen in the Gulf country and to my ears the crunch of paddles on the pebbles of the shallows is a pleasing sound after two months travelling over soft muddy bottoms. Situated on the banks are several large yam and banana gardens owned by the coast people who come up from the villages on the beach to work them; but their fear of the wandering Kuku-Kuku is so great that they are afraid to sleep there so they return to

- p.124. their villages in the evening. Above these gardens and at the foot of the hills proper is the oil prospecting camp of Andy Gillespie, an employee of the Papuan Oil Exploration Co. This company is making an attempt to prospect its lease of 1000 sq. miles. Gillespie is one of the four men who are paid to camp on the holding in order to avoid forfeiture. He is an old gold digger and has found a prospect of the precious stuff a few miles above his camp. Gillespie has a comfortable camp and his hearty invitation to me to share it with him was gladly accepted. Camped about a mile below Gillespie are a small tribe of nomad bushmen, who, continually harassed by the dreaded Kuku-
 X Kuku, have come as close to the coast and the government as the prior land rights
 p.125. of the coastal men would allow them[?] for protection. These people lived over on the Tauri River until a recent attack by their enemies reduced their numbers by some half dozen killed and eaten.

March 27th., Saturday.

A dull day threatening rain. Drying material.

March 28th., Sunday.

Heavy rain last night. Went about 3 miles up the right hand side of the river to where a large creek junctions in. Country at first loamy then rising in sharp little ridges and fairly well timbered. Gathered nos. 1331-1340.

March 29th., Monday.

More rain last night and the river is about 6" higher this morning.

- Crossed the river to the left bank and ~~crossed the river to the left bank and~~
 p.126. followed Gillespie's track and an old track cut by Humphries when on his Albert Range expedition to the river about four miles from the camp. The track leads over steep ridges and spurs of disintegrated conglomerate, few X

small rocks lie exposed on the crests of the higher spurs. The red clayey soil carrying small pebbles of white quartz and other rocks reminds me of the old Mt. Macdonald gold digging on the Gilbert River in Queensland. Collected nos. 1341 - 1350. A species of Podocarpus, leaves only, gathered on a hill with an altitude of perhaps 1200 feet. The first species of Coniferae collected by me in the Territory. Found a canoe waiting for me when I returned to camp at 1.00 p.m. so packed up and returned to Kerema.

p.127. March 30th., Tuesday.

Went up the Sisoura river with the Burmese rice plantation overseer Gabriel, a journey of a little over 2 hours with the tide in our favour. The Sisoura runs through very low, swampy country and contained quite salt water at the furthest point reached. Gathered a few plants in a patch of ill drained rain forest and a few estuarine species along the river, nos. 1351 - 1356.

March 31st., Wednesday.

Drying specimens. "Vaiviri" arrived from Ihu with about 40 pay-offs.

These boys have been employed by the N.G.O. Co., some have terminated their contracts and others, being undesirable, have been paid off by mutual consent.

p.128. I chanced to be in the office when they arrived and was invited by Humphries to stay and watch the proceedings. The actual payment of their wages is very simple and expeditious. The boys are fallen in on the verandah outside and one at a time, as their names are called enter the room where the magistrate, his clerk and interpreter and the employer are. The magistrate calls the names and occasionally interrogates the boys, the employer is seated before a pile of bank notes and silver counting off the amounts due as fast as he possibly can, which are given to the native clerk standing close alongside, who in turn gives it to the owner. As his name is called the pay-off hastens in, touches the pen with one hand, grabs his money with the other and gets out as quickly as possible. Police are stationed outside to prevent the newly

enriched boys from rushing off to the trading booths specially erected down in the village for the occasion, before paying their taxes. Every male from a coastal village pays a village tax of £1 per year to the Government. Indentured boys pay 10/- per year. Many of the boys being paid off had not paid their village tax. Long due taxes and the labour boys tax thus reduced their years earnings considerably.

White traders from across the bay had come over with large quantities of trade goods and with their women folk and native assistants waited in their booths in readiness to relieve the paid off boys of as much of their earnings as they are able. This pay off trading^{is} carried out under Govt. supervision and inspection in order to prevent ^{fraudulence} ~~fraudary~~ and profiteering and seems to me a very degrading thing for white people and especially white women to descend to.

April 1st., Thursday.

Left at 8' o'clock for a days collecting at Cupola Point. Followed a good road all the way to Laurabada Village, just on the east side of the point, and reached the rest house there in 2 hrs. & 35 mins., a distance of between 7 and 8 miles. Had lunch at the rest house and after photographing a little rocky cove under the cliffs a little west of the point, set out on the return journey. The road follows the crest of the Cupola range or mountain and passes only a hundred feet or so below the summit - 900 ft. alt.

p.131. The summit and tops of the higher points are covered in clumps of a large green-stemmed bamboo. On the tops of these hills are beds of very large sea shells lying sometimes on the surface, sometimes buried under a foot or so of humus. Pieces of broken earthenware pots buried with the sea shells and similar to those at present manufactured by the Hanuabada people seem to indicate that these shell beds mark the sites of old houses or villages once occupied by a people who have now ceased to exist or who have altered their mode of living or passed on to another district, probably inland.

The bamboos were probably planted by these people. Today's collection is p.132. numbered 1357-1365 and contains nothing of particular interest if I may except a Musa with upright inflorescence and closely packed orange fruit which I photographed also.

April 2nd., Friday.

Drying material in preparation for my departure for Port Moresby in the morning. My Kerema collection ^{is not large} and I think includes very little that is likely to prove unique. On the whole the flora very much resembles that of the Vailala River Districts visited. The higher country some short distance back from the coast would doubtless repay an investigation but I have not the time nor am I prepared to enter this rather dangerous country with the p.133. support of only two or three natives.

Left Kerema on 3rd. and reached Port Moresby next day remaining in that place until the 27th.

April 28th., Wednesday.

Left P.M. at 6 a.m. by "Papuan Chief" for Abau. Called at Kapa Kapa and anchored at Wainapuna just east of Hula for the night. Cook boy deserted last night.

p.134. April 29th., Thursday.

Called at Aroma and a Samoan (Wopa Lavia) trading station and anchored off the Domara River for the night. Main range closer to the coast and vegetation more luxurious.

April 30th., Friday.

Arrived at 7.30 a.m. at Abau in Cloudy Bay. Abau is an island about 25 acres in extent rising precipitously on all sides from the water and covered with a litter of diabase boulders. The diabase is a man of diase rising to

about 200 feet around the edges and depressed in the centre. The Govt. Station is controlled by R. Grist, A.R.M.

Grist sent to a village about 20 miles from station for an ex-AC whose time had just expired to accompany me. G. Christian from Robinson River for stores.

p.135. May 1st., Saturday.

Waiting at Abau for recruits - a cook and camp sergeant. Christian waiting for "Hancay".

May 2nd., Sunday.

No boys yet.

May 3rd., Monday.

Grist's man not here yet. Propose to abandon the Bau-bau-guina route to Keviri Valley and go down to the Domara River, where I may have some chance of getting recruits. Will go to the range near Mt. Brown by the Debana route if I am successful in obtaining suitable men to accompany me. Fortunately for me the Doramo V.C. reported to the magistrate this afternoon and was ordered to obtain canoes and transport me to Domara.

p.136. May 4th., Tuesday.

The Doramo canoes ready to start for Domara. Left Abau at 10.30 and tacking out of the little harbour under the island made a long board for the inland point in the direction of the Mori River. The "Lagumi" are quaint stubby craft with large mat sails shaped (crabs claw). Reached Domara Village at 2.30 p.m., distance probably 15 miles. Rest house clean and in good repair. Paid Doramo men 3 sticks each and 3 each for the lagumi. Sent for Goi and Gila two old police boys. Goi reported at 8.30; I think he will come with me.

Took a number of photos today. Sent two films to P.M. for development.

May 5th., Wednesday.

At village looking for recruits.

p.137. May 6th., Thursday.

Goi agreed to come. Wages £2 per month. A high wage but I cannot haggle about it. Left Goi in charge of stores and visited Willis and Melbourne at Donara River plantation 4 or 5 miles up the river. Gila, another ex Govt.

boy, from Bongvina, turned up at night and was offered a job.

May 7th., Friday.

Went up to plantation to kill a bull for Willis. Made arrangements for a start in the morning. Ordered V.C. to bring me 22 men to act as carriers.

May 8th., Saturday.

X Gila here; only 12 carriers turned up. Sent the V.C. then Goi to muster more and eventually got away at 7.45 with 19 men and 5 boys as carriers.

p.138. Paddled up river against the tide and landed below Bai-ara plantation at

9.30, where the loads were made up. Plantation house about 1/2 mile from where I landed. Left my big drying tank and some stores at Donara Plantation just

across the river and started back at 11.30. Camped for lunch on creek at

12.10. Reached the Mori River at 2.30 and followed it up till 4 o'clock to X

the Mowabutu rest house. Rest house 2 1/2 hours from dinner camp. Rest house

and barracks in bad repair and surrounded by grass fully 3 ft. high. Old

Mowabutu village is half a mile below camp. Two pig-tailed bushmen came to X

the village in the evening. Gave carriers 1 stick each in part payments of

wages. as pig takes a very important part in the life of a New Guinea man.

Remainder of my stores arrived during the night.

May 9th., Sunday.

p.139. Four Mowabutu and village men joined as carriers. Donara men unwilling to go further and when I was ready to start 8 of them went back. The road was

parallel with the river and some distance out in most places but Goi, who was ahead with the carriers, turned into the new Mowabutu village by a side track. Came out at the village at 10 a.m. about 10 minutes from main road. The remainder of my Domara carriers here dropped their loads and refused to go any further. Remonstrations and threats proved of no avail and after a while they, with two exceptions deserted in a body and rushed down the river bed towards home. ^X Its cheap transport but otherwise most annoying. Paid off at the rest house this morning 4 men replaced by local villagers. V.C. reported at his village. Sent all my gear across river to the village, where a p.140. house, a very rickety structure, was cleaned out for my reception. Sent Mowabutu men back to the rest house for the 8 loads left there and despatched another ^[person] to Kurandé for more men.

Mowabuta new village has five small houses and stands on the high left bank of the Mori. Several of the women are in mourning and are a very unattractive sight. They wear a large hood over their heads and hanging down their backs, are thickly padded over the breasts and stomach, wear long straggling skirts dragging on the ground and are blackened on all visible parts of the body. Most of the men have their hair, all but a fringe in front, tightly p.141. covered over with black gummy-looking tapa cloth and hanging down their backs in pig tail form. The only weapons observed are black palm spears. In the house I am camped in are two crude and clumsy looking stone adzes, wooden Kiapan, pandanus leaf sleeping mats, a palm spathe basket and a well smoked + pigs' lower jaw bone. The latter is probably a trophy of the chase or possibly a relic of some dear departed pet. Outside the village fully twenty of these jaw bones of recent date are hanging on a pole. In the village a fine pair of curved boars tusks surmount a carved post like a small totem pole. The ubiquitous pig takes a very important part in the life of a New Guinea man.

Remainder of my stores arrived during the night.

p.142. May 10th., Monday.

Waiting for Kurandi carriers to come down. Collected nos. 1368 to 1371.

V.C. and 7 people arrived at 3.a.m. A rather unusual thing for New Guinea men to travel at night.

May 11th., Tuesday.

Left Mowabuta with 24 carriers-16 men and 8 women-and two V.C.'s. Crossed river and followed Govt. road for 5 miles then along river bed for ½ hour to junction of U-uma river. The Mori above this point is called the Aisa. Estimate Mowabuta village is 7 miles below junction. Camped for dinner in bed of Aisa ½ mile above junction at 11.30. Left camp at 1.15. Road from dinner camp runs between the rivers, passes over some hills and descends to the bed of the U-uma, 1 hour from camp. Rest house ½ hour from here. Reached camp at 3.15. Rest house not far from Kurandi Village - 9 houses. Paid off carriers and arranged for Mowabuta men to help transport me back to Domara when I wish to return. Will probably stay here a week then go on to Debana. Fear that I cannot go up to Mt. Brown or across to the Imita and down to Villiarupa on account of scarcity of carriers. So far as I can gather only about 30 people in the Kurandi group and a number of these are away at the sago swamps across the Aisa. These people have very little in their gardens and are living principally

p.144. upon sago. An epidemic of influenza has apparently much depleted the population of these bush villages since the last magisterial visit.

May 12th., Wednesday.

Took V.C. and collected along river bank below rest house, nos. 1377-1406.

Kurandi is within the foothills. The soil is stoney and vegetation not so heavy as along the rich river flats of the Mori. On the road from Bai-ara to Mowabuta a large area of good timber was seen on the Mori frontage, mostly Ilimo

(Octomeles sumatrana ed.), some Gedar (Toona sureni ed.) also. Fair amount of

interview of this or other.

good timber right up to Aisa and U-uma fork.

May 13th., Thursday.

Mowabuta people returned to their village. Collected on Aisa River

- p.145. nos. 1407-1424. The river across from Kurandi runs through high hills covered with rain forest of small timber volume. River banks not so richly vegetated as those of the U-uma. Boys brought in a number of fish they had caught in the U-uma rock pools with a vegetable fish poison.

May 14th., Friday.

Followed up U-uma River some 3 miles above the camp and gathered mostly along the river banks nos. 1425-1443. Timber growth in the narrow river valley and on the slopes of the steep flanking mountains better than about the village and between the rivers.

May 15th., Saturday.

- p.146. Drying material. V.C. Kubuta brought to see me a Digi man, who he said brought a message from the Dibana people informing me that they were in a weak and sick condition from eating sago, the only food available after the failure of their gardens and requesting that medicines be sent them. According to the messenger several deaths have occurred. The Kurandi and Digi people do not wish to take me to Dibana and they may have invented the story or at least exaggerated the facts, for I know there is a general shortage of garden food, to dissuade me from going further. On the other hand the Dibana people may not desire my presence in their district. At any rate I am determined to proceed to that plan on Monday.
- p.147. Yesterday two Kurandi men came in from their sago camp high up on the Aisa. Two lean wiry little chaps with hair arranged in long plaits brought together and hanging down their backs. These plaits are each closely wrapped

in thin brown bark or tapa cloth. The pigtail of the Mowabuta men is an artificial affair about a foot long bound up in black tapa cloth and attached to a cap or turban of the same material, the whole thing being tied on the head with a piece of fine string and completely covering the hair. A fringe of cus-cus fur is worn round the forehead. The pig tails of the Kurandi men are most probably artificial too. Each one is attached to a bunch of hair, the scalp being exposed between the tails, which are fully 2 feet long.

p.148. The women whom I saw with bodies hidden by unsightly widows weeds remain in that garb until such time as they can produce from their gardens sufficient food to entertain the tribe at a feast. When the bereaved one can accomplish this the demands of convention are considered satisfied and she is free to choose another mate. Joe, after a run of several days' bad luck with the gun, brought into camp this evening a cus-cus and two mountain geese. Watched a village boy prepare the former for cooking. The process was simple. First tearing out the viscera, he dropped it on a pile of blazing sticks, and the preparation for another feast was complete.

p.149. May 16th., Sunday.

it was before → Drying specimens. Raining off and on all day. Arranging to start for Debana in the morning. Am taking 12 carriers and leaving the V.C. in charge of the remainder of my gear. Rest house in very leaky condition. Had to rig my tent inside to keep the rain out. Having difficulty in drying paper.

May 17th., Monday.

Very dull morning. Packed everything up and while waiting for the laggardly carriers to muster it commenced to rain heavily from N.W. Stood it for a while hoping for the rain to cease, which it did not do. Fear that if this rainy weather continues it will be difficult to get to Debana as the track for a great part of the way is the river bed, ^{and} And there is also

p.150. a probability of being cut off while up there by the flood waters of the

Aisa. Find on enquiry that a "small road" leads from this village up the U-uma and to the top of the range, which can be reached in a day and a half. Will start out along this track in the morning, taking four or five carriers and two boys. Tried to find out from the village people if any Araucarias grow on top. Described the trees as well as I could in pidgin English and drew a rough diagram to illustrate my discourse but could obtain no information in the affirmative. They say the oaks are the principal trees on the mountain summits.

p.151. May 18th., Tuesday.

Started for the main range with Elavasa, the V.C. and five carriers.

he was
Goi on
May 6th?
as also up to
May 30th

Goa, who was to come also, gave me the slip at the village. Travelled up the bed of the U-uma in a northerly direction, crossing and recrossing it many times, often up to my thighs in water. Raining steadily when we started and continued off and on all day. Three and a quarter hours' walk from the camp the river divides, one branch going E., the other N.E. The east branch is called the Diarce, the other the Duobi. Followed the latter a short distance and made camp on a small creek a few hundred yards up from the main stream. Boys do not understand tents and fly and in consequence pitching camp in the steady rain was a long process. The camp is in a ravine between high spurs.

Sent the carriers out at 3 o'clock to gather plants, a task they performed but indifferently well, bringing in large leafy barren branches and short broken flowering and fruiting ones. Took the V.C. and one boy and followed the Duobi a short distance gathering a number of plants. As one ascends into the higher and wetter regions from Kurandi the vegetation takes a richer and more varied appearance, until at my camp in a dark damp ravine under the range the ground and trees are covered with ferns, orchids and moss. Some of the ferns, particularly the Trichomanes, are very fine; the orchids such as are in flower are very small and inconspicuous. About a mile below the camp on a small swampy shelf at no great elevation above the river is a small patch

of sago palms. Tall, handsome, clean stemmed trees entirely thornless, rather slenderer than the thorny Gulf species. Gathered 29 species, nos. 1448-1476.

May 19th., Wednesday.

Started early in the morning and climbing a high spur above the camp followed it through mist and rain to a height of between 4 and 5 thousand feet. Track in places very steep and walking on the wet and slippery ground very hard. Entered the oak forests a short distance up the spur and after 2½ hours stiff climbing mounted a peak surmounted by tall Araucarias towering into the mist above a dense second storey of

p.154. Eugenia etc. Left several boys to cut down a pine tree and went on up the spur

X for some distance further again through Quercus and Castanopsis. A cold steady rain falling all the while and the mist so thick that one can see only half way up the taller trees. Was disappointed to find the Araucarias neither in flower nor fruit. Could not see to the top of the trees but no fallen scales or male amenta were found on the ground and the tree fallen was barren. The Quercus and Castanopsis forests are open in character with very little undergrowth. Two species of Quercus gathered. Castanopsis not in flower or fruit. Gathered specimens of everything seen excepting a few X succulent Monocotyledons. And returned to camp at 2.15. Collected today nos. 1477-1512.

p.155 Could not get any compass bearings on account of the thick mists. Direction taken from camp on the Duobi tributary N. and N. East.

May 20th., Thursday.

Returned to Kurandi main camp arriving at 12.30. Crossed the river 18 times on the way down. Had lunch and started the drying tank right away.

Am going to have some trouble in drying my main range material in this

damp cloudy weather. Collected nos. 1512-1523.

May 21st., Friday.

Sent Goe off to Mowabuta to bring up carriers for my return to the coast.
Drying specimens. Very dull weather and hard to get papers dry.

p.156. May 22nd., Saturday.

Drying material. Goe brought in V.C. Kubula with 8 carriers. Will start on return journey to the coast in the morning.

May 23rd., Sunday.

Left Kurandi at 8.13 (I think my watch a good deal ahead of right time) with 18 carriers. Lunched a mile above Mowabuta village at 12.30 and arrived at Mowabuta rest house about 5 miles below the new village at 5 o'clock. Carriers who were behind me went into the village and were very unwilling to proceed further. The day was certainly a bit long but they were themselves to blame for delaying me an hour at the start.

p.157. May 24th., Monday.

Arrived at Domara River Plantation at 11.30. Paid off carriers and returned them to their villages and allowed my personal boys to go down to Domara for the night.

May 25th., Tuesday.

Rode with Willis to the coast coconut area. Road crosses Bomgwina River at plantation area and traverses heavy rain forests for 5 miles and quite dense to the coast where the timber is smaller and palms numerous. Willis intends to clear a large block of this forest land for rubber. Drying up specimens all day.

p.158. May 26th., Wednesday.

Left plantation for the coast with a crew of small boys in charge of the Domara V.C. Reached Domara rest house at 2 o'clock, a slow trip on account

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of a strong head wind and little water in the shallows of the upper river.

Drying specimens in the afternoon.

May 27th., Thursday.

p.159. Collected along beach to Bomgwina. Usual types of beach and mangrove association. Legs badly septic and rather painful. Rained heavily at night, water coming through the roof in quantities. Have not seen a dry rest house in this Division.

May 28th., Friday.

Went by canoe up the Mori River and gathered a good lot of specimens. Legs bad; unable to walk in boots. The lower Mori is a clear fast running narrow stream with thickly timbered banks. Mangroves extend on the lower banks as far up as I went. Higher banks and small ridges near the river carry thick rain forest if rather low timber volume.

May 29th., Saturday.

Drying specimens. Expected 'Papuan Chief' from Port Moresby but no sign X
of her coming yet.

May 30th., Sunday.

p.160. Drying specimens. In the course of a conversation with Goe who is going up the Bomgwina to make sago, ^[noun] that the thornless variety of that palm seen up the U-uma river is not indigenous to these parts, being brought from the east and planted in various places. The local native sago is thorny like the west coast species. According to my informant, who is well acquainted X

with the important part taken in seed dispersal by birds and flying foxes, X
the thornless variety is not distributed or at least not established in
new habitats in this district by animal agency. Goe says the thorny variety
X or species is best for sago. 'Papuan Chief' from Port Moresby.

May 31st., Monday.

Collected 26 species along banks of Domara River.

p.161. June 1st., Tuesday.

X Collected 10 species at Reids' plantation and Bomgwina sand spit. Arranged
for canoe to go up Bomgwina River in morning. My mails which were carried
on to Abau by the "Chief" arrived by canoe. Grist back from the mountains
with captured murderers. Wind from N.W. threatening rain.

June 2nd., Wednesday.

Raining all day from N.W. and various other points. In afternoon went by
small canoe from Bom up the Bomgwina and gathered 15 more species. Raining
X heavily a great deal of the time. Called in at Reids' on way back. "Hamay",
X sighted entering Abau, yesterday morning has not come along yet. Gila's
p.162. woman made for me a basket out of the midribs of the pinnae of a young
coconut leaf. Very neat and strongly made. Called by Domara people - HOWO.

June 3rd., Thursday.

Collected along beach between mangroves on Domara River to the mouth
X of the Mori. Melaleuca occurs here on a small area of grassland.

June 4th., Friday.

Went up to Kanui to say goodbye to the folk there and across to
Baia to see Yule. Collected 2 species on way back. Photographed one of them.
Arabawai No. 1643. (Goe's sketch)

June 5th., Saturday.

Drying material. Sent Mometa back to his village. Gila unwilling to come to Port, somebody ran away with his other wife, so will send boys' wages to Willis. Pilloti called in to see me. An Italian trader on the coast toward Otomata (Pilloti murdered by natives early in 1927). L.J.B. 29.9.27. X

June 6th., Sunday.

No entry. The diary ends here (ed.)

