

PTERIDOPHYTA (by Kunio Iwatsuki)

The materials cited in the present enumeration are mostly those collected during the Fifth Expedition, though some earlier collections are included in case it is necessary. Among the specimens collected during the preceding Expeditions, there are the specimens which have already been cited in the first and/or second volumes but are corrected the determination here; the other specimens are kept unnamed and have been excluded from the former lists. Several specimens in the latter case were identified by Professor M. Tagawa and are cited in the following enumeration with T in parenthesis just after the date of collections concerned.

The families are arranged in the system of Copeland: Genera Filicum (1947). This system is not current at present and the name of the largest family is incorrect according to the code of nomenclature, though this arrangement of families is followed here for convenience' sake to bring the comparison with the former lists easier.

EQUISETACEAE

Equisetum debile Roxb. ex Vaucher: Tagawa in Fl. E. Himal. **2**: 197 (1971).

NEPAL. Kathmandu Airport, 1300 m (Oct. 13, 1963-T); Dhara Pani-Dhankuta, 350-1200 m (Oct. 17, 1963-T); Iladanda-Helok, 1500-1800 m (Nov. 13, 1963-T); Tharpu-near Chyangthaphu, 900-1200 m (Nov. 26, 1963-T); South of Dharan, 200 m (Jun. 1, 1972); Dharan-Sanguri Bhanjyang, ca 500 m (Jun. 2, 1972).

Equisetum diffusum Don: Fl. E. Himal. **2**: 197 (1971).

NEPAL. Dhankuta-Murhay, 1500-2100 m (Oct. 23, 1963-T); Taplejung, ca 1700 m (Nov. 2, 1963-T); Tuwa-Taplethok (Nov. 5, 1963-T); Taplethok-Helok (Nov. 6, 1963-T); Khebang-Bharomdin (Nov. 24, 1963-T); Sinduwa-Bhalukhop, 2000-2400 m (Jun. 5, 1972); Mewa Khola, 2100 m (Jun. 29, 1972); Bhuje-Chauke, 2700-2900 m (Jul. 4, 1972); Chitre-Hile, 1900-2400 m (Jul. 8, 1972).

DARJEELING. Ubayuri-dani, 2200 m (Jul. 25, 1972); Batasi-Mani Bhanjyang, 2000-2100 m (Aug. 9, 1972).

LYCOPODIACEAE

Lycopodium cernuum L.: Tagawa in Fl. E. Himal. **2**: 197 (1971).

NEPAL. Tuwa-Taplethok, 1300-1700 m (Nov. 5, 1963).

Lycopodium clavatum L.: Fl. E. Himal. **2**: 198 (1971).

NEPAL. Mure-Sinduwa, 2100 m (Jun. 5, 1972); Topke Gola-Shewaden, ca 3200 m (Jun. 28, 1972).

DARJEELING. Tonglu-Sandakphu, ca 3200 m (Jul. 31, 1972).

Lycopodium Hamiltonii Spr., Syst. Veg. **5**: 429 (1828)-Clarke in Trans. Linn. Soc. II. Bot. **1**: 590 (1880).

NEPAL. Tuwa-Taplethok, 1200-1700 m (Nov. 5, 1963); Khebang, 1400 m (Nov. 23, 1963); near Chyangthaphu-Birwa, 1100-2000 m (Nov. 27, 1963); Birwa-Yektin, 1400-

2400 m (Nov. 28, 1963); Batasay-Bhuspate Danra, 2200-2600 m (Dec. 1, 1963); Bhuspate Danra-Mai Majuwa, 1600-3100 m (Dec. 3, 1963); Sim Chotala-Thale, 900-2200 m (Jun. 2, 1969); Godawari-Phulchoki, 1600-2500 m (Jun. 23 & 26, 1967); Khodang Danda-Latsu, 2100-2500 m (Aug. 29, 1972).

BHUTAN. Tongsa-Tashiling, 1900-2300 m (Apr. 19, 1967); Samtengang-Choojom, 1500-2100 m (Apr. 26, 1967); Tinlegang, 1950 m (May 4, 1967).

Distr. Himalaya, Indo-China, S. China, Formosa, and S. Japan.

Lycopodium Herterianum Kümmerl.: Fl. E. Himal. **2**: 198 (1971).

NEPAL. Tinjure-Tinjure Phedi, 2700-2900 m (Jun. 7, 1972); Mul Pokhari-Lamo Pokhari, 2900 m (Jun. 8, 1972); Lamo Pokhari, 2900 m (Jun. 9, 1972); Lamo Pokhari-Gupha Pokhari, 2800-2900 m (Jun. 10, 1972); Topke Gola, 3600 m (Jun. 19, 1972); Lamo Pokhari-Chauke, 2700-2900 m (Jul. 4, 1972).

DARJEELING. Mani Bhanjyang-Tonglu, 2000-3000 m (Jul. 30, 1972).

Lycopodium pulcherrimum Wall. ex Hook. et Grev., Ic. Fil. **1**: 38 (1827)-Alston & Bonner in Candollea **15**: 193 (1956).

Lycopodium setaceum Ham. ex Don var. *pulcherrimum* (Wall. ex Hook. et Grev.) Clarke in Trans. Linn. Soc. II. Bot. **1**: 590 (1880).

NEPAL. Sim Chotala-Thale, 900-2200 m (Jun. 2, 1969); Thale-Dunche, 2100-2200 m (Jun. 3, 1969); Gram-Dunche, 1900-2000 m (Aug. 21, 1972); Bhorlang-Sundarijar, 1400-2400 m (Aug. 31, 1972).

Distr. Nepal and Formosa.

The two specimens of 1969 collections are preidentified as *L. subulifolium* but different from the nominal species in less adnate broader leaves of thicker texture and midribs rather distinct beneath.

Lycopodium Selago L., Sp. Pl. ed. 1, **2**: 1102 (1753).

NEPAL. Minchin Dhap-Mul Pokhari, ca 2800 m (Oct. 29, 1963-T); Lamo Pokhari, 2900 m (Jun. 9, 1972); Lamo Pokhari-Gupha Pokhari, 2800-2900 m (Jun. 10, 1972); Thudam-Kipuphu, 3400-4500 m (Jun. 26, 1972).

Distr. Warm temperate regions in N. Hemisphere.

Lycopodium Veitchii Christ: Fl. E. Himal. **2**: 200 (1971).

NEPAL. Suke-Hile Chok, 2900-3500 m (Jun. 11, 1972).

SELAGINELLACEAE

Selaginella bisulcata Spring: Tagawa in Fl. E. Himal. **2**: 200 (1971).

NEPAL. Mai Majuwa-Dhara Pani, 1500-1800 m (Dec. 4, 1963); Tinjure Phedi-Chauke, 2700 m (Jun. 7, 1972).

DARJEELING. Ubayuri-dani, 2250 m (Jun. 23, 1969-T).

Selaginella ciliaris (Retz.) Spring in Bull. Acad. Brux. **10**: 231 (1843)-Alston in Proc. Nat. Acad. Sci. India **11**: 227 (1945).

Lycopodium ciliare Retz., Obs. **5**: 32 (1789).

NEPAL. Phusri-Dhara Pani, 450-1200 m (Oct. 16, 1963); Dumhan, ca 700 m (Oct. 31, 1963); Bharomdin-Tharpu, 700-1200 m (Nov. 25, 1963); Sibganja-Mahara Bakara, ca 200 m (Dec. 12, 1963); Kathagara-Rangali, ca 200 m (Dec. 14, 1963); Dingla-Doban, 800-1000 m (Jul. 2, 1972); Teku Nala-Tamur Bridge, 300-800 m (Jul. 9, 1972).

DARJEELING. Darjeeling-Tista, ca 600 m (Aug. 10, 1972).

Distr. India, Himalaya, S. China, and through Malaysia to Australia.

Selaginella chrysocaulos (Hook. et Grev.) Spring: Fl. E. Himal. **2**: 200

(1971).

NEPAL. Dankuta-Sinduwa, 1200-2100 m (Oct. 22, 1963); Sinduwa, 2100 m (Oct. 24, 1963); Ghatte-Khebang, 1600-2400 m (Nov. 19, 1963); Dhankuta-Nigale, 1300-1600 m (Jun. 4, 1972); Shewaden-Papung, ca 2400 m (Jun. 29, 1972); Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972); Dor-Tute, 2300-2600 m (Jul. 7, 1972); Phulchoki, ca 1500 m (Jul. 15, 1972).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972); Ubayuri-dani, 2200 m (Jul. 25, 1972); Phalut-Raman, ca 2100 m (Aug. 4, 1972); Palmajua-Batasi, 2100-2200 m (Aug. 8, 1972); Darjeeling-Tista, ca 600 m (Aug. 10, 1972).

Selaginella chrysozozis Spring in Mém. Acad. Sci. Brux. **24**: 244 (1850)-Alston, l.c. 226 (1945).

NEPAL. Ghatte-Khebang, 1600-1700 m (Nov. 19, 1963).

Distr. E. Nepal, Assam, Burma, and N. Thailand.

Selaginella involvens (Sw.) Spring: Fl. E. Himal. **2**: 200 (1971).

NEPAL. Murhay-Bilbatay Bhanjyang, 2000-2200 m (Oct. 24, 1963); Mul Pokhari-Dumhan, 1500-2000 m (Oct. 30, 1963); Tuwa-Taplethok, 1300-1700 m (Nov. 5, 1963); Zongri-Iladanda, 1800-2600 m (Nov. 12, 1963); Iladanda-Helok, 1500-1800 m (Nov. 13, 1963); Mai Majuwa-Dhara Pani, 1500-1900 m (Dec. 4, 1963); Sinduwa-Bhalukhop, 2100-2400 m (Jun. 5, 1972); Shewaden-Mewa Khola, 2100-2600 m (Jun. 29, 1972); Basantapur-Chitre, 2300-2400 m (Jul. 7, 1972).

DARJEELING. Ubayuri-dani, 2000 m (Jul. 25, 1972); Phalut-Raman, ca 2200 m (Aug. 4, 1972); Batasi-Mani Bhanjyang, 2000-2100 m (Aug. 9, 1972).

SIKKIM. Damthang-Gangtok, 1600-2900 m (Jun. 29, 1969-T).

Distr. Ceylon, India generally, Himalaya, through China to S. Korea and Japan, south to Celebes, and Flores.

Selaginella Kurzii Baker in Journ. Bot. **23**: 249 (1885)-Alston, l.c. 226 (1945).

NEPAL. Mul Pokhari-Dumhan, 700-2500 m (Oct. 30, 1963); Dumhan, by the Tamur River, ca 700 m (Oct. 31, 1963).

Distr. E. Nepal, Assam, Burma, Thailand, and Malaya.

Selaginella monospora Spring: Fl. E. Himal. **2**: 200 (1971).

NEPAL. Selap-Walunchung Gola, 2600-3500 m (Nov. 10, 1963); Khebang-below Siling Tzokupa, 1700-2100 m (Nov. 20 & 22, 1963); Mai Majuwa-Dhara Pani, 1500-1600 m (Dec. 4, 1963); Shewaden-Papung, ca 2400 m (Jun. 29, 1972); Dingla-Doban, 800-1000 m (Jul. 2, 1972).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972); East Side, 2100 m (Jul. 23, 1972); Palmajua, 2200 m (Aug. 7, 1972); Batasi-Mani Bhanjyang, 2000-2100 m (Aug. 9, 1972); Darjeeling-Tista, ca 800 m (Jul. 10, 1972).

SIKKIM. Gangtok, 1700-1800 m (Jun. 27, 1967).

BHUTAN. Khosa-Tamji, 1800-2200 m (May 11, 1967); Tamji-Gasa, 2200-2800 m (May 13, 1967).

Distr. Himalaya, Burma to Indo-China, S.W. China, and Hainan.

Selaginella pallidissima Spring in Bull. Acad. Brux. **10**: 231 (1843)-Alston, l.c. 276 (1945).

DARJEELING. Sandakphu-Phalut, 3200-3600 m (Aug. 2, 1972).

Distr. W. Himalaya and Darjeeling.

Selaginella pennata (Don) Spring in Mém. Acad. Sci. Brux. **24**: 257 (1850)-Alston, l.c. 225 (1945)-Alston & Bonner in Candollea **15**: 195 (1956).

Lycopodium pennatum Don, Prodr. Fl. Nepal. 18 (1825).

NEPAL. Shewaden-Mewa Khola, 2300-2400 m (Jun. 29, 1972).

DARJEELING. East Side, 2100 m (Jul. 23, 1972); Phalut-Raman, ca 2200 m (Aug. 4, 1972); Darjeeling-Tista, ca 1000 m (Aug. 10, 1972).

Distr. N.E. India, Himalaya, Burma, and N. Thailand.

Selaginella repanda (Desv.) Spring in Gaud., Voy. Bonite Bot. **1**: 329 (1846)-Alston, l.c. 217 (1945)-Alston & Bonner, l.c. 194 (1956).

Lycopodium repandum Desv. ex Poir., Encycl. Suppl. III, 558 (1814).

NEPAL. Khebang-Bharomdin, 1000-1700 m (Nov. 24, 1963); Bharomdin-Tharpu, 1000-1200 m (Nov. 25, 1963); Yektin-Batasay, 1400-2400 m (Nov. 30, 1963); Pokhara, 900 m (Jun. 18, 1967); Godawari-Phulchoki, 1600-2500 m (Jun. 26, 1967); Phulchoki, ca 2200 m (Jul. 15, 1972); Kathmandu, ca 1300 m (May 28, 1972); Dharan-Sanguri Bhanjyang, ca 1000 m (Jun. 2, 1972).

BHUTAN. Wangdu Phodrang-Samtengang, 1450-2100 m (Apr. 10, 1967); Ritang-Rukubi, 2600-3400 m (Apr. 13, 1967).

Distr. Himalaya, Thailand, Indo-China, S. China, Formosa, and W. Malaysia to Timor.

Selaginella tenuifolia Spring in Mém. Acad. Sci. Brux. **24**: 253 (1850)-Alston, l.c. 226 (1945).

NEPAL. Bhandukay-Ghatte, 1600-2500 m (Nov. 16, 1963); Khebang-below Siling Tzokupa, 1700-2100 m (Nov. 20, 1963).

Distr. E. Himalaya, Burma, and N. Thailand.

Selaginella vaginata Spring: Fl. E. Himal. **2**: 201 (1971).

NEPAL. Ghatte-Khebang, 1600-2400 m (Nov. 19, 1963); Mai Majuwa-Dhara Pani, 1500-1800 m (Dec. 4, 1963); Shewaden-Papung, 2000-2600 m (Jun. 29, 1972); Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972); Bir Gaon-Dingla, 1000-1600 m (Jul. 1, 1972).

DARJEELING. Palmajua-Batasi, 2100-2200 m (Aug. 8, 1972).

Distr. E. Himalaya, Burma, and N. Thailand.

OPHIOGLOSSACEAE

Botrychium lanuginosum Wall. ex Hook. et Grev., Ic. Fil. **1**: 79 (1829).

Japonobotrychium lanuginosum (Wall.) Nishida ex Tagawa: Nishida in Fl. E. Himal. 453 (1966); H. Ito in **2**: 201 (1971).

NEPAL. Hile-Chitre, 1900-2400 m (Jun. 5, 1972); Shewaden-Papung, ca 2200 m (Jun. 29, 1972); Phulchoki, ca 2300 m (Jul. 15, 1972); Gram-Dunche, 1900-2000 m (Aug. 21, 1972).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972); Raman-Rimbick, 1900-2400 m (Aug. 5, 1972).

Distr. Ceylon, S. India, E. Himalaya, and S. China to Malaysia.

Botrychium Lunaria (L.) Sw. in Shrad. Journ. Bot. **1800** (2): 110 (1801)-Clausen in Mem. Torrey Bot. Cl. **19**: 62 (1938).

NEPAL. Topke Gola, 3600 m (Jun. 18, 1972); Topke Gola-Shewaden, ca 3500 m (Jun. 28, 1972).

Distr. Temperate regions in N. Hemisphere and Australia, Tasmania, New Zealand, and Patagonia.

Botrychium multifidum (Gmel.) Rupr. in Beitr. Pfl. Russ. Reiches **11**: 40

(1859).

Sceptridium multifidum (Gmel.) Nishida ex Tagawa: Fl. E. Himal. 454 (1966); **2**: 201 (1971).

NEPAL. Mangel-Khodang Danda, 2500–3100 m (Aug. 28, 1972); Khodang Danda-Latsu, 2100–2500 m (Aug. 29, 1972).

Ophioglossum petiolatum Hook.: Fl. E. Himal. 453 (1966); **2**: 201 (1971).

NEPAL. Bir Gaon-Dingla, 1000–1600 m (Jul. 1, 1972).

OSMUNDACEAE

Osmunda Claytoniana L.: H. Ito in Fl. E. Himal. 455 (1966), cum var. *vestita* Milde; **2**: 201 (1971), ut var. *vestita* Milde.

NEPAL. Tinjure-Tinjure Phedi, 2700–2900 m (Jun. 7, 1972); Chauke-Lamo Pokhari, 2600–2900 m (Jun. 8, 1972); Kokim Pokhari-Hati Surde, 3000–3600 m (Jun. 11, 1972).

DARJEELING. Phalut-Raman, ca 2300 m (Aug. 4, 1972).

Distr. Himalaya, China, Formosa, Japan, Korea, Siberia, and N. America.

Var. *vestita* was distinguished from var. *Claytoniana* by having deep ferrugineous tomentum on stipe and rachis instead of whitish brown ones in the latter variety, although these 'varieties' indicated by such a feature can not be separated by the continuous variation of coloration of the tomentum.

SCHIZAEACEAE

Lygodium flexuosum (L.) Sw.: H. Ito in Fl. E. Himal. 455 (1966); **2**: 202 (1971)–Banerji in Candollea **27**: 268 (1972).

NEPAL. South of Dharan, 200 m (Jun. 1, 1972); Bir Gaon-Dingla, 1000–1600 m (Jul. 1, 1972).

DARJEELING. Darjeeling-Tista, ca 600 m (Aug. 10, 1972).

Distr. Old World tropics in general, Ceylon to Queensland, north to Himalaya.

Lygodium japonicum (Thunb.) Sw.: Fl. E. Himal. 455 (1966)–Banerji, l.c. 268 (1972).

NEPAL. Sanguri Bhanjyang-Dhara Pani, ca 1250 m (Jun. 2, 1972).

Distr. Ceylon, Himalaya, N. Thailand, Indo-China, China north to Chekiang, Korea, Japan, and throughout Malaysia to New Guinea.

GLEICHENIACEAE

Gleichenia gigantea Wall. ex Hook. et Bauer, Gen. Fil. t. 39 (1840.)

Diplopterygium volubile (Jungh.) Nakai sensu H. Ito in Fl. E. Himal. 456 (1966); **2**: 202 (1971).

NEPAL. Mure-Sinduwa, 2100 m (Jun. 5, 1972); Mewa Khola-Papung, ca 2200 m (Jun. 29, 1972); Phulchoki, ca 1800 m (Jul. 15, 1972).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972); Phalut-Raman, ca 2300 m (Nov. 4, 1972).

Distr. Himalaya, Upper Burma, and Yunnan.

Dicranopteris linearis (Burm.) Underw.: Fl. E. Himal. 456 (1966); **2**: 202 (1971)–Banerji in Candollea **27**: 273 (1972).

NEPAL. Papung-Bir Gaon, 1600–2000 m (Jun. 30, 1972).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972).
Distr. Tropics and subtropics of the Old World.

HYMENOPHYLLACEAE

Crepidomanes insigne (v. d. Bosch) Fu, Ill. Handb. Chin. Pl. Pterid. 39 (1957).

Didymoglossum insigne v. d. Bosch in Ned. Kruid. Arch. 5 (3): 143 (1863)—Copel. in Philip. Journ. Sci. 51: 194 (1933).

Crepidomanes sp. aff. *C. Makinoi* (C. Chr.) H. Ito: K. Iwatsuki in Fl. E. Himal. 456 (1966); 2: 202 (1971).

NEPAL. Ghatte-Khebang, 1700–2400 m (Nov. 16, 1963); Bir Gaon-Saju Khola, 1400–1600 m (Jul. 1, 1972); Phulchoki, 2200–2700 m (Jul. 15, 1972).

DARJEELING. Batasi-Mani Bhanjyang, 2000–2100 m (Aug. 9, 1972).

Distr. Himalaya to S. China.

It is rather difficult at present to identify the Himalayan *Crepidomanes* to one of the several species described by van den Bosch. The present materials are identified to belong to a single species at least from the morphological point of view and named here as *C. insigne*.

Crepidomanes late-alatum (v. d. Bosch) Copel.: Fl. E. Himal. 456 (1966); 2: 202 (1971).

NEPAL. Mure-Sinduwa, 2100 m (Jun. 5, 1972); Shewaden-Papung, ca 2400 m (Jun. 29, 1972); Dor-Tute, 2300–2600 m (Jul. 7, 1972).

Hymenophyllum Simonsianum Hook.: Fl. E. Himal. 456 (1966); 2: 203 (1971).

Nepal. Lamo Pokhari, 2900 m (Jun. 9, 1972); Shewaden-Mewa Khola, 2400 m (Jun. 29, 1972).

Mecodium badium (Hook. et Grev.) Copel.: Fl. E. Himal. 457 (1966).

NEPAL. Shewaden-Mewa Khola, 2400 m (Jun. 29, 1972).

DARJEELING. Raman-Rimbick, 1900–2200 m (Aug. 5, 1972).

Distr. Himalaya to Formosa and throughout Malaysia, southwest to Ceylon, and north to Japan.

Mecodium exsertum (Wall. ex Hook.) Copel.: Fl. E. Himal. 457 (1966); 2: 203 (1971)—Banerji in Candollea 27: 271 (1972).

NEPAL. Sinduwa-Bhalukhop, 2100–2400 m (Jun. 5, 1972); Chitre-Basantapur, 2300–2400 m (Jun. 6, 1972); Lamo Pokhari, 2900 m (Jun. 9, 1972); Shewaden-Papung, 2500 m (Jun. 29, 1972); Dor-Tute, 2300–2600 m (Jul. 7, 1972); Gram-Dunche, 1900–2000 m (Aug. 21, 1972); Khodang Danda-Latsu, 2100–2500 m (Aug. 29, 1972); Bhorlang-Sundarijar, 1400–2400 m (Aug. 31, 1972).

DARJEELING. Tonglu-Sandakphu, ca 2800 m (Jul. 31, 1972).

Distr. Himalaya, Upper Burma, Thailand, Indo-China, south to Malaya, and China.

Mecodium polyanthos (Sw.) Copel.: Fl. E. Himal. 457 (1966); 2: 203 (1971)—Banerji in Candollea 27: 271 (1972).

NEPAL. Hile-Chitre, 1900–2400 m (Jun. 5, 1972); Chitre-Basantapur, 2300–2400 m (Jun. 6, 1972); Dor-Tinjure, 2600–2900 m (Jun. 7, 1972); Hile Chok-Gopte, 3500 m (Jun. 12, 1972); Topke Gola, 3600 m (Jun. 18, 1972); Topke Gola-Jalang Chhyongo,

3800 m (Jun. 20, 1972); Thudam, 3400 m (Jun. 22 & 24, 1972); Topke Gola-Shewaden, 3000 m (Jun. 28, 1972); Bhorlang-Sundarijar, 1400-2400 m (Aug. 31, 1972).

DARJEELING. Mani Bhanjyang-Tonglu, 2000-3000 m (Jul. 30, 1972); Sandakphu, 3600 m (Aug. 1, 1972).

Vandenboschia auriculata (Blume) Copel.: Fl. E. Himal. 458 (1966); **2**: 203 (1971).

DARJEELING. Batasi-Mani Bhanjyang, 2000-2100 m (Aug. 9, 1972).

Vandenboschia radicans (Sw.) Copel.: Fl. E. Himal. 458 (1966); **2**: 203 (1971).

DARJEELING. Phalut-Raman, 2100 m (Aug. 4, 1972).

Vandenboschia titibuensis H. Ito in Journ. Jap. Bot. **24**: 125, f. 1 (1949).

NEPAL. Dor-Tinjure, 2600-2900 m (Jun. 7, 1972); Lamo Pokhari, 2900 m (Jun. 9, 1972); Shewaden-Mewa Khola, 2500 m (Jun. 29, 1972).

Distr. E. Nepal (new record) and Japan.

This species was found in E. Nepal on moist perpendicular surface of rocks in shade, in the habitat similar to that in Japan.

PTERIDACEAE

Actiniopteris semiflabellata Pichi-Ser.: H. Ito in Fl. E. Himal. 458 (1966).

A. dichotoma Forsk. sensu Banerji in Candollea **27**: 270 (1972).

NEPAL. Mohamabedi Khola-Tamur Bridge, 300-400 m (Jun. 3, 1972); Teku Nala-Tamur Bridge, ca 700 m (Jul. 9, 1972).

Distr. Africa, Yemen, Arabia, and E. Nepal.

The occurrence of this species in E. Nepal is rather peculiar considering the geographical range of this species as a whole. In the localities cited above, we observed a plenty of individuals growing in crevices or on perpendicular surface of rocks on mountain slope and along the Tamur River, and even among the stone wall at the school house of Teku Nala.

Adiantum capillus-veneris L.: Fl. E. Himal. 458 (1966); **2**: 203 (1971)-Banerji in Candollea **27**: 268 (1972).

NEPAL. Mohamabedi Khola-Tamur Bridge, 300-400 m (Jun. 3, 1972).

Adiantum caudatum L.: Fl. E. Himal. 458 (1966); **2**: 203 (1971).

NEPAL. Kathmandu, ca 1300 m (May 28, 1972); south of Dharan, 200 m (Jun. 1, 1972); Saju Khola-Dingla, 1000-1400 m (Jul. 1, 1972).

DARJEELING. Lopchu-Tista, ca 600 m (Aug. 10, 1972).

Adiantum pedatum L.: Fl. E. Himal. **2**: 204 (1971).

NEPAL. Topke Gola-Shewaden, ca 3000 m (Jun. 28, 1972).

Adiantum philippense L.: Fl. E. Himal. 459 (1966); **2**: 204 (1971)-Banerji, l.c. 269 (1972).

NEPAL. Kathmandu, ca 1300 m (May 28, 1972); Kuwa Pani-Hile, 1900 m (Jun. 4, 1972); Bainse-Sim Chotala, 600-900 m (Aug. 19, 1972).

DARJEELING. Lopchu-Tista, ca 600 m (Aug. 10, 1972).

Adiantum venustum Don: Fl. E. Himal. 459 (1966).

NEPAL. Kathmandu, ca 1300 m (May 28, 1972).

Anogramma microphylla (Hook.) Diels: Fl. E. Himal. 459 (1966).

NEPAL. Lamo Pokhari, 2900 m (Jun. 8, 1972).

Cheilanthes albomarginata Clarke: Fl. E. Himal. 459 (1966).

NEPAL. Phulchoki, 2200–2700 m (May 28 & Jul. 15, 1972); Dharan, 450 m (Jun. 2, 1972); Mure–Sinduwa, 2100 m (Jun. 5, 1972); Papung–Bir Gaon, 1600–2000 m (Jun. 30, 1972).

DARJEELING. East Side, 2100 m (Jul. 23, 1972).

Cheilanthes subrufa of Yunnan, N. Thailand and Tonkin is close to this species, especially in the scaly character which seems to be most important to discriminate the species of this group.

Cheilanthes anceps Blanford in Simla Nat. Hist. Soc. 25 (1886)–Bedd., Handb. Suppl. 21 (1892)–Hope in Journ. Bomb. Nat. Hist. Soc. **13**: 249 (1900)–Alston & Bonner in Candollea **15**: 203 (1956).

C. farinosa (Forsk.) Kaulf. sensu H. Ito in Fl. E. Himal. 460 (1966), p.p.

NEPAL. Helok–Iladanda, 1500–1800 m (Nov. 8, 1963); Iladanda–Selap, 1800–2600 m (Nov. 9, 1963); Yamphodin–Ghatte, 2100–1600 m (Nov. 18, 1963); Phulchoki, 2100–2800 m (May 29, 1969); Shewaden–Mewa Khola, ca 2400 m (Jun. 29, 1972).

Distr. E. Himalaya.

The species of *Cheilanthes farinosa* group are not yet thoroughly understood and it is rather difficult to separate some materials specifically from *Ch. farinosa*, though *Ch. anceps* is easily distinguished from the former by sparsely scaly under surface of rachis and costae.

Cheilanthes chrysophylla Hook.: Fl. E. Himal. 460 (1966).

NEPAL. Dor–Chauke, 2600–2900 m (Jun. 7, 1972).

Cheilanthes Duthiei Baker in Ann. Bot. **5**: 210 (1891)–Bedd., Handb. Suppl. 20 (1892).

NEPAL. Thudam, 3400 m (Jun. 22, 1972).

Distr. Himalaya.

Cheilanthes farinosa (Forsk.) Kaulf.: Fl. E. Himal. 460 (1966); **2**: 204 (1971)–Banerji in Candollea **27**: 270 (1972).

NEPAL. South of Dharan, 200 m (Jun. 1, 1972); Topke Gola–Shewaden, ca 3000 m (Jun. 28, 1972); Saju Khola–Dingla, 1000–1400 m (Jul. 1, 1972); Bainse–Sim Chotala, 600–900 m (Aug. 19, 1972).

Distr. Tropics to warm temperate regions throughout the world; probably a composite species.

Cheilanthes subvillosa Hook., Sp. Fil. **2**: 87, t. 98 B (1852)–Bedd., Handb. 93 (1883)–Alston & Bonner, l.c. 204 (1956).

DARJEELING. Tonglu–Sandakphu, ca 2800 m (Jul. 31, 1972).

Distr. Himalaya.

Cheilanthes tenuifolia (Burm.) Sw.: Fl. E. Himal. 460 (1966).

NEPAL. Tamur Bridge–Mohamabedi Khola, 300–400 m (Jul. 9, 1972); Bainse–Sim Chotala, 600–900 m (Aug. 19, 1972).

Coniogramme caudata (Presl. ex Ettingsh.) Ching: Fl. E. Himal. 460 (1966); **2**: 204 (1971).

NEPAL. Chitre–Basantapur, 2300–2400 m (Jun. 16, 1972); Shewaden–Papung, ca 2400 m (Jun. 29, 1972); Basantapur–Chitre, 2300–2400 m (Jul. 7, 1972).

DARJEELING. Ubayuri-dani, 2200 m (Jul. 25, 1972); Phalut–Raman, ca 2300 m (Aug. 4, 1972); Palmajua, 2200 m (Aug. 7, 1972).

Coniogramme fraxinea (Don) Diels: Fl. E. Himal. 461 (1966)—Banerji, l.c. 270 (1972).

NEPAL. Saju Khola—Dingla, 1000–1400 m (Jul. 1, 1972); Sim Chotala—Gram, 900–1900 m (Aug. 20, 1972).

DARJEELING. Lopchu, 800 m (Aug. 10, 1972).

Distr. S. India, Himalaya to Yunnan, N. Thailand, Tonkin, Formosa, Philippines, and Java.

Coniogramme intermedia Hieron.: Fl. E. Himal. 461 (1966); **2**: 204 (1971), cum var.

NEPAL. Topke Gola—Shewaden, ca 2800 m (Jun. 28, 1972); Phulchoki, 2200–2700 m (Jul. 15, 1972).

Distr. Himalaya, Indo-China, China, Formosa, Japan, and Korea.

This species is distinguished into two varieties by the hairiness on the under surface of fronds. The above two collections belong to var. *villosa* by the definition, though these two varieties can not be recognizable occupied by the continuous variations of the hairiness. Moreover, I do not know at present to which variety the type of this species belongs.

Coniogramme procera Fée: Fl. E. Himal. 461 (1966).

DARJEELING. Tonglu—Sandakphu, ca 2800 m (Jul. 31, 1972); Phalut—Raman, ca 2300 m (Aug. 4, 1972).

Distr. Himalaya, N. Thailand, Yunnan, and Formosa.

Cryptogramma Brunoniana Wall. ex Hook. et Grev.: Fl. E. Himal. 461 (1966)—Banerji in Candollea **27**: 269 (1972).

NEPAL. Banduke Pokhari—Saju Pokhari, 4000–4200 m (Jun. 15, 1972); Saju Pokhari—Topke Gola, 3600–4400 m (Jun. 16, 1972); Topke Gola, 3600 m (Jun. 18, 1972); Thudam, 3400 m (Jun. 22, 1972); Samdan—Slesa, 4400–4500 m (Jun. 24, 1972); Singum Gumpa—Gosainkund, 3200–4200 m (Aug. 23, 1972); Gosainkund—Gopte, 3500–4400 m (Aug. 25, 1972).

Cryptogramma Stelleri (Gmel.) Prantl: Fl. E. Himal. **2**: 204 (1971).

NEPAL. Topke Gola—Jalang Chhyongo, ca 4000 m (Jun. 20, 1972).

Dennstaedtia appendiculata (Wall. ex Hook.) J. Smith: Fl. E. Himal. 462 (1966); **2**: 204 (1971).

NEPAL. Phulchoki, 2200–2700 m (May 28, 1972); Hile—Mure, 1900–2100 m (Jun. 5, 1972); Shewaden—Mewa Khola, ca 2300 m (Jun. 29, 1972); Tute—Basantapur, 2300 m (Jul. 7, 1972).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972); Tonglu—Sandakphu, 2800–3600 m (Jul. 31, 1972).

Dennstaedtia scabra (Wall. ex Hook.) Moore: Fl. E. Himal. 462 (1966).

NEPAL. Tute, 2300 m (Jun. 6, 1972); Shewadan—Papung, ca 2400 m (Jun. 29, 1972); Lamo Pokhari—Chauke, 2700–2900 m (Jul. 4, 1972).

DARJEELING. Phalut—Raman, ca 2300 m (Aug. 4, 1972); Palmajua—Batasi, 2100–2200 m (Aug. 8, 1972).

Distr. Ceylon, Himalaya, Burma, Indo-China, Thailand, W. Malaysia, S. & C. China, Formosa, S. Korea, and Japan.

Hypolepis punctata (Thunb.) Mett. ex Kuhn: Fl. E. Himal. 462 (1966); **2**: 205 (1971)—Banerji, l.c. 271 (1972).

NEPAL. Sanguri Bhanjyang–Dhara Pani, ca 1250 m (Jun. 2, 1972); Shewaden–Papung, ca 2200 m (Jun. 29, 1972); Tute–Basantapur, 2300 m (Jul. 7, 1972); Sim Chotala–Gram, 900–1900 m (Aug. 20, 1972).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972); Phalut–Raman, ca 3000 m (Aug. 4, 1972).

Lindsaea odorata Roxb. in Calc. Journ. Nat. Hist. **4**: 511 (1844)—Kramer in Blumea **15**: 567 (1968).

L. cultrata (Willd.) Sw.: Fl. E. Himal. 463 (1966); **2**: 205 (1971)—Banerji in Candollea **27**: 271 (1972).

NEPAL. Shewaden–Papung, ca 2200 m (Jun. 29, 1972); Papung–Bir Gaon, 1600–2000 m (Jun. 30, 1972).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972); Palmajua, 2200 m (Aug. 7, 1972).

Distr. Ceylon, India, Himalaya, Tibet, Burma, Thailand, Indo-China, Formosa to Japan, south to W. Melanesia and Australia through Malaysia, and west to Rhodesia and Madagascar.

Var. *darjeelingensis* was recently described by Sen & Sen, in Amer. Fern Journ. **71**: 14 (1971) based on their own collections from Darjeeling: on way to Birch Hill. I have collected a topotypic specimen similar to this variety which is known to me only by the description and figures. There is a variant which is smaller in size and bears the rhizome scales broader than the typical form and such a variant is also found in Taiwan. There are, however, various intermediate forms between typical *L. odorata* and this variant which seems to be a form named var. *darjeelingensis*, and I would prefer at present not to separate taxonomically such a variant which is extreme in appearance but is continuous to the typical form with various intermediate forms.

Microlepia firma Mett. ex Kuhn in Linnaea **36**: 146 (1869)—Sledge in Kew Bull. **1956**: 529 (1956).

M. trapeziformis (Roxb.) Kuhn sensu H. Ito in Fl. E. Himal. 463 (1966); **2**: 205 (1971).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972); Palmajua, 2000 m (Aug. 7, 1972).

Distr. Ceylon, E. Himalaya, Upper Burma, N. Thailand, and S.W. China (Yunnan).

Microlepia speluncae (L.) Moore: Fl. E. Himal. 463 (1966); **2**: 206 (1971).

NEPAL. Illam–Ranga Pani, 400–1200 m (Dec. 8, 1963); Dingla–Doban, 800–1000 m (Jul. 2, 1972).

DARJEELING. Tista, 400 m (Aug. 10, 1972).

Distr. Pantropic, usually in lower elevation.

Microlepia strigosa (Thunb.) Presl: Fl. E. Himal. **2**: 205 (1971)—Banerji, l.c., 271 (1972).

M. todayensis Christ sensu H. Ito in Fl. E. Himal. 463 (1966), p.p.

NEPAL. Pouwa, Kathmandu, 1600 m (Oct. 9, 1963).

DARJEELING. Lopchu, ca 1000 m (Aug. 10, 1972).

Microlepia trapeziformis (Roxb.) Kuhn: Fl. E. Himal. 463 (1966), nom. sol.

M. todayensis Christ sensu H. Ito in Fl. E. Himal. 463 (1966), p.p.

NEPAL. Kathmandu Airport, 1400 m (Oct. 13, 1963); Helok-Iladanda, 1500-1800 m (Nov. 8, 1963).

Distr. Ceylon, E. Himalaya to S. W. China, Thailand, Malaya, Indo-China, southwards to Sumatra, and Java.

Monachosorum Henryi Christ: Fl. E. Himal. 463 (1966); **2**: 205 (1971).

NEPAL. Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972).

DARJEELING. Phalut-Raman, ca 2300 m (Aug. 4, 1972).

Distr. Himalaya, Indo-China, S. China, and Formosa.

Sino-Himalayan plants seem to be distinct from the Malaysian ones, and the Himalayan plants are here referred to *M. Henryi*. We usually observe conspicuous bulbils on the rachis of *M. Henryi*, though the bulbils are hardly found in *M. subdigitatum*.

Notholaena Marantae (L.) R. Br.: Fl. E. Himal. 464 (1966); **2**: 205 (1971).

NEPAL. Dunché-Singum Gompa, 1900-3200 m (Aug. 22, 1972).

Onychium contiguum Hope: Fl. E. Himal. 464 (1966).

NEPAL. Chitre-Dor, 2300-2600 m (Jun. 6, 1972); Shewaden-Papung, ca 2200 m (Jun. 29, 1972); Tinjure-Dor, 2600-2900 m (Jul. 6, 1972).

DARJEELING. Ubayuri-dani, 2200 m (Jul. 25, 1972); Phalut-Raman, ca 2400 m (Aug. 4, 1972).

Distr. Himalaya, Tibet, Thailand, W. China, and Formosa.

Onychium japonicum (Thunb.) Kunze: Fl. E. Himal. 464 (1966); **2**: 206 (1971).

NEPAL. Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972).

DARJEELING. Phalut-Raman, ca 2300 m (Aug. 4, 1972).

Onychium siliculosum (Desv.) C. Chr.: Fl. E. Himal. 464 (1966); **2**: 206 (1971)-Banerji, l.c. 269 (1972).

NEPAL. Dharan-Sanguri Bhanjyang, ca 500 m (Jun. 2, 1972); Dingla-Doban, 800-1000 m (Jul. 2, 1972); Bainse-Sim Chotala, 600-900 m (Aug. 19, 1972).

DARJEELING. Tista, 400 m (Aug. 10, 1972).

Pityrogramma calomelanos (L.) Link: Fl. E. Himal. 464 (1966); **2**: 206 (1971).

NEPAL. Dharan-Sanguri Bhanjyang, ca 500 m (Jun. 2, 1972); Bainse-Sim Chotala, 600-900 m (Aug. 19, 1972).

DARJEELING. Tista, ca 400 m (Aug. 10, 1972).

Distr. Tropical America; naturalized in warm districts in Asia.

Pteridium aquilinum (L.) Kuhn var. **Wightianum** Tryon: Fl. E. Himal. 465 (1966); **2**: 206 (1971).

NEPAL. Hile-Mure, 1900-2100 m (Jun. 5, 1972); Basantapur-Chitre, 2300-2400 m (Jul. 7, 1972); Phulchoki, 2200-2700 m (Jul. 15, 1972); Bhorlang-Sundarijar, 1400-2400 m (Aug. 31, 1972).

Distr. Himalaya to Malaysia, and Formosa.

Pteris aspericaulis Wall. ex Ag., Rec. Sp. Gen. Pterid. 22 (1839)-Hieron. in Hedw. **55**: 348 (1914)-Alston & Bonner in Candollea **15**: 201 (1956).

P. quadriaurita var. *aspericaulis* (Wall. ex Ag.) Bedd., Handb. 111 (1883).

NEPAL. Dhankuta-Nigale, 1300-1600 m (Jun. 4, 1972); Hile-Mure, 1900-2100 m (Jun. 5, 1972); Chitre-Dor, 2300-2600 m (Jun. 6, 1972); Dor-Tute, 2300-2600 m (Jul. 7, 1972).

Distr. E. Himalaya, N. Burma, N. Thailand, and Yunnan.

Pteris biaurita L.: Fl. E. Himal. 465 (1966); **2**: 206 (1971)—Banerji in *Candollea* **27**: 270 (1972).

NEPAL. South of Dharan, 200 m (Jun. 1, 1972); Saju Khola—Dingla, 1000–1400 m (Jul. 1, 1972); Bainse—Sim Chotala, 600–900 m (Aug. 19, 1972).

Pteris cretica L.: Fl. E. Himal. 465 (1966); **2**: 206 (1971).

NEPAL. Chitre—Basantapur, 2300–2400 m (Jun. 6, 1972); Papung—Bir Gaon, 1600–2000 m (Jun. 30, 1972); Dunche—Singum Gompa, 1900–3200 m (Aug. 22, 1972).

DARJEELING. Phalut—Raman, ca 2200 m (Aug. 4, 1972).

Pteris excelsa Gaud.: Fl. E. Himal. 466 (1966); **2**: 206 (1971).

NEPAL. Shewaden—Mewa Khola, ca 2500 m (Jun. 29, 1972); Dunche—Singum Gompa, 1900–3200 m (Aug. 22, 1972).

Distr. Himalaya to Polynesia through Malaysia, and north to S. China.

Pteris nepalensis H. Ito: Fl. E. Himal. 466 (1966).

NEPAL. Thudam, 3400 m (Jun. 25, 1972); Topke Gola—Shewaden, ca 3200 m (Jun. 28, 1972); Shewaden—Mewa Khola, ca 2300 m (Jun. 29, 1972); Lamo Pokhari—Chauke, 2700–2900 m (Jul. 4, 1972); Chauke—Tinjure Phedi, 2700 m (Jul. 6, 1972); Mangen—Khodang Danda, 2500–3200 m (Aug. 28, 1972).

DARJEELING. Mani Bhanjyang—Tonglu, 2000–3000 m (Jul. 30, 1972); Sandakphu—Phalut, 3200–3600 m (Aug. 2, 1972); Phalut—Raman, ca 2300 m (Aug. 4, 1972).

Distr. E. Himalaya and N. Thailand.

This is a species common in this area, 2000–3500 m alt. in E. Himalaya: the *Pteris* plants are not fed by the grazing animals and are abundant in open pasture. *Pteris quadriaurita* var. *Wightii* Hieron. in *Hedwigia* **55**: 334 (1914) seems to be the same as this, though I have not seen any authentic specimens of this variety. *Pteris tricolor* Hieron. l.c. 352 may be a form of this species with white band along costae and purplish stipe, and it may be safe to refer this form to a variant of our species: in such case, the correct name for our plants should be *P. tricolor*. Further investigation should be made for the Himalayan species belonging to the group of *P. quadriaurita*, and I can not give here a correct name of our species until I will examine the type materials of the taxa described by Hieronymus. We can refer a specimen to this species from the higher mountain of N. Thailand where several Himalayan species have been observed.

Pteris quadriaurita Retz.: Fl. E. Himal. 466 (1966); **2**: 207 (1971).

NEPAL. Dhankuta—Nigale, 1300–1600 m (Jun. 4, 1972); Papung—Bir Gaon, 1600–2000 m (Jun. 30, 1972); Phulchoki, ca 1300 m (Jul. 15, 1972).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972); Observatory Hill, 2000 m (Jul. 24, 1972); Ubayuri-dani, 2200 m (Jul. 25, 1972); Batasi—Mani Bhanjyang, 2000–2100 m (Aug. 9, 1972).

This is another complex species, and the identification for this species should be tentative.

Pteris setuloso-costulata Hayata: Fl. E. Himal. 467 (1966); **2**: 207 (1971).

DARJEELING. Raman—Rimbick, 1900–2400 m (Aug. 5, 1972); Palmajua, 2200 m (Aug. 7, 1972).

It is rather tentative to refer the above materials to this Formosan species, and it is highly necessary to revise this species group as a whole.

Pteris venusta Kunze: Fl. E. Himal. 467 (1966).

NEPAL. South of Dharan, 200 m (Jun. 1, 1972).

Distr. Himalaya, Burma, Thailand, Malaysia, Indo-China, and Formosa.

Pteris vittata L.: Fl. E. Himal. 467 (1966); **2**: 207 (1971).

NEPAL. Mohamabedi Khola, 400 m (Jun. 3, 1972).

Pteris Wallichiana Ag.: Fl. E. Himal. 467 (1966); **2**: 207 (1971)—Banerji, l.c. 270 (1972).

NEPAL. Hile-Mure, 1900–2100 m (Jun. 5, 1972); Basantapur-Chitre, 2300–2400 m (Jul. 7, 1972); Phulchoki, 2200–2700 m (Jul. 15, 1972).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972); Tonglu-Sandakphu, 2800–3600 m (Jul. 31, 1972).

Distr. N. India through China to Japan, and south to W. Malaysia.

Sphenomeris chinensis (L.) Maxon in Journ. Wash. Ac. Sci. **3**: 144 (1913)—Banerji, l.c. 272 (1972)—Kramer in Gard. Bull. Sing. **26**: 4 (1972).

Trichomanes chinensis L., Sp. Pl. ed. 1, **2**: 1099 (1753).

Sphenomeris chusana (L.) Copel.: Fl. E. Himal. 467 (1966).

NEPAL. Papung-Bir Gaon, 1600–2000 m (Jun. 30, 1972).

DARJEELING. East Side, 2100 m (Jul. 23, 1972); Rimbick-Palmajua, 1500–2200 m (Aug. 6, 1972).

DAVALLIACEAE

Araiostegia dareiformis (Hook.) Copel.: H. Ito in Fl. E. Himal. 468 (1966)—Banerji in Candollea **27**: 272 (1972).

NEPAL. Shewaden-Mewa Khola, ca 2300 m (Jun. 29, 1972); Chauke-Dor, 2600–2900 m (Jul. 6, 1972).

DARJEELING. Phalut-Raman, ca 2300 m (Aug. 4, 1972).

Distr. Ceylon, Himalaya, N. Thailand, Tonkin, S. W. China, and Hainan.

Araiostegia Delavayi (Bedd. ex Clarke et Baker) Ching in Fl. Reip. Pop. Sin. **2**: 289 (1959)—Alston & Bonner in Candollea **15**: 210 (1956).

Davallia pulchra var. *Delavayi* Bedd. ex Clarke et Baker in Journ. Linn. Soc. **2**: 410 (1888).

DARJEELING. Phalut-Raman, ca 2200 m (Aug. 4, 1972).

Distr. Nepal, Sikkim, Assam, and Yunnan.

Araiostegia Hookeri (Moore ex Bedd.) Ching in Fl. Reip. Pop. Sin. **2**: 291 (1959).

Acrophorus Hookeri Moore ex Bedd., Ferns Brit. Ind. t. 95 (1865).

Leucostegia Hookeri (Moore ex Bedd.) Bedd., Handb. 52 (1883).

Davallia Clarkei Baker in Hook. et Baker, Syn. Fil. ed. 2, 91 (1874).

Araiostegia Clarkei (Baker) Copel. in Philip. Journ. Sci. **34**: 241 (1927).

NEPAL. Thudam, 3400 m (Jun. 22, 1972).

Distr. Himalaya to Tibet, and S.W. China (Szechuan and Yunnan).

Araiostegia multidentata (Hook. et Baker) Copel. in Philip. Journ. Sci. **34**: 241 (1927).

Aspidium multidentatum Wall., List 346 (1828), nom. nud.

Davallia multidentata Hook. et Baker, Syn. Fil. 91 (1867).

Leucostegia multidentata (Hook. et Baker) Bedd., Ferns Brit. Ind. Suppl. 4 (1876); Handb. 50 (1883).

Humata assamica (Bedd.) C. Chr. sensu H. Ito in Fl. E. Himal. 469 (1966).

NEPAL. Papung, 2100 m (Jun. 29, 1972); Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972); Sim Chotala-Gram, 900-1900 m (Aug. 20, 1972).

DARJEELING. Phalut-Raman, ca 2100 m (Aug. 4, 1972); Palmajua, 2200 m (Aug. 7, 1972).

Distr. Himalaya to S.W. China (Szechuan and Yunnan).

Araiostegia pulchra (Don) Copel.: Fl. E. Himal. 468 (1966)-Banerji, l.c. 271 (1972).

NEPAL. Sinduwa-Bhalukhop, 2100-2400 m (Jun. 5, 1972); Mangalbare-Mul Pokhari, 2600-2900 m (Jun. 8, 1972); Mewa Khola-Papung, ca 2200 m (Jun. 29, 1972); Bir Gaon-Saju Khola, 1400-1600 m (Jul. 1, 1972); Chauke-Tinjure Phedi, 2700 m (Jul. 6, 1972); Phulchoki, 2200-2700 m (Jul. 15, 1972); Gram-Dunche, 1900-2000 m (Aug. 21, 1972); Mangan-Khodang Danda, 2500-3100 m (Aug. 28, 1972); Khodang Danda-Latsu, 2100-2500 m (Aug. 29, 1972).

DARJEELING. Lloyd Botanic Garden, 2100 m (Jul. 26, 1972); Tonglu-Sandakphu, ca 3000 m (Jul. 31, 1972); Phalut-Raman, ca 2200 m (Aug. 4, 1972); Lopchu, ca 800 m (Aug. 10, 1972).

Davallia trichomanoides Blume: Fl. E. Himal. 469 (1966).

NEPAL. Kathmandu, ca 1300 m (May 28, 1972); Sanguri Bhanjyang-Dhara Pani, ca 1250 m (Jun. 2, 1972).

Distr. Ceylon, Himalaya to Malaysia throughout east to New Guinea.

Davallodes membranulosum (Wall. ex Hook.) Copel. in Philip. Journ. Sci. **34**: 245 (1927)-Ching in Fl. Reip. Pop. Sin. **2**: 282, pl. 21, f. 7, 8 (1959).

Davallia membranulosa Wall. ex Hook., Sp. Fil. **1**: 158, t. 53 A (1846).

Leucostegia membranulosa (Wall. ex Hook.) J. Smith, Hist. Fil. 84 (1857)-Bedd., Handb. 50 (1883).

NEPAL. Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972); Sim Chotala-Gram, 900-1900 m (Aug. 20, 1972).

Distr. Himalaya to Yunnan, N. Thailand, and Tonkin.

Leucostegia immersa (Wall. ex Hook.) Presl: Fl. E. Himal. 469 (1966)-Banerji, l.c. 272 (1972).

NEPAL. Papung, 2000 m (Jun. 29, 1972); Tute-Basantapur, 2300 m (Jul. 7, 1972); Phulchoki, 2200-2700 m (Jul. 15, 1972).

DARJEELING. Raman-Rimbick, 1900-2400 m (Aug. 5, 1972).

Distr. S. India, E. Himalaya, S.W. China, Burma, Thailand, Indo-China, W. Malaysia to the Philippines, and north to Formosa.

Nephrolepis cordifolia (L.) Presl: Fl. E. Himal. 469 (1966); **2**: 208 (1971)-Banerji, l.c. 272 (1972).

NEPAL. Sanguri Bhanjyang-Dhara Pani, ca 1250 m (Jun. 2, 1972); Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972); Sim Chotala-Gram, 900-1900 m (Aug. 20, 1972).

Distr. Pantropic, extending north to S. Japan, and south to New Zealand.

Nephrolepis delicatula (Decne.) Pichi-Ser. in Webbia **23**: 181 (1968).

Nephrodium delicatulum Decne. in Jacq., Voy. Ind. Bot. **4**: 178, t. 179 (1844).

NEPAL. Dingla-Doban, 800-1000 m (Jul. 2, 1972).

Distr. Himalaya, India, Burma, Thailand, and Yunnan.

Oleandra pistillaris (Sw.) C. Chr., Ind. Fil. Suppl. III, 132 (1934).

Aspidium pistillare Sw. in Schrad. Journ. Bot. **1800** (2): 30 (1802).

O. neriiformis Cav.: Fl. E. Himal. **2**: 208 (1971).

NEPAL. Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972); Sanguri Bhanjyang-Dharan, ca 1200 m (Jul. 10, 1972).

Oleandra Wallichii (Hook.) Presl: Fl. E. Himal. 469 (1966)-Banerji, l.c. 272 (1972).

NEPAL. Mangalbare-Mul Pokhari, 2600-2900 m (Jun. 8, 1972); Mewa Khola-Papung, ca 2200 m (Jun. 29, 1972); Chauke-Tinjure Phedi, 2700 m (Jul. 6, 1972); Phulchoki, ca 2300 m (Jul. 15, 1972); Sim Chotala-Gram, 900-1900 m (Aug. 20, 1972); Mangan-Khodang Danda, 2500-3100 m (Aug. 28, 1972).

DARJEELING. Ubayuri-dani, 2200 m (Jul. 25, 1972); Phalut-Raman, ca 2400 m (Aug. 4, 1972).

Distr. Himalaya, Burma, Thailand, Indo-China, S.W. China, and Formosa.

PLAGIOGYRIACEAE

Plagiogyria communis Ching in Act. Phytotax. Sin. **7**: 122 (1958)-Banerji in Candollea **27**: 268 (1972).

P. pycnophylla (Kunze) Mett.: H. Ito in Fl. E. Himal. 470 (1966); **2**: 208 (1971).

NEPAL. Topke Gola-Shewaden, ca 2800 m (Jun. 28, 1972).

DARJEELING. Tonglu-Sandakphu, ca 3000m (Jul. 31, 1972); Raman-Rimbick, 1900-2400 m (Aug. 5, 1972).

Distr. Himalaya, Upper Burma, N. Thailand, and S.W. China.

CYATHEACEAE

Cyathea chinensis Copel. in Philip. Journ. Sci. (Bot.) **3**: 355 (1909)-Holtt. in Kew Bull. **19**: 466 (1965).

C. Brunoniana (Hook.) Clarke et Baker: Tagawa in Fl. E. Himal. 470 (1966).

DARJEELING. Victoria Fall, 2100 m (Jul. 24, 1972); Rimbick-Palmajua, 1500-2200 m (Aug. 6, 1972).

Distr. Himalaya to Yunnan, N. Thailand, and Indo-China.

Cyathea spinulosa Wall. ex Hook.: Tagawa in Fl. E. Himal. 470 (1966); K. Iwatsuki in **2**: 208 (1971)-Banerji in Candollea **27**: 273 (1972).

NEPAL. Saju Khola-Dingla, 1000-1400 m (Jul. 1, 1972).

Distr. S. India and E. Himalaya to S. Japan.

ASPIDIACEAE

Acrophorus stipellatus Moore: H. Ito in Fl. E. Himal. 470 (1966).

NEPAL. Topke Gola-Shewaden, ca 3200 m (Jun. 28, 1972).

DARJEELING. Tonglu-Sandakphu, ca 2800 m (Jul. 31, 1972); Phalut-Raman, ca 2100 m (Aug. 4, 1972).

Arachniodes assamica (Kuhn) Ohwi: H. Ito in Fl. E. Himal. 471 (1966).

DARJEELING. Batasi-Mani Bhanjyang, 2000-2100 m (Aug. 9, 1972).

Distr. Himalaya, Burma, N. Thailand, Tonkin, S.W. China, and Japan.

Arachniodes nipponica (Rosenst.) Ohwi in Journ. Jap. Bot. **37**: 76 (1962).

Polystichum nipponicum Rosenst. in Fedde, Rep. **13**: 130 (1914).

Rumohra nipponica (Rosenst.) Ching in Sinensia **5**: 50 (1934).

DARJEELING. Phalut-Raman, ca 2200 m (Aug. 4, 1972).

Distr. Himalaya, E. Burma, Kweichow, and Japan.

Arachniodes spectabilis (Ching) Ching: Fl. E. Himal. 471 (1966); **2**: 208 (1971).

NEPAL. Shewaden-Papung, ca 2200 m (Jun. 29, 1972).

DARJEELING. Batasi-Mani Bhanjyang, 2000-2100 m (Aug. 9, 1972).

Distr. E. Himalaya, E. Burma, N. Thailand, and Yunnan.

It is not evident at present whether *A. spectabilis* is distinct from *A. conifolia*, and the identification is given here comparing with the definition given by Ching in 1934, for I have not examined the type specimens for both of these species. The position of sori is various, some being terminal and the others dorsal on veinlets. At the base of stipe are "a dense tuft of rufo-brown, soft, linear-fibrillose, tortuous scales".

Athyrium¹⁾ **allantoides** Bedd., Ferns Brit. Ind. t. 221 (1867).

Athyrium thelypteroides (Michx.) Desv., Prodr. 266 (1827)-Bedd., Handb. 164 (1883).

NEPAL. Topke Gola, 3600 m (Jun. 18, 1972); Thudam, 3400 m (Jun. 22, 1972); Thudam-Kipudonsu, 3800 m (Jun. 26, 1972); Topke Gola-Shewaden, 3000 m (Jun. 28, 1972); Phulchoki, 2300 m (Jul. 15, 1972); Gram-Dunche, 1900-2000 m (Aug. 21, 1972).

DARJEELING. Mani Bhanjyang-Tonglu, 2000-3000 m (Jul. 30, 1972); Tonglu-Sandakphu, 2800-3600 m (Jul. 31, 1972); Sandakphu, 3600 m (Aug. 1, 1972); Sandakphu-Phalut, 3200-3600 m (Aug. 2, 1972).

Distr. Himalaya (Kashmir to Bhutan).

Athyrium anisopterum Christ in Bull. Herb. Boiss. **6**: 962 (1898)-Alston & Bonner in Candollea **15**: 214 (1956).

NEPAL. Mangalbare-Mul Pokhari, 2600-2900 m (Jun. 8, 1972); Shewaden-Papung, 2400 m (Jun. 29, 1972); Dor-Tute, 2300-2600 m (Jul. 7, 1972); Mangel-Khodang Danda, 2500-3100 m (Aug. 28, 1972).

DARJEELING. East Side, 2100 m (Jul. 23, 1972); Tonglu-Sandakphu, 2800 m (Jul. 31, 1972); Phalut-Raman, 2200 m (Aug. 4, 1972); Rimbick-Palmajua, 1500-2200 m (Aug. 6, 1972).

Distr. Himalaya, N. Thailand, and S. China.

Athyrium Atkinsoni Bedd.: Tagawa in Fl. E. Himal. 471 (1966).

NEPAL. Thudam, 3400 m (Jun. 22, 1972).

DARJEELING. Mani Bhanjyang-Tonglu, 2000-3000 m (Jul. 30, 1972).

Athyrium attenuatum (Clarke) Tagawa in Act. Phytotax. Geobot. **16**: 177 (1956).

Asplenium filix-femina var. *attenuatum* Clarke in Tr. Linn. Soc. II. Bot. **1**: 492, pl. 59, f. 1 (1880).

Athyrium filix-femina var. *attenuatum* (Clarke) Bedd., Handb. 169 (1883).

NEPAL. Tinjure Phedi-Chauke, 2700 m (Jun. 7, 1972).

1) *Athyrium* is abundantly represented in E. Himalaya, but the classification has not yet been thoroughly revised. I tried to recognize the specific identity in the field, but it is necessary to examine a great number of authenticated specimens before fixing the identification. It is quite regrettable that the list of *Athyrium* species given here is tentative and we have to wait further investigation for the materials included here.

Distr. Kashmir, Nepal, and Sikang.

Athyrium drepanopterum (Kunze) A. Br. ex Milde: Fl. E. Himal. 471 (1966).

NEPAL. Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972); Bir Gaon-Saju Khola, 1400-1600 m (Jul. 1, 1972).

Athyrium Duthiei Bedd., Handb. Suppl. 34 (1892)-Alston & Bonner, l.c. 214 (1956).

Asplenium Duthiei Bedd. in Journ. Bot. **1889**: 72 (1889).

NEPAL. Banduke Pokhari-Saju Pokhari, 4000-4200 m (Jun. 15, 1972); Topke Gola, 3600 m (Jun. 16, 1972); Thudam-Lama Chungbu, 3400-4200 m (Jun. 23 & 24, 1972); Thudam-Kipudonsu, ca 3800 m (Jun. 26, 1972).

Distr. Himalaya, 3400-4200 m alt.

Athyrium falcatum Bedd., Ferns S. Ind. t. 151 (1863)-Alston & Bonner, l.c. 214 (1956).

Asplenium drepanophyllum Baker in Hook. et Baker, Syn. Fil. ed. 2, 226 (1874), non Kunze (1834).

Athyrium drepanophyllum Bedd., Handb. Suppl. 32 (1892).

NEPAL. Gopte-Thale Patil, 3200-3400 m (Aug. 26, 1972).

Distr. India and Nepal.

Athyrium filix-femina (L.) Roth, Tent. Fl. Germ. **3**: 65 (1799).

var. **dentigerum** (Wall. ex Clarke) Bedd., Handb. 169 (1883).

Asplenium filix-femina var. *dentigerum* Clarke in Tr. Linn. Soc. II. Bot. **1**: 492 (1880).

NEPAL. Topke Gola, 3600 m (Jun. 18, 1972); Thudam, 3400 m (Jun. 22, 1972); Topke Gola-Shewaden, ca 3000 m (Jun. 28, 1972).

DARJEELING. Mani Bhanjyang-Tonglu, 2000-3000 m (Jul. 30, 1972).

Distr. Himalaya (Kashmir to Bhutan).

It is probable that the specimen identified as *A. attenuatum* above belongs to this species as a variety, especially comparing with the materials from Darjeeling.

var. **retusa** (Decne.) Bedd., Handb. 170 (1883).

Cystopteris retusa Decne. in Jacq., Voy. Bot. 176, t. 177 (1844).

Asplenium filix-femina var. *retusa* (Decne.) Clarke in Tr. Linn. Soc. II. Bot. **1**: 492, pl. 49, f. 2 (1880).

NEPAL. Thudam, 3400 m (Jun. 22 & 25, 1972); Topke Gola-Shewaden, ca 3000 m (Jun. 28, 1972).

DARJEELING. Sandakphu, 3600 m (Aug. 1, 1972).

SIKKIM. Chia Bhanjyang-Phalut, 3100-3500 m (Jun. 2, 1960).

Distr. Himalaya (Kashmir to Bhutan, 3000-4500 m alt.).

This identification is tentative, as I have never seen the type materials of this variety. However, the ferns identified as this as enumerated above form a distinct taxon especially indicated by dense broadly oblong scales at base of stipes bicoloured with ebenous central portion and brown margin.

Athyrium foliolosum Moore apud Bedd., Handb. Suppl. 37 (1892); Fl. E. Himal. 471 (1966).

NEPAL. Chitre-Basantapur, 2300-2400 m (Jun. 6, 1972); Lamo Pokhari, 2900 m (Jun. 9, 1972); Topke Gola-Shewaden, ca 3300 m (Jun. 28, 1972); Shewaden-Papung, ca

2400 m (Jun. 29, 1972); Chauke-Tinjure Phedi, 2700 m (Jul. 6, 1972); Dunche-Singum Gompa, 1900-3200 m (Aug. 22, 1972); Mangen-Khodang Danda, 2500-3100 m (Aug. 28, 1972); Khodang Danda-Latsu, 2100-2500 m (Aug. 29, 1972).

DARJEELING. Mani Bhanjyang-Tonglu, 2000-3000 m (Jul. 30, 1972); Phalut-Raman, 2100-3600 m (Aug. 4, 1972); Raman-Rimbick, 1900-2400 m (Aug. 5, 1972).

Distr. Himalaya to Yunnan.

Athyrium nigripes (Blume) Moore: Fl. E. Himal. 472 (1966).

NEPAL. Sinduwa-Bhalukhop, 2100-2400 m (Jun. 5, 1972); Chitre-Dor, 2300-2600 m (Jun. 6, 1972); Tute, 2300 m (Jun. 6, 1972); Kokim Pokhari-Hati Surde, 3000-3600 m (Jun. 11, 1972); Topke Gola-Shewaden, ca 3000 m (Jun. 28, 1972); Shewaden-Papung, ca 2400 m (Jun. 29, 1972); Tinjure Phedi-Tinjure, 2700-2900 m (Jul. 6, 1972); Chitre-Hile, 1900-2400 m (Jul. 8, 1972).

DARJEELING. East Side, 2100 m (Jul. 23, 1972); Ubayuri-dani, 2200 m (Jul. 25, 1972); Phalut-Raman, 2100-3600 m (Aug. 4, 1972); Raman-Rimbick, 1900-2400 m (Aug. 5, 1972); Batasi-Mani Bhanjyang, 2000-2100 m (Aug. 9, 1972).

The identification of our materials to this species is rather doubtful even after a comprehensive revision of this species group by Sledge in Ann. Mag. Nat. Hist. ser. 12, 9: 453-464 (1956).

Athyrium pectinatum (Wall. ex Mett.) Bedd.: Fl. E. Himal. 472 (1966).

NEPAL. Dhankuta-Nigale, 1300-1600 m (Jun. 4, 1972); Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972); Bir Gaon-Saju Khola, 1400-1600 m (Jul. 1, 1972).

Athyrium puncticaule (Blume) Moore, Ind. Fil. 186 (1860)-Alston & Bonner, l.c. 213 (1956).

Aspidium puncticaule Blume, Enum. Pl. Jav. 159 (1828).

Athyrium macrocarpum (Blume) Bedd.: Fl. E. Himal. 471 (1966).

NEPAL. Bhalukhop-Chitre, 2400 m (Jun. 5, 1972); Shewaden-Papung, 2200 m (Jun. 29, 1972); Tute-Basantapur, 2300 m (Jul. 7, 1972); Chitre-Hile, 1900-2400 m (Jul. 8, 1972); Gram-Dunche, 1900-2000 m (Aug. 21, 1972); Bhorlang-Sundarijar, 1400-2400 m (Aug. 31, 1972).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972); Victoria Fall, 2100 m (Jul. 24, 1972); East Side, 2100 m (Jul. 25, 1972); Phalut-Raman, 2300 m (Aug. 4, 1972); Raman-Rimbick, 1900-2400 m (Aug. 5, 1972); Rimbick-Palmajua, 1500-2200 m (Aug. 6, 1972); Palmajua, 2200 m (Aug. 7, 1972); Palmajua-Batasi, 2100-2200 m (Aug. 8, 1972); Batasi-Mani Bhanjyang, 2000-2100 m (Aug. 9, 1972).

Distr. Himalaya to continental S.E. Asia to W. Malaysia.

Athyrium Schimperi (A. Br.) Moug. ex Fée, Gen. Fil. 187 (1852)-Alston & Bonner, l.c. 214 (1956).

Asplenium Schimperi A. Br. in Shweinf. Beitr. 1: 224 (1867).

DARJEELING. Phalut-Raman, 2200-2300 m & ca 2800 m (Aug. 4, 1972).

Distr. Abyssinia and Himalaya.

Athyrium setiferum C. Chr., Ind. Fil. 146 (1905).

Asplenium tenellum (Wall.) Hope in Journ. Bomb. Nat. Hist. Soc. 12: 529, t. 4 (1899), non Roxb. (1816) nec Fée (1852.)

NEPAL. Walunchung Gola-Zongri, 2700-3200 m (Nov. 11, 1963); Zongri-Iladanda, 1800-2600 m (Nov. 12, 1963); Thakuma Khola-Yamphodin, 2000-3500 m (Nov. 17, 1963); Tute-Dor, 2300-2600 m (Jun. 6, 1972); Mangalbare-Mul Pokhari, 2600-2900 m (Jun. 8, 1972); Phulchoki, 2200-2700 m (Jul. 15, 1972).

Distr. Himalaya to Yunnan and N. Thailand.

Athyrium strigillosum Moore: Fl. E. Himal. 472 (1966).

NEPAL. Hile-Mure, ca 1950 m (Jun. 5, 1972).

Athyrium subtriangulare (Hook. ex Hook. et Baker) Bedd.: Fl. E. Himal. 2: 209 (1971).

NEPAL. Singum Gumpa-Gosainkund, 3200-4200 m (Aug. 23, 1972).

Athyrium Wallichianum Ching in Bull. Fan Mem. Inst. Biol. 8: 497 (1938)-Alston & Bonner in Candollea 15: 213 (1956).

Aspidium Brunonianum Wall. ex Mett., Pheg. Aspid. 54 (1858).

Lastrea Brunoniana (Wall. ex Mett.) Presl ex Bedd., Ferns Brit. Ind. t. 37 (1865); Handb. 246 (1883); Suppl. 55 (1892)-Clarke in Tr. Linn. Soc. II. Bot. 1: 522 (1880)-Hope in Journ. Bomb. Nat. Hist. Soc. 14: 731 (1903).

NEPAL. Banduke Pokhari-Saju Pokhari, 4000-4200 m (Jun. 15, 1972); Saju Pokhari-Topke Gola, 3600-4400 m (Jun. 16, 1972); Lama Chungbu-Samdan, 3200-4400 m (Jun. 24, 1972); Thudam-Kipudonsu, ca 3800 m (Jun. 26, 1972).

Distr. Himalaya and Yunnan.

Bolbitis appendiculata (Willd.) K. Iwats. in Act. Phytotax. Geobot. 18: 48 (1959).

Acrostichum appendiculatum Willd., Sp. Pl. 5: 114 (1810).

Polybotrya appendiculata (Willd.) J. Smith in Journ. Bot. 4: 150 (1841)-Bedd., Handb. 424 (1883).

DARJEELING. Near Lopchu, 800 m (Aug. 10, 1972).

Distr. E. Himalaya, S. China to Malaysia throughout, and north to Ryukyus.

Bolbitis contaminans (Clarke) Ching in C. Chr., Ind. Fil. Suppl. III, 47 (1934).

Acrostichum crispatum var. *contaminans* Clarke in Tr. Linn. Soc. II. Bot. 1: 580 (1880).

Gymnopteris contaminans (Clarke) Bedd., Handb. 435 (1883), nom. sol.

NEPAL. Dharan-Sanguri Bhanjyang, ca 500 m (Jun. 2, 1972).

Distr. Himalaya, Thailand, and Formosa.

Cornopteris opaca (Don) Tagawa: Tagawa in Fl. E. Himal. 473 (1966).

DARJEELING. Phalut-Raman, 2100 m (Aug. 4, 1972); Palmajua, 2200 m (Aug. 7, 1972).

Cornopteris sp., aff. *C. fluvialis* (Hayata) Tagawa.

NEPAL. Shewaden-Papung, 2400 m (Jun. 29, 1972).

DARJEELING. Phalut-Raman, 2100 m (Aug. 4, 1972); Palmajua, 2200 m (Aug. 7, 1972).

This is a species similar to *C. fluvialis* (Hayata) Tagawa of Formosa and Japan. There are several species reported from S.W. China for the genus *Cornopteris*; *C. badia* from Yunnan, *C. likiangensis* from Yunnan, *C. omeigensis* from Szechuan and *C. Tsangii* from Kwangtung, all described by Ching and I had no chance to examine the authenticated specimens of these species. The present materials may warrant a description of another species, though we might better make thorough investigation for ever-described species.

Ctenitis apiciflora (Wall. ex Mett.) Ching in Bull. Fan Mem. Inst. Biol. 8: 284 (1938).

Dryopteris apiciflora (Wall. ex Mett.) O. Ktze.: H. Ito in Fl. E. Himal. 475 (1966).
NEPAL. Shewaden-Papung, ca 2500 m (Jun. 29, 1972).

Ctenitis Clarkei (Baker) Ching in Bull. Fan Mem. Inst. Biol. **8**: 287 (1938).

Dryopteris Kawakamii Hayata sensu H. Ito in Fl. E. Himal. 477 (1966); **2**: 210 (1971).

NEPAL. Topke Gola-Shewaden, ca 2800 m (Jun. 28, 1972).

Distr. Himalaya.

Ctenitis nidus (Clarke) Ching in Bull. Fan Mem. Inst. Biol. **8**: 287 (1938)—Banerji in Candollea **27**: 274 (1972).

Nephrodium nidus Clarke in Journ. Linn. Soc. **15**: 156 (1876).

Lastrea filix-mas var. *patentissima* subvar. *nidus* (Clarke) Bedd., Handb. 250 (1883).

NEPAL. Dor-Tinjure, 2600–2900 m (Jun. 7, 1972); Thudam, 3400 m (Jun. 22 & 25, 1972); Topke Gola-Shewaden, ca 2800 m (Jun. 28, 1972).

DARJEELING. Tonglu-Sandakphu, ca 3000 m (Jul. 31, 1972); Sandakphu, 3600 m (Aug. 1, 1972).

Distr. E. Himalaya and Yunnan.

Cyrtomium Hookerianum (Presl) C. Chr.: H. Ito in Fl. E. Himal. 473 (1966).

DARJEELING. Ubayuri-dani, 2200 m (Jul. 25, 1972); Phalut-Raman, ca 2100 m (Aug. 4, 1972); Palmajua, 2200 m (Aug. 7, 1972).

Cystopteris fragilis (L.) Bernh. in Schrad. Journ. Bot. **1** (2): 26 (1806)—Bedd., Handb. 70 (1883)—Alston & Bonner in Candollea **15**: 212 (1956).

NEPAL. Saju Pokhari-Topke Gola, 3600–4400 m (Jun. 16, 1972); Topke Gola, 3600 m (Jun. 18, 1972); Lama Chungbu-Samdan, 4200–4400 m (Jun. 24, 1972); Phujeng La-Topke Gola, 3600–4800 m (Jun. 27, 1972); Topke Gola-Shewaden, 3300 m (Jun. 28, 1972).

Distr. S. Europe, Atlantic Isles, Mascarenes, N. Asia, Himalaya, Japan, and tropical America.

Cystopteris sudetica A. Br. et Milde var. **moupinensis** (Franch.) Blasdell in Mem. Torrey Bot. Club **21** (4): 45 (1963).

Cystopteris moupinensis Franch. in Nouv. Arch. Mus. II. **10**: 111 (1887).

NEPAL. Topke Gola-Shewaden, 3300 m (Jun. 28, 1972).

Distr. E. Himalaya and C. & S.W. China to Formosa.

Cystopteris tenuisecta (Blume) Mett.: H. Ito in Fl. E. Himal. 473 (1966).

NEPAL. Dor-Chauke, 2600–2900 m (Jun. 7, 1972); Shewaden-Papung, 2200 m (Jun. 29, 1972).

DARJEELING. Phalut-Raman, 2100 m (Aug. 4, 1972); Palmajua, 2200 m (Aug. 7, 1972).

Diacalpe aspidioides Blume: H. Ito in Fl. E. Himal. 473 (1966); **2**: 209 (1971).

NEPAL. Shewaden-Papung, ca 2200 m (Jun. 29, 1972).

DARJEELING. Phalut-Raman, ca 2400 m (Aug. 4, 1972).

Distr. Ceylon, India, Himalaya, N. Thailand, S.W. China, Hainan, and Malaysia.

Diplaziopsis javanica (Blume) C. Chr.: Tagawa in Fl. E. Himal. 473 (1966).

DARJEELING. Lopchu, 1000 m (Aug. 10, 1972).

Distr. Ceylon, Himalaya to Malaysia throughout to S. Pacific Island, and north to Japan.

Diplazium bellum (Clarke) Tagawa: Tagawa in Fl. E. Himal. 474 (1966).

SIKKIM. Yoksam-Bakkim, 1700–2200 m (May 18, 1960–T).

Diplazium esculentum (Retz.) Sw.: Fl. E. Himal. 474 (1966).

NEPAL. Saju Kholā-Dingla, 1000–1400 m (Jul. 1, 1972).

Diplazium giganteum (Baker) Ching: Fl. E. Himal. 474 (1966).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972); Ubayuri-dani, 2200 m (Jul. 25, 1972); Raman-Rimbick, 2200–2400 m (Aug. 5, 1972); Palmajua, 2200 m (Aug. 7, 1972).

Diplazium muricatum (Mett.) v. A. v. Ros.: Fl. E. Himal. 474 (1966).

NEPAL. Helok-Iladanda, 1500–1800 m (Nov. 8, 1963); Bhuspate Danra-Mai Majuwa, 1600–3100 m (Dec. 3, 1963); Mai Majuwa-Dhara Pani, 1500–1600 m (Dec. 4, 1963).

DARJEELING. Batasi-Mani Bhanjyang, 2000–2100 m (Aug. 9, 1972).

SIKKIM. Yoksam-Preig Chu, 1700–2200 m (May 18, 1960–T).

Distr. Ceylon, Himalaya, N. Thailand, S.W. China, Formosa, and south to Java.

Diplazium polypodioides Blume, Enum. Pl. Jav. 194 (1828)–Bedd., Handb. 184, f. 89 (1883).

D. asperum Blume, Enum. Pl. Jav. 195 (1828)–Bedd., Handb. 184, f. 88 (1883).

NEPAL. Dhankuta-Sinduwa, 1200–2100 m (Oct. 22, 1963); Sinduwa, 2100 m (Oct. 23, 1963); Mul Pokhari-Dumhan, 700–2500 m (Oct. 30, 1963); Tuwa-Taplethok, 1400–1800 m (Nov. 5, 1963); Taplethok-Helok, 1400–1500 m (Nov. 6, 1963); Helok-Iladanda, 1500–1800 m (Nov. 8, 1963); Zongi-Iladanda, 1800–2800 m (Nov. 12, 1963); Ghatte-Khebang, 1700–2400 m (Nov. 19, 1963)*; Khebang-below Siling Tzokupa, 1700–2100 m (Nov. 20, 1963); Khebang, 1400 m (Nov. 23, 1963); Birwa-Yektin, 1700–2800 m (Nov. 28, 1963)*; Yektin-Akasay, 1400–2300 m (Nov. 30, 1963)*; Illam-Ranga Pani, 300 m (Dec. 8, 1963); Ghorwa-Sanichare, 200 m (Dec. 10, 1963).

DARJEELING. Palmajua-Rimbick, 2200–2300 m (May 5, 1960–T)*; Phalut-Raman, 2100 m (Aug. 4, 1972)*.

Distr. Ceylon, S. India, Himalaya, Burma, Thailand, Indo-China, S.W. China, Formosa, and Malaysia throughout.

All or a part of the specimens with an asterisk belong to var. *vestitum* named by Clarke (1880), though the specific classification is hardly successful for *D. polypodioides* by our informations at hand.

Diplazium spectabile (Wall. ex Mett.) Ching: Fl. E. Himal. 475 (1966).

NEPAL. Bir Gaon-Dingla, 1000–1600 m (Jul. 1, 1972).

Diplazium Stoliczkae Bedd.: Fl. E. Himal. 475 (1966).

NEPAL. Sinduwa-Bhalukhop, 2100–2400 m (Jun. 5, 1972); Shewaden-Papung, 2000–2600 m (Jun. 29, 1972); Dor-Tute, 2300–2600 m (Jul. 7, 1972); Latsu-Bhorlang, 1700–2400 m (Aug. 30, 1972).

DARJEELING. Ubayuri-dani, 2200 m (Jul. 25, 1972); Raman-Rimbick, 1000–2400 m (Aug. 4, 1972); Palmajua, 2200 m (Aug. 7, 1972).

Diplazium viridissimum Christ in Not. Syst. 1: 45 (1909).

NEPAL. Dingla-Doban, 800–1000 m (Jul. 2, 1972).

Distr. Himalaya (Nepal) and Yunnan.

Dryoathyrium Boryanum (Willd.) Ching: Tagawa in Fl. E. Himal. 475

(1966); K. Iwatsuki in **2**: 209 (1971).

NEPAL. Phulchoki, 2200–2700 m (Jul. 15, 1972); Shewaden–Papung, 2400 m (Jun. 29, 1972); Bir Gaon–Saju Khola, 1400–1600 m (Jul. 1, 1972).

DARJEELING. Phalut–Raman, 2100 m (Aug. 4, 1972); Palmajua, 2200 m (Aug. 7, 1972); Batasi–Mani Bhanjyang, 2000–2100 m (Aug. 9, 1972).

Dryopteris atrata (Wall. ex Kunze) Ching: H. Ito in Fl. E. Himal. 475 (1966); **2**: 209 (1971)—Banerji in Candollea **27**: 274 (1972).

DARJEELING. Palmajua, 2200 m (Aug. 7, 1972).

Dryopteris barbigera (Moore) O. Ktze.: Fl. E. Himal. 475 (1966), nom. sol.

NEPAL. Hile Chok–Ghopte, 3500 m (Jun. 12, 1972); Banduke Pokhari–Saju Pokhari, 4000–4200 m (Jun. 15, 1972); Topke Gola, 3600 m (Jun. 18, 1972); Thudam–Lama Chungbu, 3400–4200 m (Jun. 23, 1972); Gopte–Thale Patil, 3200–3500 m (Aug. 26, 1972).

DARJEELING. Phalut–Singalila, 3600–3700 m (Aug. 3, 1972).

SIKKIM. Chia Bhanjyang–Phalut, 3100–3500 m (Jun. 2, 1960).

Dryopteris chrysocoma (Christ) C. Chr.: Fl. E. Himal. 476 (1966)—Banerji, l.c. 274 (1972).

*D. barbiger*a (Moore) O. Ktze. sensu H. Ito in Fl. E. Himal. 475 (1966).

D. marginata (Wall.) Christ sensu H. Ito in Fl. E. Himal. 477 (1966).

D. odontoloma (Moore) C. Chr. sensu H. Ito in Fl. E. Himal. 477 (1966).

NEPAL. Dor–Tinjure, 2600–2900 m (Jun. 7, 1972); Mangalbare–Mul Pokhari, 2600–2900 m (Jun. 8, 1972); Thudam, 3400 m (Jun. 22, 1972); Papung–Bir Gaon, 1600–2000 m (Jun. 30, 1972); Tute–Basantapur, 2300 m (Jul. 7, 1972).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972); Ubayuri-dani, 2200 m (Jul. 25, 1972); Lloyd Botanic Garden, 2100 m (Jul. 26, 1972); Mani Bhanjyang–Tonglu, 2000–3000 m (Jul. 30, 1972); Phalut–Raman, ca 3000 m (Aug. 4, 1972).

Dryopteris cochleata (Don) C. Chr.: Fl. E. Himal. 476 (1966)—Banerji, l.c. 274 (1972).

NEPAL. Papung–Bir Gaon, 1600–2000 m (Jun. 30, 1972).

Distr. Himalaya to W. Malaysia.

Dryopteris marginata (Wall. ex Christ) Christ: Fl. E. Himal. 477 (1966), nom. sol.

NEPAL. Saju Khola–Dingla, 1000–1400 m (Jul. 1, 1972); Phulchoki, 2200–2700 m (Jul. 15, 1972); Sim Chotala–Gram, 900–1900 m (Aug. 20, 1972).

DARJEELING. Batasi–Mani Bhanjyang, 2000–2100 m (Aug. 9, 1972).

Distr. Ceylon, Himalaya, and Formosa.

Dryopteris odontoloma (Moore) C. Chr.: Fl. E. Himal. 477 (1966), nom. sol.

D. hypophlebia Hayata: Fl. E. Himal. 477 (1966); **2**: 210 (1971).

D. lepidopoda Hayata sensu H. Ito in Fl. E. Himal. 477 (1966); **2**: 210 (1971).

NEPAL. Phulchoki, 2200–2700 m (May 28 & Jul. 15, 1972); Mure–Sinduwa, 2100 m (Jun. 5, 1972).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972); East Side, 2100 m (Jul. 23, 1972).

Dryopteris hypophlebia of Formosa was recognized by Tagawa in Act. Phytotax. Geobot. **8**: 24 (1939) summarizing the difference between this and Himalayan *D. odontoloma*. These two are, however, hardly separable with variation in both the

areas and might better be united specifically. H. Ito distinguished these two and referred the Himalayan collections to Formosan species in the previous reports.

Dryopteris paleacea (Sw.) C. Chr.: Fl. E. Himal. 477 (1966); **2**: 210 (1971).

NEPAL. Sinduwa-Bhalukhop, 2100-2400 m (Jun. 5, 1972); Topke Gola-Shewaden, ca 2800 m (Jun. 28, 1972); Tinjure-Dor, 2600-2900 m (Jul. 6, 1972); Chitre-Hile, 1900-2400 m (Jul. 8, 1972); Latsu-Bhorlang, 1700-2400 m (Aug. 30, 1972).

DARJEELING. Tonglu-Sandakphu, ca 3000 m (Jul. 31, 1972); Phalut-Raman, ca 2600 m (Aug. 4, 1972).

Distr. Widely distributed in the warmer parts of the world.

Dryopteris panda (Clarke) C. Chr.: Fl. E. Himal. 478 (1966).

NEPAL. Hile-Mure, 1900-2100 m (Jun. 5, 1972); Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972).

Dryopteris pulvinulifera (Bedd.) O. Ktze., Rev. Gen. Pl. **2**: 213 (1891)-Ching in Bull. Fan Mem. Inst. Biol. **8**: 466 (1938).

Lastrea pulvinulifera Bedd., Ferns Brit. Ind. t. 333 (1870); Handb. 255 (1883); Suppl. 60 (1892).

Dryopteris Harae H. Ito in Fl. E. Himal. 476, pl. 26 (1966).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972).

Distr. Ceylon, Sikkim, and Assam.

Dryopteris serrato-dentata (Bedd.) Hayata: Fl. E. Himal. 478 (1966)-Banerji, l.c. 274 (1972).

NEPAL. Gosa-Banduke Pokhari, 4100-4200 m (Jun. 14, 1972); Banduke Pokhari-Saju Pokhari, 4000-4200 m (Jun. 15, 1972); Saju Pokhari-Topke Gola, 3600-4400 m (Jun. 16, 1972); Topke Gola, 3600 m (Jun. 18, 1972); Janga La-Thudam, ca 3700 m (Jun. 21, 1972); Thudam, 3400 m (Jun. 22 & 25, 1972); Thudam-Kipudonsu, 3400-4200 m (Jun. 26, 1972).

DARJEELING. Sandakphu, 3600 m (Aug. 1, 1972).

Dryopteris sino-fibrillosa Ching in Bull. Fan Mem. Inst. Biol. **10**: 180 (1940).

D. fibrillosa (Clarke) Hand.-Mzt. in Akad. Anz. Akad. Wiss. Wien **1922**: 2 (1922), non (Baker) C. Chr. (1905)-Ching in Bull. Fan Mem. Inst. Biol. **8**: 424 (1938)-Alston & Bonner in Candollea **15**: 216 (1956).

Nephrodium filix-mas var. *fibrillosum* Clarke in Tr. Linn. Soc. II. Bot. **1**: 520, pl. 70 (1880).

Lastrea filix-mas var. *parallelogramma* subvar. *fibrillosa* (Clarke) Bedd., Handb. 250 (1883).

NEPAL. Topke Gola, 3600 m (Jun. 18, 1972); Thudam, 3400 m (Jun. 22, 1972).

DARJEELING. Sandakphu, 3600 m (Aug. 1, 1972).

Distr. Himalaya to S.W. China.

Dryopteris sparsa (Don) O. Ktze.: Fl. E. Himal. 478 (1966); **2**: 210 (1971).

D. Hasseltii (Blume) C. Chr. sensu H. Ito in Fl. E. Himal. 477 (1966).

NEPAL. Dharan-Sanguri Bhanjyang, ca 500 m (Jun. 2, 1972); Bir Gaon-Saju Khola, 1400-1600 m (Jul. 1, 1972).

Dryopteris splendens (Hook.) O. Ktze., Rev. Gen. Pl. **2**: 813 (1891)-Ching in Bull. Fan Mem. Inst. Biol. **8**: 452 (1938).

Nephrodium splendens Hook., Sp. Fil. **4**: 126 (1862).

Lastrea splendens (Hook.) Bedd.: Bedd., Handb. 262 (1883).

D. reflexosquamata Hayata sensu H. Ito in Fl. E. Himal. 478 (1966).

NEPAL. Topke Gola-Shewaden, ca 2800 m (Jun. 28, 1972); Shewaden-Papung, ca 2500 m (Jun. 29, 1972).

DARJEELING. Tonglu-Sandakphu, ca 2800 m (Aug. 31, 1972).

Distr. Himalaya and S.W. China.

Elaphoglossum marginatum (Wall. ex Fée) Moore, Ind. Fil. ii (1857), 361 (1862)—Alston et Bonner in Candollea **15**: 215 (1956).

Acrostichum marginatum Wall. ex Fée, Mém. **2**: 31 (1845).

E. conforme (Sw.) Schott: H. Ito in Fl. E. Himal. 479 (1966).

NEPAL. Shewaden-Papung, ca 2100 m (Jun. 29, 1972).

DARJEELING. Palmajua, 2200 m (Aug. 7, 1972); Batasi-Mani Bhanjyang, 2000–2100 m (Aug. 9, 1972).

Distr. Himalaya, Thailand, Indo-China, Yunnan, and Formosa.

Elaphoglossum stelligerum (Wall. ex Baker) Moore ex Alston et Bonner in Candollea **15**: 216 (1956)—Sledge in Bull. Brit. Mus. Bot. **4**: 92 (1967).

Acrostichum stelligerum Wall. ex Baker in Hook. et Baker, Syn. Fil. ed. 2, 521 (1874).

E. yunnanense (Baker) C. Chr.: Fl. E. Himal. 479 (1966).

NEPAL. Kuwa Pani-Hile, 1900 m (Jun. 4, 1972).

Distr. Himalaya, Burma, N. Thailand, Annam, and S.W. China.

Lithostegia foeniculacea (Hook.) Ching: H. Ito in Fl. E. Himal. **2**: 211 (1971).

NEPAL. Shewaden-Papung, 2200 m (Jun. 29, 1972).

DARJEELING. Raman-Rimbick, ca 2400 m (Aug. 5, 1972).

Distr. E. Himalaya and Yunnan.

Lunathyrium japonicum (Thunb.) Kurata in Journ. Geobot. **9**: 99 (1961).

Diplazium japonicum (Thunb.) Bedd.: Tagawa in Fl. E. Himal. 474 (1966).

NEPAL. Teku Nala-Hile, 800–1900 m (Jun. 4, 1972); Bir Gaon-Saju Khola, 1400–1600 m (Jul. 1, 1972); Bainse-Sim Chotala, 600–900 m (Aug. 19, 1972).

DARJEELING. East Side, 2100 m (Jul. 23, 1972); Raman-Rimbick, 1900–2400 m (Aug. 5, 1972); Lopchu, 800 m (Aug. 10, 1972).

Meniscium proliferum (Retz.) Sw.: K. Iwatsuki in Fl. E. Himal. 479 (1966).

NEPAL. Doban-Nessum, 800–1300 m (Jul. 2, 1972).

Peranema cyatheoides Don: H. Ito in Fl. E. Himal. 479 (1966); **2**: 211 (1971)—Banerji in Candollea **27**: 273 (1972).

NEPAL. Bhalukhop-Chitre, 2400 m (Jun. 5, 1972); Topke Gola-Shewaden, ca 3000 m (Jun. 28, 1972); Chitre-Teku Nala, 800–2400 m (Jul. 8, 1972); Bhorlang-Sundarijar, 1400–2400 m (Aug. 31, 1972).

DARJEELING. Ubayuri-dani, 2200 m (Jul. 25, 1972); Phalut-Raman, ca 2100 m (Aug. 4, 1972).

Polystichum acanthophyllum (Franch.) Christ: Tagawa in Fl. E. Himal. 480 (1966); **2**: 211 (1971).

NEPAL. Topke Gola-Shewaden, ca 3000 m (Jun. 28, 1972).

Polystichum Atkinsoni Bedd.: Fl. E. Himal. **2**: 211 (1971).

NEPAL. Hile Chok-Ghopte, 3500 m (Jun. 12, 1972); Topke Gola-Shewaden, ca 3000

m (Jun. 23, 1972).

Distr. Himalaya and China.

Polystichum Bakerianum (Atkins. ex Baker) Diels in Engl. & Prantl, Nat. Pfl.-fam. **1** (4): 191 (1899).

Aspidium Prescottianum var. *Bakeriana* Clarke in Tr. Linn. Soc. II. Bot. **1**: 510, t. 66 (1880).

P. Prescottianum var. *Bakerianum* (Clarke) Bedd., Handb. 210 (1883).

A. Bakerianum Atkins. ex Baker in Hook., Ic. Pl. t. 1656 (1886).

NEPAL. Thudam, 3400 m (Jun. 24, 1972).

Distr. Sikkim and S.W. China.

Polystichum discretum (Don) Diels: Fl. E. Himal. **2**: 211 (1971).

NEPAL. Sinduwa-Bhalukhop, 2100-2400 m (Jun. 5, 1972); Dor-Tinjure, 2600-2900 m (Jun. 7, 1972); Topke Gola-Shewaden, ca 3000 m (Jun. 28, 1972).

DARJEELING. Tonglu-Sandakphu, ca 3000 m (Jul. 31, 1972).

Distr. Himalaya to Yunnan.

Polystichum Duthiei (Hope) C. Chr., Ind. Fil. 581 (1906).

Aspidium Duthiei Hope in Journ. Bomb. Nat. Hist. Soc. **12**: 532, t. 6 (1899).

BHUTAN. Barshong-Nala, 3300-3700 m (May 25, 1967).

Distr. N.W. India, Bhutan, S.W. China (Szechuan, Yunnan), and Formosa.

Polystichum lachenense (Hook.) Bedd.: Fl. E. Himal. 480 (1966).

NEPAL. Saju Pokhari-Topke Gola, 3600-4400 m (Jun. 16, 1972); Topke Gola-Jalang Chhyongo, 3600-4300 m (Jun. 20, 1972); Phujeng La-Topke Gola, 3600-4800 m (Jun. 27, 1972).

Polystichum lentum (Don) Moore: Fl. E. Himal. 480 (1966).

NEPAL. Sanguri Bhanjyang-Dhara Pani, ca 1250 m (Jun. 2, 1972); Bir Gaon-Saju Khola, 1400-1600 m (Jul. 1, 1972).

DARJEELING. Rimbick-Palmajua, 1500-2200 m (Aug. 6, 1972); Palmajua, 2200 m (Aug. 7, 1972); Lopchu, 800 m (Aug. 10, 1972).

Polystichum nepalense (Spr.) C. Chr.: Fl. E. Himal. 480 (1966); **2**: 212 (1971).

NEPAL. Dhara Pani-Teku Nala, 300-1000 m (Jun. 3, 1972); Hile-Chitre, 1900-2400 m (Jun. 5, 1972); Tinjure Phedi-Chauke, 2700 m (Jun. 7, 1972).

DARJEELING. Tonglu-Sandakphu, ca 3000 m (Jul. 31, 1972).

var. **subbipinnatum** C. Chr.: Fl. E. Himal. **2**: 212 (1971).

NEPAL. Dor-Tinjure, 2600-2900 m (Jun. 7, 1972); Mul Pokhari-Lamo Pokhari, 2900 m (Jun. 8, 1972); Shewaden-Papung, ca 2400 m (Jun. 29, 1972).

Distr. var. E. Himalaya to Yunnan.

Polystichum nigropaleaceum (Christ) Diels in Engl. & Prantl, Nat. Pfl.-fam. **1** (4): 191 (1899)-Banerji in Candollea **27**: 275 (1972).

P. aculeatum var. *nigropaleaceum* Christ in Ber. Schweiz. Bot. Ges. **3**: 26 (1893).

NEPAL. Sinduwa-Bhalukhop, 2100-2400 m (Jun. 5, 1972); Mul Pokhari-Lamo Pokhari, 2900 m (Jun. 8, 1972); Chauke-Tinjure Phedi, 2700 m (Jul. 6, 1972); Phulchoki, 2200-2700 m (Jul. 15, 1972).

DARJEELING. Ubayuri-dani, 2200 m (Jul. 26, 1972).

Distr. Himalaya and China.

Polystichum Prescottianum (Wall. ex Mett.) Moore: Fl. E. Himal. 480

(1866); **2**: 212 (1971)—Banerji, l.c. 274 (1972).

NEPAL. Hile Chok-Gopte, 3500 m (Jun. 12, 1972); Banduke Pokhari-Saju Pokhari, 4000-4200 m (Jun. 15, 1972); Topke Gola, 3600 m (Jun. 18, 1972); Thudam, 3400 m (Jun. 22, 1972); Thudam-Kipudonsu, 3800 m (Jun. 26, 1972); Topke Gola-Shewaden, ca 3200 m (Jun. 28, 1972); Gosainkund-Gopte, 3500-4400 m (Aug. 25, 1972); Gopte-Thale Patil, 3200-3400 m (Aug. 26, 1972).

DARJEELING. Sandakphu-Phalut, 3200-3600 m (Aug. 2, 1972).

Polystichum punctiferum C. Chr.: Fl. E. Himal. **2**: 212 (1971).

NEPAL. Tute, 2300 m (Jun. 6, 1972); Shewaden-Papung, ca 2200 m (Jun. 29, 1972).

DARJEELING. Phalut-Raman, ca 2300 m (Aug. 4, 1972).

Distr. E. Himalaya, Upper Burma, and Yunnan.

Polystichum semifertile (Clarke) Ching: Fl. E. Himal. **2**: 212 (1971).

NEPAL. Phulchoki, 2200-2700 m (May 28 & Jul. 15, 1972).

DARJEELING. Observatory Hill, 2200 m (Jul. 24, 1972); Ubayuri-dani, 2200 m (Jul. 25, 1972).

Distr. Himalaya, N. Thailand, Yunnan, and Tonkin.

Polystichum squarrosus (Don) Fée: Fl. E. Himal. 481 (1966); **2**: 212 (1971).

NEPAL. Shewaden-Papung, 2200 m (Jun. 29, 1972); Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972); Phulchoki, 2200-2700 m (Jul. 15, 1972); Sim Chotala-Gram, 900-1900 m (Aug. 20, 1972); Gram-Dunche, 1900-2000 m (Aug. 21, 1972); Dunche-Singum Gompa, 1900-3200 m (Aug. 22, 1972); Latsu-Bhorlang, 1700-2400 m (Aug. 31, 1972).

Polystichum stenophyllum Christ: Fl. E. Himal. 481 (1966); **2**: 212 (1971).

NEPAL. Dor-Tinjure, 2600-2900 m (Jun. 7, 1972); Gosa-Banduke Pokhari, 4100-4200 m (Jun. 14, 1972); Topke Gola-Shewaden, ca 3000 m (Jun. 28, 1972); Chauke-Dor, 2600-2900 m (Jul. 6, 1972).

Polystichum stimulans (Kunze ex Mett.) Bedd.: Fl. E. Himal. 481 (1966); **2**: 212 (1971).

NEPAL. Topke Gola-Shewaden, 2800 m (Jun. 28, 1972).

Polystichum Thomsonii (Hook. f.) Bedd.: Fl. E. Himal. 481 (1966); **2**: 213 (1971).

NEPAL. Phulchoki, 2200-2700 m (May 28 & Jul. 15, 1972); Topke Gola-Shewaden, ca 3000 m (Jun. 28, 1972).

DARJEELING. Tonglu-Sandakphu, ca 3000 m (Jul. 31, 1972).

Tectaria coadunata (Wall. ex Hook. et Grev.) C. Chr.: H. Ito in Fl. E. Himal. 481 (1966); **2**: 213 (1971).

NEPAL. Bir Gaon-Saju Khola, 1400-1600 m (Jul. 1, 1972); Sim Chotala-Gram, 900-1900 m (Aug. 20, 1972).

DARJEELING. Batasi-Mani Bhanjyang, 2000-2100 m (Aug. 9, 1972); Tista, 400 m (Aug. 10, 1972).

Thelypteris arida (Don) Morton: K. Iwatsuki in Fl. E. Himal. 482 (1966).

Cyclosorus aridus (Don) Tagawa: Banerji in Candollea **27**: 276 (1972).

NEPAL. Bir Gaon-Dingla, 1000-1600 m (Jul. 1, 1972).

Thelypteris auriculata (J. Smith) K. Iwats.: Fl. E. Himal. 482 (1966); **2**: 213 (1971).

NEPAL. Shewaden-Mewa Khola, ca 2400 m (Jun. 29, 1972); Chitre-Hile, 1900-2400 m (Jul. 8, 1972); Gram-Dunche, 1900-2000 m (Aug. 21, 1972).

DARJEELING. Phalut-Raman, ca 2200 m (Aug. 4, 1972); Raman-Rimbick, 1900-2400 m (Aug. 5, 1972).

Thelypteris aurita (Hook.) Ching: Fl. E. Himal. 482 (1966); **2**: 213 (1971).

NEPAL. Papung-Bir Gaon, 1900-2000 m (Jun. 30, 1972).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972).

Thelypteris erubescens (Wall. ex Hook.) Ching: Fl. E. Himal. 483 (1966); **2**: 213 (1971).

NEPAL. Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972); Dunche-Singum Gompa, 1900-3200 m (Aug. 22, 1972).

DARJEELING. Batasi-Mani Bhanjyang, 2000-2100 m (Aug. 9, 1972).

Thelypteris falciloba (Hook.) Ching in Bull. Fan Mem. Inst. Biol. **6**: 298 (1936).

Lastrea falciloba Hook. in Journ. Bot. Kew Misc. **9**: 337 (1857)-Bedd., Ferns S. Ind. t. 105 (1863).

NEPAL. Dhankuta-Nigale, 1300-1600 m (Jun. 4, 1972); Hile-Mure, 1200-2100 m (Jun. 5, 1972).

Distr. Himalaya, Burma, Indo-China, and China.

var. **latior** Ching in Bull. Fan Mem. Inst. Biol. **6**: 300 (1936).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972).

Distr. var. Formerly known only by the type collection from Assam.

Thelypteris flaccida (Blume) Ching in Bull. Fan Mem. Inst. Biol. **6**: 336 (1936).

Aspidium flaccidum Blume, Enum. Pl. Jav. 161 (1828).

Lastrea flaccida (Blume) Moore, Ind. Fil. 92 (1858)-Bedd., Handb. 240 (1883).

DARJEELING. Batasi-Mani Bhanjyang, 2000-2100 m (Aug. 9, 1972).

Distr. Ceylon, India, Himalaya, N. Thailand, Tonkin, S.W. China, Malaya, Java, and Philippines.

Thelypteris molliuscula (Kuhn) K. Iwats.: Fl. E. Himal. 484 (1966).

NEPAL. Dharan-Sanguri Bhanjyang, ca 500 m (Jun. 2, 1972); Bir Gaon-Saju Khola, 1400-1600 m (Jul. 1, 1972); Phulchoki, ca 1500 m (Jul. 15, 1972); Sim Chotala-Gram, 900-1900 m (Aug. 20, 1972).

DARJEELING. Lopchu, 800 m (Aug. 10, 1972).

Thelypteris multilineata (Wall. ex Hook.) Morton: Fl. E. Himal. 485 (1966); **2**: 213 (1971).

NEPAL. South of Dharan, 200 m (Jun. 1, 1972); Bir Gaon-Dingla, 1000-1600 m (Jul. 1, 1972).

DARJEELING. Lopchu-Tista, 600 m (Aug. 10, 1972).

Thelypteris ornata (Wall. ex Bedd.) Ching: Fl. E. Himal. 485 (1966).

NEPAL. Dharan-Sanguri Bhanjyang, ca 500 m (Jun. 2, 1972).

DARJEELING. Tista, 400 m (Aug. 10, 1972).

Thelypteris paludosa (Blume) K. Iwats.: Fl. E. Himal. 485 (1966).

NEPAL. Dhankuta-Nigale, 1300-1600 m (Jun. 4, 1972); Sinduwa-Bhalukhop, 2100-2400 m (Jun. 5, 1972); Topke Gola-Shewaden, 2800 m (Jun. 28, 1972); Tinjure Phedi-Tinjure, 2700-2900 m (Jul. 6, 1972); Chitre-Hile, 1900-2400 m (Jul. 8, 1972); Phulchoki, 2200-2700 m (Jul. 15, 1972).

DARJEELING. Phalut-Raman, 2400 m (Aug. 4, 1972); Palmajua-Batasi, 2100-2200 m

(Aug. 8, 1972).

Distr. Himalaya to Polynesia through Malaysia.

var. **glabrata** (Clarke) K. Iwats., comb. nov.

Polypodium distans var. *glabrata* Clarke in Tr. Linn. Soc. II. Bot. **1**: 544 (1880).

DARJEELING. Tonglu-Sandakphu, 2800 m (Jul. 31, 1972).

Distr. var. Sikkim.

Thelypteris rectangularis (Zoll.) K. Iwats., comb. nov.

Polypodium rectangulare Zoll. in Syst. Verz. **1854**: 37, 48 (1854).

Pseudophegopteris rectangularis (Zoll.) Holtt. in Blumea **17**: 19 (1969).

DARJEELING. Tista, 400 m (Aug. 10, 1972).

Distr. Himalaya, Malaya, Sumatra, Java, and Borneo.

Thelypteris repens (Hope) Ching: Fl. E. Himal. **2**: 213 (1971)—Banerji in Candollea **27**: 276 (1972).

NEPAL. Dhankuta-Nigale, 1300–1600 m (Jun. 4, 1972); Phulchoki, ca 1600 m (Jul. 15, 1972).

DARJEELING. East Side, 2100 m (Jul. 23, 1972); Rimbick-Palmajua, 1500–2200 m (Aug. 6, 1972); Batasi-Mani Bhanjyang, 2000–2100 m (Aug. 9, 1972).

Distr. Himalaya, Tonkin, and S.W. China.

Thelypteris squamistipes (Clarke) Ching in Bull. Fan Mem. Inst. Biol. **6**: 281 (1936).

Polypodium appendiculatum var. *squamistipes* Clarke in Tr. Linn. Soc. II. Bot. **1**: 543, t. 79, f. 2 (1880).

DARJEELING. Palmajua, 2200 m (Aug. 7, 1972).

Distr. Formerly known only by the type collection from Darjeeling.

Thelypteris Torresiana (Gaud.) Alston: Fl. E. Himal. 486 (1966).

NEPAL. Dharan-Sanguri Bhanjyang, ca 500 m (Jun. 2, 1972).

DARJEELING. Tista, 400 m (Aug. 10, 1972).

Distr. S.E. Asia to Australia and also naturalized in N. America.

Thelypteris xyloides (Kunze) Ching: Fl. E. Himal. 486 (1966); **2**: 213 (1971).

NEPAL. Bir Gaon-Dingla, 1000–1600 m (Jul. 1, 1972).

Woodsia Andersoni (Bedd.) Christ in Mém. Soc. Bot. France **1**: 45 (1905)—D. Brown in Beih. Nov. Hedw. **16**: 102, pl. 29 (1956).

Gymnogramme Andersoni Bedd., Ferns Brit. Ind., pl. 190 (1868); Handb. 382, f. 219 (1883).

NEPAL. Topke Gola-Jalang Chhyongo, 4000 m (Jun. 20, 1972).

Distr. Himalaya, about 4000 m alt.

Woodsia cyclobola Hand.-Mzt.: H. Ito in Fl. E. Himal. 486 (1966).

NEPAL. Saju Pokhari-Topke Gola, 3600–4400 m (Jun. 16, 1972).

Woodsia elongata Hook., Sp. Fil. **1**: 62 (1844)—D. Brown in Beih. Nov. Hedw. **16**: 80, pl. 14 (1956)—Alston & Bonner in Candollea **15**: 213 (1956).

NEPAL. Phulchoki, 2200–2700 m (May 28, 1972); Thudam, 3400 m (Jun. 22, 1972); Lama Chungbu-Thudam, 3400–4200 m (Jun. 24, 1972); Singum Gompa-Gosainkund, 3200–4200 m (Aug. 23, 1972).

DARJEELING. Sandakphu, 3600 m (Aug. 1, 1972); Sandakphu-Phalut, 3200–3600 m (Aug. 2, 1972).

BLECHNACEAE

Woodwardia unigemmata (Makino) Nakai: H. Ito in Fl. E. Himal. 486 (1966); **2**: 214 (1971).

NEPAL. Phulchoki, 2200–2700 m (May 28, 1972); Papung–Bir Gaon, 1600–2000 m (Jun. 30, 1972).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972); Phalut–Raman, ca 2000 m (Aug. 4, 1972).

ASPLENIACEAE

Asplenium bullatum Wall. ex Mett., Aspl. 150 (1859).

A. bulbiferum Forst. sensu Bedd., Handb. 159 (1883), p.p.

A. pseudolaserpitiiifolium Ching ex Tard. et Ching sensu H. Ito in Fl. E. Himal. 488 (1966); **2**: 215 (1971).

NEPAL. Phulchoki, 2200–2700 m (May 28, 1972).

DARJEELING. Tista–Lopchu, ca 600 m (Aug. 10, 1972).

Distr. Himalaya, Tonkin, S.W. China, and Formosa.

Asplenium cheilosorum Kunze: H. Ito in Fl. E. Himal. 486 (1966); **2**: 214 (1971).

DARJEELING. Batasi–Mani Bhanjyang, 2000–2100 m (Aug. 9, 1972); Lopchu, ca 800 m (Aug. 10, 1972).

Distr. Ceylon, S. India, Himalaya, China, Burma, Indo-China, Thailand, Malaysia throughout, and north to S. Japan.

Asplenium Dalhousiae Hook.: Fl. E. Himal. 487 (1966); **2**: 214 (1971).

DARJEELING. Tonglu–Sandakphu, ca 2800 m (Jul. 31, 1972).

Distr. Africa, Afghanistan, and Himalaya.

Asplenium ensiforme Wall. ex Hook. et Grev.: Fl. E. Himal. 487 (1966); **2**: 214 (1971)–Banerji in Candollea **27**: 276 (1972).

NEPAL. Phulchoki, 2200–2700 m (May 28 & Jul. 15, 1972); Sinduwa–Bhalukhop, 2900 m (Jun. 5, 1972); Basantapur–Chitre, 2300–2400 m (Jul. 7, 1972); Mangen–Khodang Danda, 2500–3100 m (Aug. 28, 1972); Khodang Danda–Latsu, 2100–2500 m (Aug. 29, 1972); Bhorlang–Sundarijar, 1400–2400 m (Aug. 31, 1972).

DARJEELING. Observatory Hill, 2200 m (Jul. 24, 1972); Phalut–Raman, ca 2300 m (Aug. 4, 1972).

Distr. Africa, Ceylon, Himalaya, Burma, Thailand, Indo-China, S.W. China, Formosa, and S. Japan.

Asplenium Finlaysonianum Wall. ex Hook., Ic. Pl. t. 937 (1854).

Hemidictyum Finlaysonianum (Wall. ex Hook.) Moore, Ind. Fil. L (1857)–Bedd., Handb. 195, f. 96 (1883).

Asplenium macrophyllum Sw. sensu H. Ito in Fl. E. Himal. 488 (1966).

NEPAL. Illam–Ranga Pani, 1200–700 m (Dec. 8, 1963); Ranga Pani–Ghorwa, 700–300 m (Dec. 9, 1963); Ghorwa–Sanichare, 300–200 m (Dec. 10, 1963).

Distr. E. Himalaya.

Asplenium laciniatum Don: Fl. E. Himal. 215 (1966); **2**: 215 (1971).

NEPAL. Shewaden–Papung, ca 2200 m (Jun. 29, 1972).

DARJEELING. Palmajua, 2200 m (Aug. 7, 1972).

Asplenium tenuifolium Don: Fl. E. Himal. 488 (1966); **2**: 215 (1971).

DARJEELING. Ubayuri-dani, 2200 m (Jul. 25, 1972).

Asplenium unilaterale Lam.: Fl. E. Himal. 489 (1966); **2**: 215 (1971).

NEPAL. Shewaden-Papung, ca 2400 m (Jun. 29, 1972).

DARJEELING. Raman-Rimbick, 1900-2400 m (Aug. 5, 1972); Batasi-Mani Bhanjyang, 2000-2100 m (Aug. 9, 1972).

Distr. Palaeotropics.

var. **udum** Atkins: Clarke in Tr. Linn. Soc. II. Bot. **1**: 481 (1880)-Bedd., Handb. 153 (1883).

Asplenium resectum var. *decurrens* Bedd., Suppl. Ferns 10, t. 357 (1876).

DARJEELING. Phalut-Raman, ca 2100 m (Aug. 4, 1972); Batasi-Mani Bhanjyang, 2000-2100 m (Aug. 9, 1972).

Distr. var. Himalaya, Tonkin, Formosa, and S. Japan.

Asplenium varians Wall. ex Hook. et Grev.: Fl. E. Himal. 489 (1966); **2**: 215 (1971).

NEPAL. Topke Gola-Shewaden, ca 3000 m (Jun. 28, 1972); Phulchoki, 2200-2700 m (Jul. 15, 1972).

Asplenium Yoshinagae Makino, Phan. Pterid. Jap. Ic. Ill. **1**: pl. 64 (1900).

A. indicum Sledge: Fl. E. Himal. 487 (1966); **2**: 214 (1971).

A. laciniatum var. *planicaule* Mett.: Banerji, l.c. 276 (1972).

NEPAL. Tute, 2300 m (Jun. 6, 1972); Phulchoki, ca 2300 m (Jul. 15, 1972); Sim Chotala-Gram, 900-1900 m (Aug. 20, 1972); Bhorlang-Sundarijar, 1400-2400 m (Aug. 31, 1972).

DARJEELING. Observatory Hill, 2200 m (Jul. 24, 1972); Phalut-Raman, ca 2200 m (Aug. 4, 1972).

Distr. Madagascar, Ceylon, S. India, Himalaya and China to continental S.E. Asia, Philippines, Formosa, and S. Japan.

Sledge proposed a new name for *A. planicaule* Wall. ex Mett. non Lowe, admitting the area of this species to Japan (as variety). *Asplenium Yoshinagae* is a valid name and stands as correct for this species unless the Indian plants are distinguished specifically from the Japanese. At present I can not distinguish any variation of taxonomic recognition for the plants belonged to this species even in a varietal rank.

POLYPODIACEAE

Aglaomorpha coronans (Wall. ex Mett.) Copel.: Tagawa in Fl. E. Himal. 489 (1966); **2**: 215 (1971).

Pseudodrynaria coronans (Wall.) Ching: Banerji in Candollea **27**: 279 (1972).

NEPAL. Dingla-Doban, 800-1000 m (Jul. 2, 1972).

Arthromeris himalayensis (Hook.) Ching: Fl. E. Himal. 489 (1966); **2**: 215 (1971)-Banerji, l.c. 277 (1972).

NEPAL. Topke Gola-Shewaden, ca 2800 m (Jun. 28, 1972); Mewa Khola-Papung, ca 2200 m (Jun. 29, 1972).

DARJEELING. Tonglu-Sandakphu, ca 2800 m (Jul. 31, 1972); Raman-Rimbick, 1900-2400 m (Aug. 5, 1972).

Distr. E. Himalaya, W. China, and N. Burma.

Arthromeris Lehmannii (Mett.) Ching: Fl. E. Himal. 490 (1966); **2**: 215 (1971).

Arthromeris lungtauensis Ching: Fl. E. Himal. 490 (1966).

NEPAL. Chitre-Basantapur, 2300-2400 m (Jun. 6, 1972); Mewa Khola-Papung, ca 2200 m (Jun. 29, 1972)*.

DARJEELING. Kalimpong, 1300 m (Jun. 19, 1960-T); Happy Valley, 1900 m (Jun. 26, 1960-T); Victoria Fall, 2100 m (Jul. 24, 1972)*; Tonglu-Sandakphu, ca 2800 m (Jul. 31, 1972)*; Phalut-Raman, ca 2400 m (Aug. 4, 1972)*; Raman-Rimbick, 1900-2400 m (Aug. 5, 1972)*; Batasi-Mani Bhanjyang, 2000-2100 m (Aug. 9, 1972).

Arthromeris lungtauensis is a hairy form of this species and has no peculiarity except for that character. The specimens with an asterisk in the above list are those with hairs in various density and show that the nominal species is not separable from *A. Lehmannii* in specific rank.

Arthromeris tatsienensis (Fr. et Bureau ex Christ) Ching in Contr. Inst. Bot. Nat. Acad. Peiping **2**: 93 (1933).

Polypodium tatsienense Fr. et Bureau ex Christ in Bull. Soc. Fr. 52. Mém. **1**: 19 (1905).

NEPAL. Dhankuta, ca 1200 m (Oct. 19, 1963-T).

Distr. E. Nepal, N. Thailand, and S.W. China.

Arthromeris Wallichiana (Spr.) Ching: Fl. E. Himal. 490 (1966); **2**: 216 (1971)-Banerji, l.c. 277 (1972).

NEPAL. Mure-Sinduwa, 2100 m (Jun. 5, 1972); Mewa Khola-Papung, ca 2200 m (Jun. 29, 1972); Tute-Basantapur, 2300 m (Jul. 7, 1972); Phulchoki, 2200-2700 m (Jul. 15, 1972); Gram-Dunche, 1900-2000 m (Aug. 21, 1972); Bhorlang-Sundarijar, 1400-2400 m (Aug. 31, 1972).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972); Phalut-Raman, ca 2200 m (Aug. 4, 1972); Raman-Rimbick, 1900-2400 m (Aug. 5, 1972).

Arthromeris Wardii (Clarke) Ching: Fl. E. Himal. **2**: 216 (1971).

NEPAL. Bir Gaon-Saju Khola, 1400-1600 m (Jul. 1, 1972).

This specimen is a little different from the typical form of the species in: pinnae broadly lanceolate, the base gradually narrowing towards broadly cuneate base, the margin distinctly undulate, the sori sometimes in two irregular rows. In general habit this is similar to a smaller form of *A. Wallichiana* or in frond form to *A. Lehmannii*, though the soral character is different from these species. We have at hand the same plant collected by Levinge from Observatory Hill at Darjeeling.

Crypsinus ebenipes (Hook.) Copel.: Fl. E. Himal. 491 (1966).

Phymathodes ebenipes (Hook.) Ching: Banerji in Candollea **27**: 278 (1972).

NEPAL. Sinduwa-Bhalukhop, 2100-2400 m (Jun. 5, 1972); Chitre-Basantapur, 2300-2400 m (Jun. 6, 1972); Dor-Tinjure, 2600-2900 m (Jun. 7, 1972); Thudam, 3400 m (Jun. 22, 1972); Topke Gola-Shewaden, ca 2800 m (Jun. 28, 1972); Shewaden-Mewa Khola, ca 2300 m (Jun. 29, 1972); Chauke-Tinjure Phedi, 2700 m (Jul. 6, 1972); Basantapur-Chitre, 2300-2400 m (Jul. 7, 1972); Phulchoki, 2200-2700 m (Jul. 15, 1972).

DARJEELING. Ubayuri-dani, 2200 m (Jul. 25, 1972); Tonglu-Sandakphu, 2800-3600 m (Jul. 31, 1972); Phalut-Raman, ca 2300 m (Aug. 4, 1972).

Crypsinus erythrocarpus (Mett. ex Kuhn) Tagawa: Fl. E. Himal. 491 (1966).

NEPAL. Topke Gola-Shewaden, ca 3000 m (Jun. 28, 1972).

Distr. E. Himalaya.

Crypsinus Griffithianus (Hook.) Copel.: Fl. E. Himal. 491 (1966); **2**: 216 (1971).

NEPAL. Shewaden-Mewa Khola, ca 2300 m (Jun. 29, 1972).

DARJEELING. Phalut-Raman, ca 2300 m (Aug. 4, 1972).

Distr. Himalaya, S.W. China to S. Japan, and south to W. Malaysia.

Crypsinus malacodon (Hook.) Copel.: Fl. E. Himal. 491 (1966); **2**: 216 (1971).

Phymathodes malacodon (Hook.) Ching: Banerji, l.c. 278 (1972).

NEPAL. Dor-Chauke, 2600-2900 m (Jun. 7, 1972); Topke Gola, 3600 m (Jun. 18, 1972); Thudam, 3400 m (Jun. 22, 1972); Thudam-Kipudonsu, ca 4000 m (Jun. 26, 1972); Singum Gompa-Gosainkund, 3200-4200 m (Aug. 23, 1972); Thale Patil-Mangen, 3100-3400 m (Aug. 27, 1972)

DARJEELING. Sandakphu, 3600 m (Aug. 1, 1972).

In some specimens the sori have a tendency to elongate.

Crypsinus nigrovenius (Christ) K. Iwats., comb. nov.

Polypodium shensiense var. *nigrovenium* Christ in Bull. Acad. Géogr. Bot. **15**: 106 (1906).

Polypodium nigrovenium (Christ) Ching in Bull. Fan Mem. Inst. Biol. **1**: 150 (1930).

Phymathodes nigrovenia (Christ) Ching in Contr. Inst. Bot. Nat. Acad. Peiping **2**: 79 (1933).

NEPAL. Hile Chok-Gopte, 3500 m (Jun. 12, 1972).

Distr. First record for E. Nepal; formerly known in Tonkin and S.W. China (Szechuan & Hupeh).

Crypsinus oxylobus (Wall. ex Kunze) Sledge: Fl. E. Himal. 492 (1966).

NEPAL. Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972); Bir Gaon-Saju Khola, 1400-1600 m (Jul. 1, 1972); Bhorlang-Sundarijar, 1400-2400 m (Aug. 31, 1972).

Distr. Himalaya, N. Thailand, and S.W. China.

Crypsinus quasidivaricatus (Hayata) Ching: Fl. E. Himal. 492 (1966).

NEPAL. Dor-Tinjure, 2600-2900 m (Jun. 7, 1972); Shewaden-Mewa Khola, ca 2300 m (Jun. 29, 1972); Dor-Tute, 2300-2600 m (Jul. 7, 1972); Phulchoki, 2200-2700 m (Jul. 15, 1972).

DARJEELING. Mani Bhanjyang-Tonglu, 2000-3000 m (Jul. 30, 1972).

Crypsinus Stewartii (Bedd.) Copel.: Fl. E. Himal. 492 (1966); **2**: 217 (1971).

NEPAL. Chitre-Basantapur, 2300-2400 m (Jun. 6, 1972); Dor-Tinjure, 2600-2900 m (Jun. 7, 1972); Shewaden-Mewa Khola, ca 2400 m (Jun. 29, 1972); Dor-Tute, 2300-2600 m (Jul. 7, 1972); Phulchoki, 2200-2700 m (Jul. 15, 1972); Khodang Danda-Latsu, 2100-2500 m (Aug. 29, 1972).

DARJEELING. Mani Bhanjyang-Tonglu, 2000-3000 m (Jul. 30, 1972); Phalut-Raman, ca 2300 m (Aug. 4, 1972).

Ctenopteris subfalcata (Blume) Kunze: Fl. E. Himal. 492 (1966)-Banerji, l.c. 280 (1972).

NEPAL. Tinjure-Tinjure Phedi, 2700-2900 m (Jun. 7, 1972); Mul Pokhari-Lamo Pokhari, 2900 m (Jun. 8, 1972); Lamo Pokhari, 2900 m (Jun. 9, 1972); Topke Gola-Shewaden, ca 3000 m (Jun. 28, 1972); Shewaden-Mewa Khola, ca 2600 m (Jun. 29, 1972); Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972); Bhorlang-Sundarijar, 1400-2400 m (Aug. 31, 1972).

DARJEELING. Tonglu–Sandakphu, ca 3000 m (Jul. 31, 1972); Palmajua–Batasi, 2100–2200 m (Aug. 8, 1972).

Distr. Ceylon, India, Himalaya, N. Thailand, S. China, and Formosa.

Ctenopteris subminuta in W. Malaysia to Peninsular Thailand seems to be identical with this species.

Drynaria Mollis Bedd.: Fl. E. Himal. 2: 217 (1971)–Banerji in *Candollea* 27: 277 (1972).

NEPAL. Sinduwa–Bhalukhop, 2100–2400 m (Jun. 5, 1972); Mangalbare–Mul Pokhari, 2600–2900 m (Jun. 8, 1972); Dor–Tute, 2300–2600 m (Jul. 7, 1972); Phulchoki, 2200–2700 m (Jul. 15, 1972); Dunche–Singum Gompa, 1900–3200 m (Aug. 22, 1972).

DARJEELING. Phalut–Raman, ca 2200 m (Aug. 4, 1972).

Drynaria propinqua (Wall. ex Mett.) J. Smith ex Bedd.: Fl. E. Himal. 493 (1966); 2: 217 (1971).

NEPAL. Sanguri Bhanjyang, ca 1250 m (Jun. 2, 1972); Papung–Bir Gaon, 1600–2000 m (Jun. 30, 1972); Bir Gaon–Saju Khola, 1400–1600 m (Jul. 1, 1972).

DARJEELING. Raman–Rimbick, 1900–2400 m (Aug. 4, 1972).

Distr. Himalaya, Burma, N. Thailand, Indo-China, and S. China.

Drynaria quercifolia (L.) J. Smith: Fl. E. Himal. 493 (1966).

NEPAL. South of Dharan, 200 m (Jun. 1, 1972).

DARJEELING. Tista, ca 400 m (Aug. 10, 1972).

Lemmaphyllum rostratum (Bedd.) Tagawa: Fl. E. Himal. 493 (1966); 2: 217 (1971).

DARJEELING. Batasi–Mani Bhanjyang, 2000–2100 m (Aug. 9, 1972).

Lepisorus bicolor (Takeda) Ching: Fl. E. Himal. 2: 217 (1971).

NEPAL. Thudam, 3400 m (Jun. 22, 1972); Chauke–Dor, 2600–2900 m (Jul. 6, 1972); Phulchoki, 2200 m (Jul. 15, 1972).

DARJEELING. Mani Bhanjyang–Tonglu, 2000–3000 m (Jul. 30, 1972).

Lepisorus contortus (Christ) Ching: Fl. E. Himal. 493 (1966).

NEPAL. Bilbatay Bhanjyang, ca 2200 m (Oct. 25, 1963); Taplejung, ca 1700 m (Nov. 2, 1963); Taplejung–Garhi Danra, 2000–2200 m (Nov. 3, 1963); Tuwa–Taplethok, 1400–1800 m (Nov. 5, 1963); Yamphodin–Ghatte, 1600–2100 m (Nov. 18, 1963); Ghatte–Khebang, 1600–2400 m (Nov. 19, 1963); Birwa–Yektin, 1400–2800 m (Nov. 28, 1963); Gokarna, Kathmandu, 1400 m (Jun. 22, 1967); Godawari–Phulchoki, 2100–3000 m (May 29, 1969); Chitre–Basantapur, 2300–2400 m (Jun. 6, 1972); Dor–Chauke, 2600–2900 m (Jun. 7, 1972); Mewa Khola–Papung, ca 2200 m (Jun. 29, 1972).

DARJEELING. Batasi–Mani Bhanjyang, 2000–2100 m (Aug. 9, 1972).

SIKKIM. Gangtok–Saramsa Medicinal Garden, 800 m (Jun. 17, 1960).

BHUTAN. Phuntsholing–Chimakhothi, 900–2350 m (Apr. 4, 1967).

Lepisorus loriformis (Wall. ex Mett.) Ching: Fl. E. Himal. 494 (1966); 2: 217 (1971).

NEPAL. Phulchoki, 2200–2700 m (May 28 & Jul. 15, 1972); Tute, 2300 m (Jun. 6, 1972); Tinjure–Tinjure Phedi, 2700–2900 m (Jun. 7, 1972); Topke Gola–Shewaden, ca 2700 m & ca 3000 m (Jun. 28, 1972); Bir Gaon–Saju Khola, 1400–1600 m (Jul. 1, 1972); Chauke, 2700 m (Jul. 5, 1972).

DARJEELING. Tonglu–Sandakphu, ca 2800 m (Jul. 31, 1972); Phalut–Raman, ca 2300 m (Aug. 4, 1972).

Lepisorus nepalensis K. Iwats., sp. nov.

[Fig. 23]

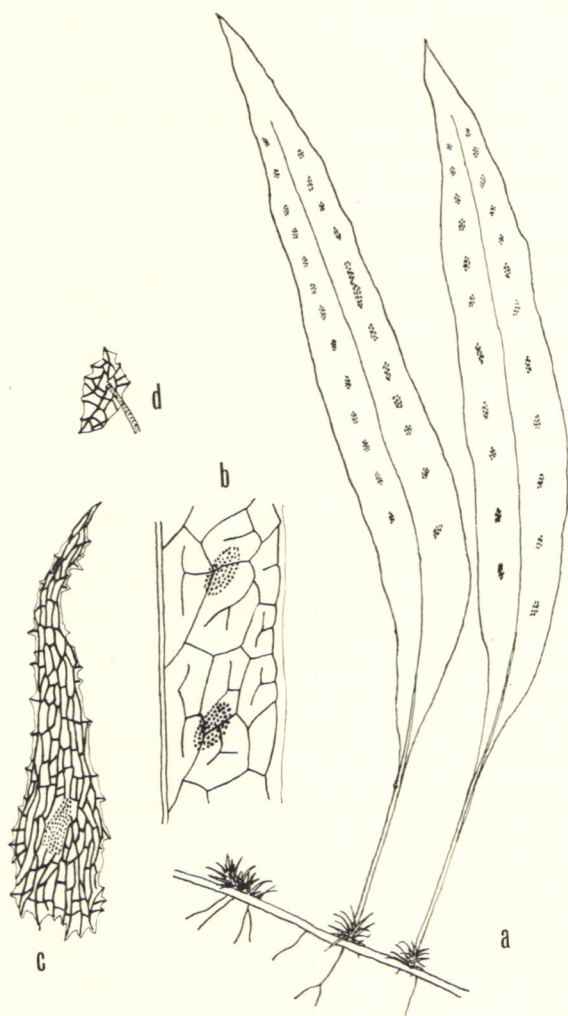


Fig. 23. *Lepisorus nepalensis* K. Iwats., sp. nov. Kanai et al. 725227. a. Plant, $\times 1$, b. Venation, $\times 1.5$, c. Rhizome scale, $\times 30$, d. Paraphysis, $\times 30$.

Rhizomate tenui, longe repente, 1.0–1.5 mm crasso, paleis rhizomatis clathratis, concoloribus, margine dentatis, frondibus lanceolatis, infra medium latissimis, pallide viridibus, in sicco fuscis, tenuibus, 6–12(–22) cm longis, 0.8–1.2(–2.5) cm latis, soris medialibus vel subcostularibus, rotundatis.

Rhizome long creeping, 1.0–1.5 mm in diameter, dark brown, densely covered with the scales, bearing fronds usually more than 1 cm apart from the next ones; rhizome scales oblong subtriangular, peltately attached, round at base, gradually narrowing towards acute apex, 2–6 mm long, to 0.8 mm broad at the broadest portion, concolorously fusco-brown, clathrate, with subquadrangular cells, toothed at margin with distinct septa of marginal cells. Stipes 2–3(–6) cm long, stramineous, scaly at base, very sparsely minute scaly upwards; laminae simple, nearly entire, lanceolate, gradually narrowing towards attenuate base, broadest at

middle to lower one-third portion, narrowing upwards to acuminate apex, with narrow cartilaginous membrane at edge, 6–12(–22) cm long, 0.8–1.2(–2.5) cm broad; midribs distinct throughout, inconspicuously raised on both surfaces, green but blackish in dried specimens; lateral veins hardly visible, veins reticulate, areoles usually three in rows at each side of midribs, with variously branched included veinlets; the surfaces with scales similar to rhizome scales but smaller and usually more irregular in form with distinct teeth at margin; texture papyraceous and green to pale green in living condition, but herbaceous and dark brown to blackish in dried specimens. Sori compital, round to oblong, medial to a little nearer to midribs, in a single row at each side of midribs, superficial, usually 1–2 mm in diameter, covered with the scales similar to those on laminae and umbrella-shaped paraphyses.

NEPAL. Kyangjing, Langtang Khola, 3600–3900 m (Jul. 14, 1970); Hile Chok–Ghopte, 3500 m, on moist cliff along path in shade (Jun. 12, 1972, no. 725186); Topke Gola, 3600 m, on stone-wall in light shade in village (Jun. 18, 1972, no. 725220); Topke Gola–Jalang Chhyongo, ca 3800 m, on moist cliff in shade (Kanai, Ohashi, K. Iwatsuki, Ohba, Z. Iwatsuki & Shakya, Jun. 20, 1972, no. 725227. Holotype in τ); Thudam, 3400 m, on moist rock in forest along river (Jun. 22, 1972, no. 725235); Thudam–Lama Chungbu, 3400–4200 m, on mossy rock in dense forest along river (Jun. 23, 1972, no. 725248); Thudam–Kipudonsu, ca 4000 m, on moist cliff along path (Jun. 26, 1972, no. 725270).

This is a distinct species with deciduous fronds and confined to the area 3400–4000 m alt. in E. Himalaya. No close relative can safely be given to the present new species, though this belongs to the group of *L. Scolopendrium* in broader sense. I have never seen the type of *L. kuchenensis* from Yao Shan, but this seems to have several characters common to our species, as far as the descriptions and notes given to *L. kuchenensis* are concerned.

Lepisorus nudus (Hook.) Ching: Fl. E. Himal. 494 (1966); 2: 217 (1971)–Banerji in Candollea 27: 278 (1972).

NEPAL. Sinduwa, ca 1100 m (Oct. 24, 1963); Bilbatay Bhanjyang, ca 2200 m (Oct. 25, 1963); Taplejung, ca 1700 m (Nov. 2, 1963); Khebang–below Siling Tzokupa, 1700–2100 m (Nov. 20 & 22, 1963); Tharpu–near Chyangthaphu, 1100–1200 m (Nov. 26, 1963); near Chyangthaphu–Birwa, 1200–2400 m (Nov. 27, 1963); Godawari–Phulchoki, 1600–2500 m (Jun. 26, 1967); Thale–Sim Chotala, 720–2200 m (Jun. 6, 1969); Kuwa Pani–Hile, 1900 m (Jun. 4, 1972)*; Sinduwa–Bhalukhop, 2100–2400 m (Jun. 5, 1972); Chitre–Basantapur, 2300–2400 m (Jun. 6, 1972); Bir Gaon–Saju Khola, 1400–1600 m (Jul. 1, 1972)*; Chitre–Hile, 1900–2400 m (Jul. 8, 1972); Phulchoki, 2200–2700 m (Jul. 15, 1972).

DARJEELING. Observatory Hill, 2200 m (Jul. 24, 1972)*.

Distr. Himalaya, N. Thailand, and China.

The specimens with an asterisk are different from the typical form in rhizome scales not so distinctly clathrate consisting in smaller cells with thinner internal walls, more or less bicoloured with brown central portion and the paler margin.

Lepisorus Scolopendrium (Ham. ex Don) Tagawa: Fl. E. Himal. 494 (1966); 2: 218 (1971).

NEPAL. Dhankuta–Nigale, 1300–1600 m (Jun. 4, 1972); Sinduwa–Bhalukhop, 2100–2400 m (Jun. 5, 1972); Chitre–Basantapur, 2300–2400 m (Jun. 6, 1972); Phulchoki,

2200–2700 m (Jul. 15, 1972); Gram–Dunche, 1900–2000 m (Aug. 21, 1972); Mangan–Khodang Danda, 2500–3100 m (Aug. 28, 1972); Khodang Danda–Latsu, 2100–2500 m (Aug. 29, 1972).

DARJEELING. Observatory Hill, 2200 m (Jul. 24, 1972); Mani Bhanjyang–Tonglu, 2000–3000 m (Jul. 30, 1972); Sandakphu–Phalut, 3200–3600 m (Aug. 2, 1972); Palmajua–Batasi, 2100–2200 m (Aug. 8, 1972); Lopchu–Tista, ca 600 m (Aug. 10, 1972).

Distr. Himalaya, Tibet, N. Thailand, and Yunnan.

Lepisorus subconfluens Ching in Bull. Fan Mem. Inst. Biol. **4**: 85 (1933).

BHUTAN. Rukubi–Neylong, 2400–2800 m (Apr. 14, 1967); Yabu Thang–Laya, 3400–3850 m (May 16, 1967).

Distr. Bhutan, N. Thailand, and S.W. China (Yunnan).

Lepisorus sublinearis (Baker ex Takeda) Ching: Fl. E. Himal. 494 (1966); **2**: 218 (1971).

NEPAL. Sanguri Bhanjyang, ca 1250 m (Jun. 2, 1972); Hile–Chitre, 1900–2400 m (Jun. 5, 1972).

DARJEELING. Lopchu, ca 800 m (Aug. 10, 1972).

Distr. Himalaya, Burma, Thailand, Indo-China, and Yunnan.

Lepisorus suboligolepidus Ching in Bull. Fan Mem. Inst. Biol. **4**: 77 (1933).

BHUTAN. Chamsa–Yabu Thang, 3200–3700 m (May 15, 1967).

Distr. Bhutan, N. Thailand, S.W. China (Yunnan), and Formosa.

Loxogramme chinensis Ching: Fl. E. Himal. **2**: 218 (1971).

DARJEELING. Palmajua, 2200 m (Aug. 7, 1972); Palmajua–Batasi, 2100–2200 m (Aug. 8, 1972).

Distr. Himalaya, Upper Burma, N. Thailand, Tonkin, and S. & S.W. China.

Loxogramme Duclouxii Christ: Fl. E. Himal. **2**: 218 (1971).

NEPAL. Mure–Sinduwa, 2100 m (Jun. 5, 1972); Chitre–Dor, 2300–2600 m (Jun. 6, 1972).

DARJEELING. Ubayuri-dani, 2200 m (Jul. 25, 1972); Batasi–Mani Bhanjyang, 2000–2100 m (Aug. 9, 1972); Thame–Lopchu, ca 900 m (Aug. 10, 1972).

Distr. Himalaya, N. Thailand, Yunnan, and Japan.

Loxogramme involuta (Don) Presl: Fl. E. Himal. 495 (1966); **2**: 218 (1971)–Banerji in Candollea **27**: 277 (1972).

NEPAL. Bir Gaon–Saju Khola, 1400–1600 m (Jul. 1, 1972); Phulchoki, 2200–2700 m (Jul. 15, 1972); Sim Chotala–Gram, 900–1900 m (Aug. 20, 1972); Dunche–Singum Gumpa, 1900–3200 m (Aug. 22, 1972).

DARJEELING. Lopchu–Tista, ca 600 m (Aug. 10, 1972).

There are two forms of this species; one with narrower scales and the costa raised on upper surface, and the other with broader scales and the costa hardly raised on the upper surface of leaves.

Microsorium cuspidatum (Don) Tagawa: Fl. E. Himal. 495 (1966); **2**: 218 (1971).

NEPAL. Sanguri Bhanjyang–Dhara Pani, ca 1250 m (Jun. 2 & Jul. 10, 1972); Bir Gaon–Saju Khola, 1400–1600 m (Jul. 10, 1972).

DARJEELING. Lopchu–Tista, ca 600 m (Aug. 10, 1972).

Microsorium membranaceum (Don) Ching: Fl. E. Himal. 495 (1966)–Banerji, l.c. 278 (1972).

NEPAL. Sanguri Bhanjyang, 1250 m (Jun. 2, 1972); Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972); Phulchoki, 2200-2700 m (Jul. 15, 1972); Sim Chotala-Gram, 900-1900 m (Aug. 20, 1972).

DARJEELING. Lloyd Botanic Garden, 2100 m (Jul. 26, 1972); Rimbick-Palmajua, 1500-2200 m (Aug. 6, 1972); Batasi-Mani Bhanjyang, 2000-2100 m (Aug. 9, 1972).

Microsorium hymenodes (Kunze) Ching: Fl. E. Himal. **2**: 218 (1971).

NEPAL. Phulchoki, ca 1500 m (Jul. 15, 1972).

Neocheiropteris normalis (Don) Tagawa: Fl. E. Himal. 496 (1966); **2**: 218 (1971).

DARJEELING. Palmajua, 2200 m (Aug. 7, 1972); Batasi-Mani Bhanjyang, 2000-2100 m (Aug. 9, 1972).

Distr. Himalaya, Burma, Thailand, Malaya, Sumatra, Indo-China, and Yunnan.

Polypodium amoenum Wall. ex Mett.: Fl. E. Himal. 496 (1966); **2**: 219 (1971), cum f. *pilosum*.

NEPAL. Phulchoki, 2200-2700 m (May 28, 1972); Sanguri Bhanjyang-Dhara Pani, ca 1250 m (Jun. 2, 1972); Sinduwa-Bhalukhop, 2100-2400 m (Jun. 5, 1972); Chitre-Basantapur, 2300-2400 m (Jun. 6, 1972); Shewaden-Mewa Khola, ca 2300 m (Jun. 29, 1972); Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972); Basantapur-Chitre, 2300-2400 m (Jul. 7, 1972); Sim Chotala-Gram, 900-1900 m (Aug. 20, 1972); Mangen-Khodang Danda, 2500-3100 m (Aug. 28, 1972); Khodang Danda-Latsu, 2100-2500 m (Aug. 29, 1972).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972); East Side, 2100 m (Jul. 23, 1972); Mani Bhanjyang-Tonglu, 2000-3000 m (Jul. 30, 1972); Phalut-Raman, ca 2300 m (Aug. 4, 1972).

Distr. Himalaya, Burma, N. Thailand, Indo-China, China, and Formosa.

Polypodium argutum Wall. ex Hook: Fl. E. Himal. 497 (1966); **2**: 219 (1971)-Banerji in Candollea **27**: 279 (1972).

NEPAL. Sinduwa-Bhalukhop, 2100-2400 m (Jun. 5, 1972); Chitre-Basantapur, 2300-2400 m (Jun. 6, 1972); Mul Pokhari-Lamo Pokhari, 2900 m (Jun. 8, 1972); Chauke-Tinjure Phedi, 2700 m (Jul. 6, 1972); Phulchoki, 2200-2700 m (Jul. 15, 1972); Khodang Danda-Latsu, 2100-2500 m (Aug. 29, 1972); Bhorlang-Sundarijar, 1400-2400 m (Aug. 31, 1972).

DARJEELING. Tonglu-Sandakphu, ca 2800 m (Jul. 31, 1972); Phalut-Raman, ca 2200 m (Aug. 4, 1972).

Distr. Himalaya, Thailand, Indo-China, China, Formosa, and Philippines.

Polypodium Atkinsoni C. Chr., Ind. Fil. 511 (1906)-Ching in Contr. Inst. Bot. Nat. Acad. Peiping **2**: 48 (1933)-Alston & Bonner in Candollea **15**: 205 (1956)-Banerji, l.c. 279 (1972).

Polypodium Hendersoni Atkins. apud Baker in Hook., Syn. Fil. 511 (1874), non Lowe (1858).

Goniophlebium Hendersoni Bedd., Ferns Brit. Ind. Suppl. 21, pl. 384 (1876); Handb. 320 (1883).

NEPAL. Topke Gola, 3600 m (Jun. 18, 1972); Thudam, 3400 m (Jun. 22, 1972); Topke Gola-Shewaden, ca 2800 m (Jun. 28, 1972); Gopte-Thale Patil, 3200-3500 m (Aug. 26, 1972).

DARJEELING. Sandakphu-Phalut, 3200-3600 m (Aug. 2, 1972).

Distr. E. Himalaya and Tibet.

Polypodium lachnopus Wall. ex Hook.: Fl. E. Himal. 497 (1966); **2**: 219 (1971).

NEPAL. Kuwa Pani-Hile, 1900 m (Jun. 4, 1972); Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972); Sim Chotala-Gram, 900-1900 m (Aug. 20, 1972); Dunche-Singum Gompa, 1900-3200 m (Aug. 22, 1972).

DARJEELING. East Side, 2100 m (Jul. 23, 1972).

Distr. Himalaya and S.W. China.

Polypodium microrhizoma Clarke ex Baker: Fl. E. Himal. 497 (1966).

NEPAL. Chitre-Basantapur, 2300-2400 m (Jun. 6, 1972); Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972); Basantapur-Chitre, 2300-2400 m (Jul. 7, 1972); Phulchoki, 2000-2700 m (Jul. 15, 1972); Mangen-Khodang Danda, 2500-3100 m (Aug. 28, 1972).

DARJEELING. East Birch Hill Road, 2100 m (Jul. 22, 1972); Ubayuri-dani, 2200 m (Jul. 25, 1972); Palmajua, 2200 m (Aug. 7, 1972).

Distr. Himalaya, Upper Burma, N. Thailand, S.W. China, and Formosa.

Polypodium subamoenum Clarke: Fl. E. Himal. 497 (1966).

NEPAL. Kokim Pokhari-Hati Surde, 3000-3600 m (Jun. 11, 1972); Topke Gola-She-waden, ca 3000 m (Jun. 28, 1972).

Pyrrhosia adnascens (Sw.) Ching: Fl. E. Himal. 497 (1966)-Banerji in Candollea **27**: 279 (1972).

NEPAL. South of Dharan, 200 m (Jun. 1, 1972); Saju Khola-Dingla, 1000-1400 m (Jul. 1, 1972).

Distr. Palaeotropics.

Pyrrhosia costata (Presl ex Bedd.) Tagawa et K. Iwats.: Fl. E. Himal. **2**: 219 (1971).

NEPAL. Dharan-Dhara Pani, 400-1300 m (Jun. 2, 1972); Mohamabedi Khola-Tamur Bridge, 300-400 m (Jun. 3, 1972); Bir Gaon-Saju Khola, 1400-1600 m (Jul. 1, 1972).

DARJEELING. Lopchu, ca 800 m (Aug. 10, 1972).

Distr. Himalaya, Upper Burma, N. Thailand, and Yunnan.

Pyrrhosia flocculosa (Don) Ching: Fl. E. Himal. 498 (1966); **2**: 219 (1971)-Banerji, l.c. 280 (1972).

NEPAL. Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972).

Pyrrhosia Heteractis (Mett. ex Kuhn) Ching: Fl. E. Himal. 498 (1966); **2**: 219 (1971).

DARJEELING. Tista, ca 400 m (Aug. 10, 1972).

Pyrrhosia Mannii (Gies.) Ching: Fl. E. Himal. 498 (1966); **2**: 219 (1971)-Banerji, l.c. 280 (1972).

NEPAL. Kathmandu, ca 1300 m (May 28, 1972); Dhara Pani, ca 1000 m (Jun. 3, 1972); Sinduwa-Bhalukhop, 2100-2400 m (Jun. 5, 1972); Papung-Bir Gaon, 1600-2000 m (Jun. 30, 1972); Dingla-Doban, 800-1000 m (Jul. 2, 1972); Sim Chotala-Gram, 900-1900 m (Aug. 20, 1972).

DARJEELING. Ubayuri-dani, 2200 m (Jul. 25, 1972); Palmajua, 2200 m (Aug. 7, 1972); Batasi-Mani Bhanjyang, 2000-2100 m (Aug. 9, 1972).

Pyrrhosia nuda (Gies.) Ching: Fl. E. Himal. 499 (1966).

NEPAL. Dingla-Doban, 800-1000 m (Jul. 2, 1972).

DARJEELING. Tista, ca 400 m (Aug. 10, 1972).

Distr. Himalaya, N. Thailand, and China.

Xiphopteris sikkimensis (Hieron.) Copel.: Fl. E. Himal. 499 (1966); **2**: 220 (1971).

NEPAL. Lamo Pokhari, 2900 m (Jun. 9, 1972); Topke Gola-Shewaden, ca 3200 m (Jun. 28, 1972).

VITTARIACEAE

Vittaria flexuosa Fée: H. Ito in Fl. E. Himal. 499 (1966); **2**: 220 (1971)—Banerji in Candollea **27**: 269 (1972).

V. himalayensis Ching : Fl. E. Himal. 500 (1966); **2**: 220 (1971), p.p.

NEPAL. Papung-Bir Gaon, 1600–2000 m (Jun. 30, 1972); Gram-Dunche, 1900–2000 m (Aug. 21, 1972).

DARJEELING. Observatory Hill, 2200 m (Jul. 24, 1972).

Distr. E. Himalaya, Burma, Thailand, Indo-China, S.W. China, Formosa, Japan, Korea, and south to Malaysia throughout to New Guinea.

Vittaria sikkimensis Kuhn in Linnaea **36**: 66 (1869)—Bedd., Handb. 406, f. 239 (1883)—Ching in Sinensia **1**: 180 (1931).

V. modesta Hand.-Mzt. sensu H. Ito in Fl. E. Himal. 500 (1966).

SIKKIM. Yoksam, 1700 m (May 17, 1960).

Distr. Sikkim, N. Thailand, and Yunnan.

Vittaria taeniophylla Copel.: Fl. E. Himal. 500 (1966).

V. himalayensis Ching: Fl. E. Himal. **2**: 220 (1971), p.p.—Banerji, l.c. 269 (1972).

V. mediosora Hayata: Fl. E. Himal. 500 (1966); **2**: 220 (1971).

NEPAL. Bhuspate Danra, ca 2600 m (Dec. 2, 1963); Sinduwa-Bhalukhop, 2100–2400 m (Jun. 5, 1972); Tute, 2300 m (Jun. 6, 1972); Dor-Chauke, 2600–2900 m (Jun. 7, 1972); Mangalbare-Mul Pokhari, 2600–2900 m (Jun. 8, 1972); Lamo Pokhari, 2900 m (Jun. 9, 1972); Kokim Pokhari-Hati Surde, 3000–3600 m (Jun. 11, 1972); Thudam, 3400 m (Jun. 25, 1972); Topke Gola-Shewaden, ca 3000 m (Jun. 28, 1972); Chauke-Tinjure Phedi, 2700 m (Jul. 7, 1972); Phulchoki, 2300 m (Jul. 15, 1972); Mangen-Khodang Danda, 2500–3100 m (Aug. 28, 1972); Khodang Danda-Latsu, 2100–2500 m (Aug. 29, 1972); Borlang-Sundarijar, 1400–2400 m (Aug. 31, 1972).

DARJEELING. Observatory Hill, 2200 m (Jul. 24, 1972); Tonglu-Sandakphu, ca 3000 m (Jul. 31, 1972); Rimbick-Palmajua, 1500–2200 m (Aug. 6, 1972).

Distr. E. Himalaya, Burma, N. Thailand, Yunnan, Formosa, and the Philippines.

Hayata described two species of this group in Formosa. The type of *V. mediosora* represents a plant bearing extremely narrow leaves of up to 3.5 mm in breadth. Contrary to this, the type of *V. arisanensis* is larger, to 60 cm long and 1.2 cm broad. In E. Himalaya this is a common species and varies to some extent in the size of leaves. We observed the variation of leaves as 2.8–12.0 mm in breadth in fully fertile leaves and to 70 cm in length. As in the case of *V. elongata*, *V. taeniophylla* is quite variable in size and we can not distinguish *V. arisanensis* and *V. mediosora* as distinct species. I have never examined the type of *V. himalayensis*, but am suggesting here that this also belongs to *V. taeniophylla*.

SALVINIACEAE

Azolla imbricata (Roxb.) Nakai: H. Ito in Fl. E. Himal. 500 (1966).
NEPAL. Bir Gaon-Saju Khola, 1400-1600 m (Jul. 1, 1972).

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Additions of ferns to the 2nd report of "Flora of Eastern Himalaya" (by Hiroshi Ito).

ASPIDIACEAE

Dryopteris chrysocoma (Christ) C. Chr.: H. Ito in Fl. E. Himal. 476 (1966).
BHUTAN. Dotanang-Thimphu, 2700-2450 m (May 28, 1967).

Dryopteris Harae H. Ito in Fl. E. Himal. 476, pl. 26 (1966).
BHUTAN. Chimakhothi-Phuntsholing, 2350-300 m (Jun. 2, 1967).

Dryopteris lepidopoda Hayata: Fl. E. Himal. 477 (1966).
BHUTAN. Rukubi-Neylong, 2800-2400 m (Apr. 14, 1967).

ASPLENIACEAE

Asplenium Rockii C. Chr. in Contr. U.S. Nat. Herb. **26**: 332 (1931).
BHUTAN. Bhotokha-Rinchu, 1450-1500 m (May 8, 1967).
Distr. Himalaya (a new record) and Thailand.