SCIENTIFIC NEWS

Getting there (and down again):

T.G. Laman, Safety recommendations for climbing rain forest trees with 'single rope technique'. Biotropica 27 (1995) 406–409.

H. ter Steege, Single rope techniques in tropical rain forest trees: going down safe and sound. Biotropica 30 (1998) 496–497, illus.

H. ter Steege & J.H.C. Cornelissen, Collecting and studying bryophytes in the canopy of standing rain forest trees, in J.M. Glime, Methods of bryology. Proc. Bryol. Meth. Workshop, Mainz (1988) 295–298.

DIMETRA AND NYCTANTHES IN OLEACEAE

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A paper being prepared for submission to the American Journal of Botany will present a molecular phylogeny of all 24 recognized genera of *Oleaceae* based on chloroplast DNA sequences. Of interest for the Flora Malesiana and Flora of Thailand Projects is evidence for inclusion in the *Oleaceae* of the long-debated genera *Dimetra* Kerr and *Nyctanthes* L.

Dimetra is a monotypic genus endemic to Thailand, whereas the 3 species of *Nyctanthes* occur from India to China and Java (*N. aculeata* Craib is restricted to Thailand). Previously, there have been morphological arguments for their placement in the *Verbenaceae* or in a family of their own, *Nyctanthaceae*. Outgroups used in the phylogenetic analysis included representatives of the *Loganiaceae, Myoporaceae, Rubiaceae, Strychnaceae*, and *Verbenaceae*. The results clearly showed *Dimetra* and *Nyctanthes* as a sister group to *Myxopyrum* Blume in the subfamily *Jasminoideae* (with a parsimony jackknife support of 99%). The *Oleoideae* was shown to be a monophyletic group, whereas relationships between basal clades, constituting the *Jasminoideae*, were not resolved. A revised classification of the family based on the molecular phylogeny will be included in a forthcoming paper.

NEW RECORDS OF GRAMINEAE FOR MALESIA

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During the Ben Stone and Flora Malesiana Symposia (1998) in Kuala Lumpur I was able to visit the herbaria of KLU, SING, and SINU, and to make a few excursions. Some observations mainly made then are reported here.

ARUNDO

Arundo formosana Hack., Bull. Hb. Boiss. 7 (1899) 724.

Stoloniferous perennial. Culms often branched from the upper nodes, 1–2 m long, tips pendulous. Ligules 0.5 mm long, often long-hairy on the back. Blades flat, 11.5–22.5 cm by 9–12 mm, glabrous, smooth, margins scabrous. Panicles lax, 20–30 by 4–6 cm. Spikelets (2- or) 3- (or 4-)flowered, 5.6–6 mm long (excl. awns). First lemma 3–5.25 mm long, 3–7-nerved, awn (2–)3.75 mm long. First palea 3–3.5 mm long. Anthers c. 2 mm long.

Distribution — Taiwan, Botel Tobago, Ryukyu (Iriomote), Malesia: Philippines, Samar, Mt Sohoton Natural Bridge Natural Park [*Barbon et al. PPI 5793* (L)].

Habitat — Secondary limestone forest, cliffs, altitude not recorded, 0–1800 m in Taiwan.

Notes — A variable species. Conert [Die Systematik und Anatomie der Arundineae (1961) 31–36] distinguished 3 varieties, the Samar specimen belongs to var. *formosana*.

This is a new generic record for Malesia. The introduced *Arundo donax* L. differs: Culms 1.5–8 m long, little-branched. Panicles 30–75 by 6–10 cm, longest lower branch 15–25 cm long. First lemma 8–12 mm long, with 6–8 mm long hairs at base. First palea 5–5.5 mm long. Anthers 2.5–3 mm long.

CENCHRUS

Cenchrus echinatus L., Sp. Pl. 1 (1753) 1050.

Annuals. Common axis scaberulous, rhachis internodes 2–5 mm long, burs loosely spaced. Outer spines mostly less than one-half the length of the inner spines of the bur; inner spines connate for more than halfway above the base, forming a closed bur, flat. First lemma paleate, sterile.

Distribution — Warmer regions of the New World, introduced elsewhere, e.g. Malesia: Peninsular Malaysia (Selangor), Singapore, Papua New Guinea (Central Prov.; Manus Is.), Ashmore Reef, N Australia, Polynesia [Carolines (e.g. Palau, Yap), Easter Is., Gilbert Is. (e.g. Tarawa), Mangareva, Marcus, Marianas (e.g. Guam, Saipan), Marshall Is. (e.g. Bikini, Eniwetok), Nauru, New Caledonia, Rurutu, Tahiti, Taumoto, Wake, etc.].

Habitat — Waste places, beaches, road sides, fields, grassy slopes, 0–2000 m altitude.

Notes — Most references in literature on the occurrence of this species in Malesia are based on misidentifications of the common *Cenchrus brownii* Roem. & Schult., with which it has been found to grow together.

CYRTOCOCCUM

Cyrtococcum trigonum (Retz.) A. Camus, Bull. Mus. Nat. Hist. Nat. 27 (1921) 118.

Erect part of culms 0.05–0.22 m long. Leaves lanceolate to linear-lanceolate, 1–3.5 cm by 3–6 mm, below with 5 or 6 main nerves. Panicle contracted, branches glabrous, few-spikeled, the longest pedicels shorter than the spikelet. First lemma setulose, sometimes verrucose.

Distribution — Sri Lanka, S India, Pacific (Fiji, Cook Is.), very rare in Malesia (7 coll. seen): Peninsular Malaysia (Negeri Sembilan, Perak), Sabah, Philippines (Mindanao, Sulu), Papua New Guinea (Central Prov.); introduced in Trinidad.

Habitat — Stream banks, shaded lawns, thickets, coconut groves, rubber plantations, abandoned gardens, locally dominant, 0–170 m altitude.

Note — This species is usually confused with *C. accrescens* (Trin.) Stapf and *C. patens* (L.) A. Camus, but is much smaller in its vegetative parts and inflorescence. It is most similar to the latter and in view of its scattered distribution may turn out to be a dwarf race of that.

ERIOCHLOA

Eriochloa meyerana (Nees) Pilg. in Engl. & Prantl, Nat. Pfl. Fam., ed. 2, 14e (1940) 56 ('*meyeriana*').

Peduncles glabrous. Lower glume slightly developed; upper glume acuminate. First lemma paleate, male, acuminate, pilose; second lemma apiculate, arista c. 0.075 mm long. Anthers 1.4–1.65 mm long.

Distribution — South and tropical Africa, introduced elsewhere, e.g. S Andamans, Malesia: Singapore, Java (Jakarta), Cocos (Keeling).

Habitat — Swampy places, along river banks, ditches, coralline sand, etc., 0–1700 m in Africa.

Note — New record for Singapore, where it was first found in 1948 (*Sinclair,* 18/12/1948, K).

HOLCUS

Ligules membranous. Spikelets 2- (or 3-)flowered, the lower one bisexual, the upper one(s) male, disarticulating below the glumes. Glumes much longer than the lemmas, dull. Ovary glabrous.

Holcus lanatus L., Sp. Pl. 1 (1753) 1048.

Densely tufted perennials. Culms 0.3–0.9(–1.2) m long, densely pubescent on and below the nodes. Panicles lax to very dense, 5–20 by 1–8 cm. Glumes 4.25–6 mm long, acute, the upper one sometimes mucronate. First lemma unawned; awn of second lemma hooked, not exserted, 0.75–2.25 mm long.

Distribution — Europe, introduced elsewhere, e.g. in Malesia: Java (Tengger: Kletak, once in 1914), Sabah (Mt Kinabalu).

Habitat — Moist road sides, abandoned fields, lawns, 1300–3300 m altitude.

Note — Found on Mt Kinabalu in a lawn near the guest house at 3300 m altitude (*Van Valkenburg 1453*, 28 July 1998, L).

LEPTURUS

Lepturus radicans (Steud.) A. Camus, Ann. Soc. Linn., Lyon n.s. 69 (1923) 87.

Similar to *L. repens* (G. Forst.) R.Br., but spikelets only 3–5 mm long.

Distribution — East Africa, Madagascar, Comoro Is., Seychelles, Mauritius, introduced in Sri Lanka, Malesia: Peninsular Malaysia (Selangor: Kuala Lumpur).

Habitat — Sands, grassland near the sea, road sides, lawns, preferring some shade, up to 500 m altitude in Sri Lanka. Cultivated elsewhere for lawns in shaded places.

Note — New record for Malesia: Ryves s.n., November 1992, Roadside in Park opposite Concorde Hotel. I went there in July 1998 but could not find it on the steep slope, hardly a 'park'. Instead I saw *Setaria barbata* on the shady bank of a ditch nearby.

NEYRAUDIA

Neyraudia arundinacea (L.) Henr. var. **zollingeri** (Buse) Henr., Blumea 3 (1940) 439.

For a description see Gilliland (1971, sub *N. reynaudiana*).

Distribution — India to China (SW), Taiwan, the Andaman and Nicobars, Malesia: Peninsular Malaysia (Kedah, Malacca, Negeri Sembilan, Pahang, Penang, Perak, Perlis, Selangor), Singapore, Sumatra (Aceh, East Coast, Bengkulu), Anambas Is., Krakatau (one of the first colonizers after the explosion of 1883), Java (Bantam, Jakarta, Bogor, Priangan, Pekalongan, Semarang, Malang, Besuki), Lesser Sunda Islands (Bali, Flores), Anambas Is., naturalized in North America and the Caribbean.

Habitat — Sunny, infertile, rocky localities, thickets, locally common, 50–1100 m altitude, said to avoid the seasonal region E of Semarang–Yokyakarta in Java, but found above Bajeman on the Ijen, the driest place in Java.

Notes — *Neyraudia arundinacea* (L.) Henr. var. *arundinacea* differs only by having a fertile first floret and a different distribution.

New record for Singapore (*W.P. Wong,* August 1959, Bartley Rd, SINU).

OPLISMENUS

New generic record for Singapore with two species, which is rather surprising, as at least *O. compositus* is rather common elsewhere, which may be the very reason.

Oplismenus burmanni (Retz.) P. Beauv., Agrost. (1812) 54, 168, 169, 170.

Lowermost racemes 0.7–3 cm long. Spikelets 2.4–3.2 mm long (excl. awns), awns antrorsely scaberulous, filiform, dull.

Distribution — Tropical Central and South America, Africa, Asia to Vietnam, N Andamans, Australia (Northern Territory, Queensland), in Malesia: Peninsular Malaysia (Kedah, Pahang, Penang), Singapore, Sumatra, Java, Bawean, Madura, Kangean Is., Lesser Sunda Islands (Bali, Nusa Penida, Flores, Timor, Alor, Wetar), Philippines (Guimaras; Luzon: Bataan, Batangas, Rizal, Zambales; Mindanao: Zamboanga; Panay), Celebes (Minahasa), Saleijer Is., Moluccas (Ambon, Ceram: Pulau Boano; Halmahera, Talaud Is., Ternate), New Guinea ('Saroa, *Murphy s.n.*', G, fide Scholz, but not in Henty).

Habitat — Shaded places, between rocks, weedy in fields and plantations, lawns, 0–700 m altitude.

Notes — The epithet is usually misspelled as '*burmannii*'.

New record for Singapore: Cluny Rd, near the Larmit Rd junction, *Kassim,* 13 August 1959 (SINU). Lawn near rivulet, Sultan of Johor Estate next to Botanic Garden, 9 June 1998 [*Ibrahim, Kadim & Samsuri 325* (SING)], 8 August 1998 [*Veldkamp 8763* (L, SING)].

Oplismenus compositus (L.) P. Beauv., Agrost. (1812) 54, 168, 169.

Lowermost racemes 3–10 cm long. Spikelets 3.3–5.2 mm long (excl. awns), awns smooth, rather thick, viscid, shiny.

Distribution — (Sub)tropical Central and South America, Africa, SE Asia to Japan, Australia, New Zealand, W Pacific; Malesia: widely spread.

Habitat — Moderately shaded soil, open places in primary and secondary forest, locally abundant, 0–2200 m altitude.

Note — New record for Singapore: Botanic Gardens Nursery, *Kassim,* 15 June 1959 (SINU); Dairy Farm Quarry, in shade of forest margin. Locally common, usually sterile. August 6, 1998, *Lai & Saifuddin 421* (SING).

PANICUM

Panicum sarmentosum Roxb., Fl. Ind. 1 (1820) 311.

Distribution — India to Taiwan, S China, Australia (Queensland), Malesia: widespread.

Habitat — Sunny to somewhat shaded localities, steep river banks, ravines, thickets, edges of (secondary) forest, old clearings, scrambling to the tops of scrubs and low trees, locally dominant, (0–)50–1200(–1800?) m altitude.

Notes — A specimen was brought in during my visit in SING (1998) which was the first 20th century representative in that herbarium.

Some authors have distinguished two taxa, *P. sarmentosum* and *P. incomtum* Trin. (see Veldkamp, 1996c).

Panicum trichocladum Hack. ex [Engl., Abh. Preuss. Akad. Wiss., Berlin 2 (1891) 119, nomen] K. Schum. in Engl., Pflanzenw. Ost Afrika 5C (1895) 103.

Perennials. Culms hollow, not inflated at base. Sheaths (incl. margins) glabrous. Ligule a membranous ciliolate collar. Blades linear, 5.5–11 cm long, glabrous to puberulous, underneath with 8 or 9 major nerves. Panicle laxly contracted, 6–11 by 1–3.5 cm, main axis smooth, glabrous, branches erecto-patent, smooth, naked at base, the lowermost longest one 1–5 cm long, pedicels smooth. Spikelets rounded to acute. Glumes without a distinct internode; lower glume 0.3–0.6 mm long, 0.15–0.2 times as long as the spikelet, truncate to rounded, 0-nerved; upper glume 5-nerved. First lemma paleate, male; second lemma sessile, smooth, apiculate, incurved. Anthers 1.3–2 mm long.

Distribution — Zaire to Ethiopia, south to Mozambique, introduced in Surinam and Singapore.

Habitat — Vegetation-forming along shaded road side, open grassy areas, oil-palm plantations, clambering in shrubbery to 2 m high.

Collector's note — Very distinctive by its vegetation-forming and clambering habit, the glaucous undersides of the patent leaves, and the erect, effuse panicles with very fine patent branches with few, perpendicular spikelets. Anthers orange to yolk, stigmas dark red-purple.

Note — This species was found in 1998 at the entrance of the Bukit Timah Nature Reserve, Singapore [*Veldkamp 8762* (L, SING), 13 August 1998], and subsequently seen "a lot more ... on the banks of a drainage canal near where the abandoned railway line to Jurong branches off from the main line at Bukit Timah Station, about 1 km down the road from Bukit Timah" [*Turner 98-22* (SING)], and along Track 3, Mandai Road [*Lai & Saifuddin JF 469*, 26 November 1998 (SING)]. The species tends to be vegetation-forming and clambering up to 2 m in the shrubbery. In Singapore it is the exceptional form without the long glassy setae in the inflorescence that gave the species its name ('*trichocladum*' from Greek means 'hairy branches').

PEROTIS

Perotis rara R.Br., Prod. (1810) 172.

Racemes laxly spikeled. Spikelets at maturity reflexed. Lower glume gradually passing into awn, body not distinct. Callus up to 1.5 mm long, obconical, slightly flattened, laterally pubescent.

Distribution — Asia (Thailand: Peninsular, Narathiwat, Tak Bai; Vietnam, S China) to Australia (not in Victoria, Tasmania), in Malesia: Peninsular Malaysia (Trengganu), Philippines (Luzon: Ilicos Norte, Lepanto, Tarlac, Zambales; Mindoro), Lesser Sunda Islands (Sumba, Flores, Timor, Kisar), New Guinea (Irian Jaya: Merauke; Papua New Guinea: Madang, Morobe, Central Prov.).

Habitat — Beach, Eucalypt savanna, sandy river banks, locally common, 0–275 m.

Note — New record for West Malesia (Kuala Trengganu, sandy beach, common: *Gilliland,* June 1958, SINU; sand of the Rest House lawn, mixed with *P. indica.*

SETARIA

Setaria barbata (Lam.) Kunth, Rév. Gram. 1 (1829) 47.

Plants annual. Culms geniculate and rooting at base, branching intra-vaginally at base. Ligule margin setose. Blades plicate, pilose above, base somewhat pseudo-petiolate, margin at base with bulbous-based bristles. Inflorescences lax, common axis pilose, branches with an elongated axis, spikelets not distinctly secund, pilose. Bristles antrorsely scaberulous. Spikelets ellipsoid, moderately plano-convex. Lower glume amplexicaul, ovate, 0.75–1 mm long, acute; upper glume 0.5–0.75 times as long as the spikelet. First lemma acuminate, 7-nerved; second lemma easily detachable from the spikelet, acuminate, transversally rugose. Anthers 0.7–1 mm long.

Distribution — Originally probably from West Africa, now pantropically introduced; in Malesia: Peninsular Malaysia (Penang, Selangor), Singapore, N Sumatra (East Coast), Java (widespread), Borneo (Banjarmasin; already before 1858!), Lesser Sunda Isands (Timor), Celebes (Minahasa), Philippines (Cebu), Irian Jaya (Manokwari), no doubt much more common.

Habitat — Moist, preferably moderately shady locality, waste areas, gardens, not withstanding trampling, 0–900 m altitude.

Note — This species is much more common than the herbarium suggests. Turner (1997) mentioned only Singapore, where I indeed saw it in various places (entrance Garden, *Veldkamp 8764*; L), near pools near entrance Bukit Timah (not collected), in Selangor (Kuala Lumpur, near Concorde Hotel, *Veldkamp 8758*; L) and a record from Penang (*Chin 4508*; SING).

UROCHLOA

As I have explained elsewhere (Veldkamp, 1996a, b) the genus *Brachiaria* (Trin.) Griseb. must be reduced to only a few species, the remainder belongs to *Urochloa* P. Beauv.

There are a number of native and introduced species in Peninsular Malaysia and Singapore. Of note here are:

Urochloa piligera (Benth.) R.D. Webster, Pan. Austr. (1987) 246.

Plants annual. Culms nodes glabrous. Ligule with 0.4–1.65 mm long hairs. Blades linear. Peduncle glabrous below the inflorescence, rhachis of racemes narrowly ribbon-like, 0.7–1 mm wide; axils glabrous; lowermost racemes 3.5–4 cm long, upper ones distant. Spikelets 3.1–3.75 mm long. Glumes remote; lower glumes 1.35–1.5 mm long, 9–11-nerved, with cross veins; upper glumes apex acute, 7-nerved, pubescent, apical hairs longer. First lemma back slightly sulcate; second lemma 2.4–2.7 mm long, apex acutish.

Distribution — Australia (Western Australia to New South Wales), Malesia: Celebes (Talaud Is.), Moluccas (Ternate), New Guinea: Aru Is. (P. Trangan), Irian Jaya (Kofiau Is., Manokwari, Merauke), Papua New Guinea (Western, Central Prov.); introduced in Singapore.

Habitat — Open sandy places near the seashore, dry rice fields, swampy areas, canal banks, etc., 0–70 m altitude.

Notes — Introduced in Singapore and already widespread before 1959 [first collections (in SINU): *P.W. Wong,* 10 July 1959, "along banks of canal, 4 1/2 mile, Bukit Timah Road", *P.W. Wong,* 10 July 1959, "from swampy area near biggest pond in Clementi Road area", *P.W. Wong,* 17 July 1959, "swampy ground liable to flooding Kg. Ulu Pandan, 10th mile Jurong Road", *P.W. Wong,* 24 July 1959, "Kim Seng Road, near Tiong Baru".

Most similar to *U. subquadripara* (Trin.) R.D. Webster [*Brachiaria subquadripara* (Trin.) Hitchc.], which differs immediately by the glabrous spikelets.

Urochloa ruziziensis (R. Germ. & C.M. Evrard) Morrone & Zuloaga, Darwiniana 31 (1992) 101.

Culms rhizomatous. Ligule with 0.8–1 mm long hairs. Peduncle pilose below the inflorescence, common axis 9.5–15 cm long, rhachis of racemes broadly ribbon-like, 2.25–5 mm wide. Pedicels puberulous. Spikelets 4.7–6 mm long, base stipitate. Lower glumes acute; upper glumes at least as long as the second lemma, acuminate. First lemma acuminate; second lemma 3.6–4.35 mm long, apiculate.

Distribution — Originally from Africa (Congo, Ruanda, Burundi), cultivated elsewhere, e.g. in Malesia: Philippines (Luzon), Papua New Guinea (Madang, Morobe, Northern Prov.), no doubt elsewhere.

Habitat — Open areas, pastures, under coconut, 30–140 m altitude.

Notes — In Peninsular Malaysia this species is erroneously called *Brachiaria decumbens* Stapf. This taxon is part of the polymorphic *Urochloa brizantha* (Hochst. ex A. Rich.) R.D. Webster, which is now pantropically cultivated in many forms and hybrids, so that only the broad-sense name can be applied.

The Malaysian specimens seen actually belong to *U. ruziziensis*. I observed several races as road stabilizers along the highway near the Rimba Ilmu Botanic Garden, outside Kuala Lumpur, differing in the colour of the spikelets, anthers, and stigmas (*Veldkamp 8751, 8752, 8753*, L). Similar forms were observed also along the hundreds of kilometers highway to Endau Rompin and back.

The correct identity of the Malaysian plants is of some importance, not only because of their prominence as soil binders, but also because toxicity to goats and sheep has been

reported for '*B. decumbens*'. It is quite possible that *decumbens* races of *U. brizantha* are cultivated in Malaysia, but I have not seen any in the herbaria and the field. Regrettably, I was in Malaysia and Singapore too briefly to have been able to do much in the latter, and the reader is exhorted to go out, collect, and send me any specimen that might belong to '*B. decumbens*' (other Malesian collections of the taxa mentioned here will be very welcome, too, as their present distribution is hardly known).

Urochloa brizantha s.l. and *U. ruziziensis* can be distinguished as follows:

- Rhachis of racemes narrowly ribbon-like, 1.3–1.65 mm wide. Pedicels glabrous. Lower glumes apex truncate to rounded; upper glumes slightly shorter than the second lemma, apex acute. First lemma apex acute; second lemma apex acutish ..... **U. brizantha**
- Rhachis of racemes broadly ribbon-like, 2.25–5 mm wide. Pedicels puberulous. Lower glumes apex acute; upper glumes at least as long as the second lemma, apex acuminate. First lemma apex acuminate; second lemma apex apiculate ..... **U. ruziziensis**

The 'true' (extreme) forms of *U. brizantha* can be distinguished as follows:

- Stoloniferous, culms decumbent. Blades 5–20 cm by 7–15 mm. Common axis 1–8 cm long. Racemes 2–7, 1–5 cm long. Spikelets usually in 2 rows, rhachis more or less flat, 1–1.7 mm wide. Spikelets 4–5 mm long, distally usually pubescent. Upper glume and first lemma membranous, dull ..... **B. decumbens**
- Tufted, culms erect to geniculate at base. Blades 10–100 cm by 3–20 mm. Common axis 3–20 cm long. Racemes (1–)2–16, 4–20 cm long. Spikelets usually in 1 row (sometimes 2 at base), rhachis more or less crescentic with narrow, inrolled wings, c. 1 mm wide. Spikelets 4–6 mm long, usually glabrous. Upper glume and first lemma chartaceous, somewhat shiny ..... **Urochloa brizantha**

VULPIA

Vulpia myuros (L.) C.C. Gmel. forma **myuros**: Fl. Bad. 1 (1806) 8.

Panicle lax to dense, enclosed by or shortly exserted from the uppermost sheath. Spikelets with 2–5 fertile florets and 1 or 2 distal sterile ones. Callus rounded. Lower glume lanceolate, 0.75–1.5 mm long, 0.2–0.45 times as long as the upper one (without the awn). Lemmas 0.5–1.3 mm wide, glabrous. Anther one, persistently enclosed in the (cleistogamous) floret, 0.3–1 mm long.

Distribution — Europe, naturalized elsewhere, e.g. in Malesia: Sabah (Kinabalu), Lesser Sunda Islands (Timor: Tatamailau), Philippines (Luzon: Benguet).

Habitat — Open grasslands, fields, c. 2255 m altitude.

Note — The Kinabalu collection (*Rao et al. 90*, 15 June 1976; SING) is a new generic record for W Malesia.

References:

Gilliland, H.B. 1971. A revised flora of Malaya, vol. 3. Grasses of Malaya: 61, t. 6. Singapore.
Turner, I.M. 1997 ('1995'). A catalogue of the vascular plants of Malaya. Gard. Bull. Singapore 47: 551.
Veldkamp, J.F. 1996a. Brachiaria, Urochloa (Gramineae–Paniceae) in Malesia. Blumea 41: 413–437.
Veldkamp. J.F. 1996b. Proposal to conserve the name Brachiaria (Trin.) Griseb. (Gramineae) with a conserved type. Taxon 45: 319–320.
Veldkamp, J.F. 1996c. Revision of Panicum and Whiteochloa in Malesia (Gramineae–Paniceae). Blumea 41: 203–204.

FIELD WORK

Sumatra

Dr. E.A. Widjaja (BO) between 7 and 28 March, 1999, visited the Leuser Ecosystem. She collected 5 apparently new species of *Gigantochloa* and *Bambusa farinacea*, a new record introduced from Malaysia.

Together with Purwaningsih and staff and students from Herbarium Andalas she visited the Rimbo Panti Nature Reserve between 20 April and 20 May, 1999.

Borneo

Ms. S. Bodegom and Mr. P.B. Pelser (L) study seedlings of secondary forest trees in E Kalimantan (Batu Ampar, Berau, Sangatta): c. 1000 specimens have been collected.

Dr. P.J.A. Keßler (L) carried out a 60-day consultancy for the Berau Forest Management Project.

Irian Jaya

Waigeo is located on the Lydekker line just north of the New Guinea mainland and thus acts as a bridge for invading species from the Philippines and other ecotone areas. Twenty-three species of *Palmae* were observed, especially of *Calamus*. The majority are new records, and 4 appear to be undescribed. — C.D. Heatubun [extracted from N.G. Trop. Ecol. & Biodiv. Digest 6 (1988) 6].

In 1996, the Herbarium Manokwariense (MAN) explored the Salawati and Batanta Islands in the Raja Ampat Archipelago, north-west of the Vogelkop. The first is dominated by *Anacardiaceae, Orchidaceae, Palmae*, and *Polypodiaceae*, the latter by *Commelinaceae, Moraceae, Myrtaceae*, and *Orchidaceae*. Vegetation differences are explained by the fact that Salawati is on the Kemum terrane, and Batanta on that of Waigeo, separated by the c. 5 km wide Sagewin Straits, whereby isolation has caused speciation. 3300 numbers were collected. — C.D. Heatubun [extracted from N.G. Trop. Ecol. & Biodiv. Digest 6 (1988) 6].

The Indonesian Institute for Sciences (LIPI) and Japan's Chiba University started in October 1998 a joint research on the flora of Irian Jaya. The study will centre on Mt Cyclops. Comparative studies will be made in the Gede and Pangrango complex in Java. The research is financed by the Japanese government and involves Mr. Daradjat and Mr. Eli Syafei (LIPI) and T. Asakawa, M. Ito, K. Uohara, and M. Watanabe (Chiba). Specimens will be deposited in BO, Chiba, and L.

PUBLICATIONS

Annonaceae. An interactive multimedia information and identification system is set up by ETI, Amsterdam, The Netherlands on 2 CD-ROM. The first one will deal with all genera, the second one with neotropical taxa. See J. Koek-Noorman, Annonaceae Newsl. 11 (1998) 33–37.

Beccariana is a botanical research bulletin published in Manokwari, Indonesia (ISSN 1410-5403). The first issue appeared in September, 1997, the second in February 1998. Articles are written in Indonesian with abstracts in English. For more information please contact Mr. C.D. Heatubun, S Hut, Herbarium Manokwariense, Jl. Gunung Salju, P.O. Box 23, Amban, Manokwari 98314, Irian Jaya, Indonesia.

Haustorium, Parasitic Plants Newsletter, is the Official Organ of the International Parasitic Seed Plant Research Group. Issue 34 of January 1999 can now be down-loaded at http://www.lars.bbsrc.ac.uk/cropenv/haust.htm

The **International Carnivorous Plant Society** has opened a website:
http://www.carnivorousplants.org

Type specimen database of all major Dutch herbaria —
Visit http://rulrhb.leidenuniv.nl/ and choose the 'Catalogue of type specimens' under 'New'.

The database, funded by the Netherlands Organization for Scientific Research (NWO) and produced with the package BRAHMS (Denis Filer, Oxford, England), combines all known type specimens of the four Dutch herbaria: Amsterdam (AMD), Leiden (L), Utrecht (U), and Wageningen (WAG). Not only the cooperation among the herbaria is unique, also the fact that digital images are available of most type specimens. The database presently holds 40,000 records and 30,000 images.

The opening window of the net site (produced by the Expert Centre for Taxonomic Identification, ETI, Amsterdam) opens with a menu. The upper choice, 'search the database' provides a form with which very versatile queries can be made. Not only plant names can be used as key words, also (combinations of) geography, vernacular names, collectors, etc. Help functions behind each field either provide information about what has to be filled in or they provide pick-lists from which a choice can be made. The hits are presented in a spreadsheet, arranged alphabetically on the accepted name; basionyms are shown in the right hand columns. Double clicking on a name will provide the full label details and shows a photo of the type specimen(s). Double clicking on the photo will provide an enlarged image on your screen.

The main menu also provides an option to order a CD-ROM of the complete database (with only thumb-nail images of the specimens). It is also possible to order CD-ROMs with a subset of the database and with high resolution photos.

The database still contains errors. If you find them, please inform us:
e-mail: thijsse@rhbcml.leidenuniv.nl

In the future data of normal specimens will be added, especially the data of new acquisitions, historical material, and material used in research.

Also, the herbaria of Leiden, Utrecht, and Wageningen will be united into a (decentralized) National Herbarium of The Netherlands. Thus, this year (1999) changes are to be expected in the home page of the present database, but we will keep you informed. — P. Baas

A manuscript by P. van Royen, **The vegetation of the Pacific Islands, 1. The tectonic evolution of the Pacific Islands, vs. June 1994**, is present in the library of the Rijksherbarium. Dr. Van Royen has informed us that anyone interested is free to quote from the manuscript. He is presently engaged with volume 2 on the vegetation of the islands.