

## A List of Pteridophytes Herbarium Specimens<sup>1</sup> from Vanuatu, Collected in 1996 and 1997

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### ADIANTACEAE<sup>6</sup>

#### *Adiantum aneitense* Carruth. ex Seem.

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1700m alt., 7, Nov. 1996 (Iwashina 3084). Between Nokovula and 2nd Camp, Mt. Tabwemasana range, 1000m alt., 10, Nov. 1996 (Iwashina 3126). 2nd Camp to Mt. Vutimena, 540-1050m alt., 18, Oct. 1997 (Matsumoto 226).

#### *Adiantum diaphanum* Blume

EFATE. East foot of Mt. Bernier, 150-350m alt., 28, Oct. 1997 (Matsumoto 367).  
ESPIRITU SANTO. Nokovula, 1070m alt., 6, Nov. 1996 (Iwashina 3044).

#### *Adiantum malesianum* Ghatak

ESPIRITU SANTO. Along the Kerepua River, east of Kerepua, 1st Camp, 210m alt., 4, Nov. 1996 (Iwashina 3018).

Note: Sexual 64 spores formation in a sporangium.

#### *Adiantum philippense* L.

ESPIRITU SANTO. Between 2nd Camp and 1st Camp, Mt. Tabwemasana range, 600m alt., 10, Nov. 1996 (Iwashina 3140).

#### *Adiantum pubescens* Schkuhr

ESPIRITU SANTO. Along the Kerepua River, east of Kerepua, 1st Camp, 210m alt., 4, Nov. 1996 (Iwashina 3023). Between 2nd Camp and 1st Camp, Mt. Tabwemasana range, 600m alt., 10, Nov. 1996 (Iwashina 3140 and 3141).

### ASPLENIACEAE

#### *Asplenium amboinense* Willd.

ESPIRITU SANTO. Between 2nd Camp and 1st Camp, east ridge of Mt. Vutimele, 600m alt., 26, Nov. 1996 (Iwashina 3250).

#### *Asplenium australasicum* Hook.

ESPIRITU SANTO. Between 2nd Camp and 1st Camp, east ridge of Mt. Vutimele, 1000m alt.,

<sup>1</sup>All the specimens are conserved in TNS, and the duplicates will be sent to PVV.

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<sup>6</sup>Concept of the families used the system of Pichi-Sermolli (1977).

25, Nov. 1996 (Iwashina 3249). Nokovula, 1070m alt., 9, Nov. 1996 (Iwashina 3103). Point No. 2, east of Butmas, 300m alt., 8, Oct. 1997 (Matsumoto 55).

*Asplenium bipinnatifidum* Baker

ESPIRITU SANTO. Nokovula, 1070m alt., 6, Nov. 1996 (Iwashina 3040). 2nd Camp, east ridge of Mt. Vutimena, 1100m alt., 23, Nov. 1996 (Iwashina 3205). Along the Pialapa River, 1st Camp to 2nd Camp, 220–540m alt., 15, Oct. 1997 (Matsumoto 118). *Ibid.*, between 1st Camp and 2nd Camp. 500m alt., 15, Oct. 1997 (Sugimura 4114). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 355).

*Asplenium carruthersii* Baker

ESPIRITU SANTO. Along the Pialapa River, Tsureviu to 1st Camp, 10–220m alt., 14, Oct. 1997 (Matsumoto 111). *Ibid.*, 1st Camp to 2nd Camp, 220–540m alt., 15, Oct. 1997 (Matsumoto 121).

*Asplenium caudatum* G. Forst.

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 225a).

*Asplenium contiguum* Kaulf.

ESPIRITU SANTO. West peak of Mt. Tabwemasana, 1800m alt., 7, Nov. 1996 (Iwashina 3068). Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1700m alt., 7, Nov. 1996 (Iwashina 3047). *Ibid.*, on the north ridge of Mt. Tabwemasana, 1600m alt., 7, Nov. 1996 (Iwashina 3083).

*Asplenium cuneatum* Lam.

ESPIRITU SANTO. Nokovula, 1070m alt., 6, Nov. 1996 (Iwashina 3042). Between Nokovula and 2nd Camp, Mt. Tabwemasana range, 1000m alt., 10, Nov. 1996 (Iwashina 3132). Between 2nd Camp and 1st Camp, east ridge of Mt. Vutimele, 900m alt., 26, Nov. 1996 (Iwashina 3252). Along the Pialapa River, Tsureviu to 1st Camp, 10–220m alt., 14, Oct. 1997 (Matsumoto 107). *Ibid.*, 1st Camp to 2nd Camp, 220–540m alt., 15, Oct. 1997 (Matsumoto 115).

*Asplenium excisum* C. Presl

ESPIRITU SANTO. Nokovula, 1050m, 9, Nov. 1996 (Iwashina 3110). 1st Camp to Tsureviu, 240–10m alt., 20, Oct. 1997 (Matsumoto 291).

*Asplenium horridum* Kaulf.

ESPIRITU SANTO. Nokovula, 1050m alt., 9, Nov. 1996 (Iwashina 3114). Between 2nd Camp and 1st Camp, Mt. Tabwemasana range, 800m alt., 10, Nov. 1996 (Iwashina 3149). Between 1st Camp and 2nd Camp, east ridge of Mt. Vutimele, 900m alt., 21, Nov. 1996 (Iwashina 3169 and 3170). Between 2nd Camp and 1st Camp, east ridge of Mt. Vutimele, 900m alt., 26, Nov. 1996 (Iwashina 3251).

*Asplenium insititicum* Brack.

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1700m alt., 7, Nov. 1996 (Iwashina 3070). Nokovula, 1200m alt., 7, Nov. 1996 (Iwashina 3100). Between 2nd Camp and Mt. Vutimele, east ridge of Mt. Vutimele, 1500m alt., 23, Nov. 1996 (Iwashina 3218). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 179).

Note: Budding on top of frond. Syn. *Asplenium lobulatum* Mett.

*Asplenium laserpitifolium* Lam.

ESPIRITU SANTO. Nokovula, 1070m alt., 6, Nov. 1996 (Iwashina 3039). Ibid., 1050m alt., 9, Nov. 1996 (Iwashina 3115). Point No.3, east of Butmas, 350m alt., 8, Oct. 1997 (Matsumoto 77). Along the Pialapa River, 2nd Camp to 1st Camp, 540–240m alt., 19, Oct. 1997 (Matsumoto 278). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 328 and 332).

*Asplenium nidus* L.

ESPIRITU SANTO. Peavot, 50m alt., 27, Nov. 1996 (Iwashina 3273). Matevulu, north of Luganville, 5m alt., 8, Oct. 1997 (Matsumoto 79). Luganville to Tangoa, ca. 10m alt., 10, Oct. 1997 (Matsumoto 85 and 89). Along the Pialapa River, Tsureviu to 1st Camp, 10–220m alt., 14, Oct. 1997 (Matsumoto 105).

*Asplenium polyodon* G. Forst.

**Mountain type:** ESPIRITU SANTO. Nokovula, 1070m alt., 6, Nov. 1996 (Iwashina 3036). Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 7, Nov. 1996 (Iwashina 3056: 1500m alt., 3091: 1100m alt., 3095: 1150m alt., 3098 and 3101: 1200m alt., 3107: 1050m alt., 3131: 1000m alt.). 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3201, 3202, 3207 and 3232). 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 253).

**Seashore type:** EFATE. Behind of government office, Port Vila, on dried calcareous rockwall, 5m alt., 1, Oct. 1997 (Matsumoto 1).

ESPIRITU SANTO. Along the Kerepua River, 1st Camp, east of Kerepua, 210m alt., 4, Nov. 1996 (Iwashina 3020).

*Asplenium unilaterale* Lam. *sensu lato*

ESPIRITU SANTO. 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3210). 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 259). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 320).

*Loxoscaphe brachycarpum* (Mett.) Kuhn

EFATE. East foot of Mt. Bernier, 150–350m alt., 28, Oct. 1997 (Matsumoto 361 and 366).

ESPIRITU SANTO. Nokovula, 1070m alt., 6, Nov. 1996 (Iwashina 3041). Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1500m alt., 7, Nov. 1996 (Iwashina 3055). Ibid., on the north ridge of Mt. Tabwemasana, 1700m alt., 7, Nov. 1996 (Iwashina 3085). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 322, 344 and 348).

ATHYRIACEAE

*Deparia petersenii* (Kunze) M. Kato

ESPIRITU SANTO. Palitaliefu, Mt. Tabwemasana, ca. 1050m alt., 8, Nov. 1996 (Hashimoto 66). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 165 and 180). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 329 and 360).

Note: Miss applied to *Deparia japonica* (Thunb.) M. Kato.

*Diplaziopsis javanica* (Blume) C. Chr.

ESPIRITU SANTO. Nokovula, 1200m alt., 7, Nov. 1996 (Iwashina 3099). 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3212). 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 260).

*Diplazium dilatatum* Blume

ESPIRITU SANTO. Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 324).

*Diplazium echinatum* C. Chr.

ESPIRITU SANTO. Nokovula, 1050m alt., 9, Nov. 1996 (Iwashina 3112). 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 254). Along the Pialapa River, 2nd Camp to 1st Camp, 540–240m alt., 19, Oct. 1997 (Matsumoto 273).

*Diplazium esculentum* (Retz.) Sw.

ESPIRITU SANTO. Tsureviu, 10m alt., 21, Oct. 1997 (Matsumoto 294).

*Diplazium harpeodes* T. Moore

ESPIRITU SANTO. Between 2nd Camp and 1st Camp, east ridge of Mt. Vutimele, 1000m alt., 25, Nov. 1996 (Iwashina 3247). East of Butmas, edge of secondary lowland forest, 280m alt., 8, Oct. 1997 (Matsumoto 45). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 205, blackish stipe and rachis type).

*Diplazium melanocauron* Brack. var. *coriaceum* Brownlie

ESPIRITU SANTO. Nokovula, 1050m alt., 9, Nov. 1996 (Iwashina 3124). Along the Pialapa River, Tsureviu to 1st Camp, 10–220m alt., 14, Oct. 1997 (Matsumoto 104). 2nd Camp to 1st Camp, 540–240m alt., 19, Oct. 1997 (Matsumoto 271).

*Diplazium oblongifolium* (Hook.) Jermy

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 251).

*Diplazium proliferum* (Lam.) Thouars

ESPIRITU SANTO. Along the Pialapa River, 2nd Camp to 1st Camp, 540–240m alt., 19, Oct. 1997 (Matsumoto 279).

*Diplazium* sp.

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, on the moist mountain steep, 700–1370m alt., 16, Oct. 1997 (Matsumoto 177).

Note: Di- and/or tripinnate, rhizome stout, proliferous on rachis, frond up to 30cm.

BLECHNACEAE

*Blechnum capense* (L.) Schlecht.

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 243).

*Blechnum gibbum* (Labill.) Mett.

ESPIRITU SANTO. Between 2nd Camp and 1st Camp, Mt. Tabwemasana range, 700m alt., 10, Nov. 1996 (Iwashina 3146). Between 1st Camp, and 2nd Camp, east ridge of Mt. Vutimele, 600m alt., 21, Nov. 1996 (Iwashina 3182).

*Blechnum* aff. *milnei*

ESPIRITU SANTO. Between Nokovula and 2nd Camp, Mt. Tabwemasana range, 1000m alt., 10, Nov. 1996 (Iwashina 3134). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 143).

*Blechnum norfolkianum* (Heward) C. Chr.

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1500m alt., 7, Nov. 1996 (Iwashina 3071). 2nd Camp, east ridge of Mt. Vutimele,

1100m alt., 24, Nov. 1996 (Iwashina 3233). 2nd Camp to Mt. Vutimena, 540-1050m alt., 18, Oct. 1997 (Matsumoto 249).

*Blechnum patersoni* (R. Br.) Mett.

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1600m alt., 7, Nov. 1996 (Iwashina 3074). 2nd Camp to Mt. Vutimena, 700-1370m alt., 16, Oct. 1997 (Matsumoto 178). Ibid., 540-1050m alt., 18, Oct. 1997 (Matsumoto 248).

*Blechnum vulcanicum* (Blume) Kuhn

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1600m alt., 7, Nov. 1996 (Iwashina 3080). Between 2nd Camp and 1st Camp, east ridge of Mt. Vutimele, 1000m alt., 25, Nov. 1996 (Iwashina 3243). 2nd Camp to Mt. Vutimena, 700-1370m alt., 16, Oct. 1997 (Matsumoto 154).

**BOTRYCHIACEAE**

*Sceptridium daucifolium* (Wall. ex Hook. & Grev.) Lyon

ESPIRITU SANTO. Palitaliefu, Mt. Tabwemasana, ca. 1050m alt., 8, Nov. 1996 (Hashimoto 24 and 25)

**CULCITACEAE**

*Culcita straminea* (Labill.) Maxon

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, 700-1370m alt., 16, Oct. 1997 (Matsumoto 157). Ibid., 540-1050m alt., 18, Oct. 1997 (Matsumoto 242).

**CYATHEACEAE**

*Cyathea (Cyathea) affinis* (G. Forst.) Sw.

ESPIRITU SANTO. Nokovula, 1070m alt., 9, Nov. 1996 (Iwashina 3104). Along the Pialapa River, 1st Camp to 2nd Camp, 220-540m alt., 15, Oct. 1997 (Matsumoto 130).

*Cyathea (Cyathea) aff. decurrens*

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, 540-1050m alt., 18, Oct. 1997 (Matsumoto 234).

Note: Differs with no indusium and small pinna on base of stipe.

*Cyathea (Fourniera) truncata* (Brack.) Copel.

ESPIRITU SANTO. 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3208). 2nd Camp to Mt. Vutimena, 700-1370m alt., 16, Oct. 1997 (Matsumoto 144 and 210).

*Cyathea (Sphaeropteris) lunulata* (G. Forst.) Copel.

ESPIRITU SANTO. East of Butmas, edge of secondary lowland forest, 280m alt., 8, Oct. 1997 (Matsumoto 49).

*Cyathea (Sphaeropteris) medullaris* (G. Forst.) Sw.

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 197).

#### DAVALLIACEAE

##### *Davallia epiphylla* Sw.

ESPIRITU SANTO. Between 2nd Camp and 1st Camp, east ridge of Mt. Vutimele, 1000m alt., 25, Nov. 1996 (Iwashina 3244). Along the Pialapa River, 1st Camp to 2nd Camp, 220–540m alt., 15, Oct. 1997 (Matsumoto 117b). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 303).

Note: Gross morphologically estimated hybrid between *Davallia denticulata* and *D. emborostegia* (Nootboom 1994), but good spore formation.

##### *Davallia solida* (G. Forst.) Sw.

ESPIRITU SANTO. Luganville, 5m alt., 31, Oct. 1996 (Iwashina 3009). Along the Pialapa River, 1st Camp to 2nd Camp, 220–540m alt., 15, Oct. 1997 (Matsumoto 122).

IRIRIKI. Near Port Vila, 5m alt., epiphyte on tree trunk, 2, Oct. 1997 (Matsumoto 4).

##### *Humata brackenridgei* Brownlie

AMBAE. Lake Manaro Lakua, Mt. Lombenben, 1397m alt., 15, Nov. 1996 (Iwashina 3158).

ESPIRITU SANTO. West peak of Mt. Tabwemasana, 1800m alt., 7, Nov. 1996 (Iwashina 3063). Between 2nd Camp and Mt. Vutimele, east ridge of Mt. Vutimele, 1500m alt., 23, Nov. 1996 (Iwashina 3221). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 137).

##### *Humata pusilla* (Mett.) Carruth.

ESPIRITU SANTO. Between 2nd Camp and Mt. Vutimena, on the steep slope, 630m alt., 16, Oct. 1997 (Sugimura 4117). 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 233).

##### *Humata sessilifolia* (Blume) Mett.

ESPIRITU SANTO. Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 330).

##### *Leucostegia pallida* (Mett.) Copel.

ESPIRITU SANTO. Between 1st Camp and Peavot, east ridge of Mt. Vutimele, 400m alt., 26, Nov. 1996 (Iwashina 3258). Along the Pialapa River, 1st Camp to 2nd Camp, 220–540m alt., 15, Oct. 1997 (Matsumoto 113). 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 215).

##### *Scyphularia pycnocarpa* (Brack.) Copel.

ESPIRITU SANTO. Nokovula, 1070m alt., 6, Nov. 1996 (Iwashina 3045). Ibid., 1050m alt., 9, Nov. 1996 (Iwashina 3109). Along the Pialapa River, 1st Camp to 2nd Camp, 220–540m alt., 15, Oct. 1997 (Matsumoto 127). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 336). Ibid., in the lower montane forest, 560m alt., 23, Oct. 1997 (Sugimura 4199).

#### DENNSTAEDTIACEAE

##### *Dennstaedtia* aff. *samoensis*

ESPIRITU SANTO. Nokovula, 1050m alt., 9, Nov. 1996 (Iwashina 3113). East of Butmas, edge of secondary lowland forest, 280m alt., 8, Oct. 1997 (Matsumoto 48).

Note: Edible when young frond, native name is 'Narath'. Large plant (1.5–2m) growing on forest edge of lowland.

*Microlepia* aff. *todayensis*

ESPIRITU SANTO. Along the Pialapa River, Tsureviu to 1st Camp, 10–220m alt., 14, Oct. 1997 (Matsumoto 108).

*Orthiopteris tenuis* (Brack.) Brownlie

ESPIRITU SANTO. 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3213). Ibid., east ridge of Mt. Vutimena, 1100m alt., 24, Nov. 1996 (Iwashina 3235).

DICKSONIACEAE

*Dicksonia brackenridge* Mett.

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 206).

DRYOPTERIDACEAE

*Arachniodes aristata* (G. Forst.) Tindale

EFATE. East foot of Mt. Bernier, 150–350m alt., 28, Oct. 1997 (Matsumoto 364).

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1600m alt., 7, Nov. 1996 (Iwashina 3082). Nokovula, 1100m alt., 7, Nov. 1996 (Iwashina 3088). Ibid., 1050m alt., 9, Nov. 1996 (Iwashina 3123). Between 2nd Camp and 1st Camp, Mt. Tabwemasana range, 700m alt., 10, Nov. 1996 (Iwashina 3145). Along the Pialapa River, 2nd Camp to 1st Camp, 540–240m alt., 19, Oct. 1997 (Matsumoto 264).

*Ctenitis fijiensis* (Hook.) Copel.

ESPIRITU SANTO. Nokovula, 1070m alt., 6, Nov. 1996 (Iwashina 3038). Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1200m alt., 7, Nov. 1996 (Iwashina 3086).

*Dryopteris hasseltii* (Blume) C. Chr.

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 245 and 250). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 315).

*Dryopteris subarborea* (Baker) C. Chr.

ESPIRITU SANTO. Nokovula, 1070m alt., 6, Nov. 1996 (Iwashina 3035). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 146). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 213). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 325).

*Lastreopsis davalliodes* (Brack.) Tindale

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1500m alt., 7, Nov. 1996 (Iwashina 3073). Between 2nd Camp and 1st Camp, east ridge of Mt. Vutimele, 1000m alt., 25, Nov. 1996 (Iwashina 3244). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 199).

*Lastreopsis tenera* (R. Br.) Tindale

EFATE. East foot of Mt. Bernier, 150–350m alt., 28, Oct. 1997 (Matsumoto 362).

*Polystichum aculeatum* (L.) Roth *sensu lato*

ESPIRITU SANTO. Nokovula, 1050m alt., 9, Nov. 1996 (Iwashina 3120 and 3122). 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3203). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 174 and 204). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 326).

*Stenosemia aurita* C. Presl

ESPIRITU SANTO. Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 357).

*Tectaria crenata* Cav.

ESPIRITU SANTO. Between 1st Camp and Peavot, east ridge of Mt. Vutimele, 400m alt., 26, Nov. 1996 (Iwashina 3261). 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 217). 1st Camp to Tsureviu, 240–10m alt., 20, Oct. 1997 (Matsumoto 290). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 352).

*Tectaria degeneri* Copel.

ESPIRITU SANTO. East of Butmas, edge of secondary lowland forest, 280m alt., 8, Oct. 1997 (Matsumoto 54).

*Tectaria dissecta* (G. Forst.) Lellinger

EFATE. Pang Pang around the Nainu River, terrestrial on bank of river, 3, Oct. 1997 (Matsumoto 14 and 16).

ESPIRITU SANTO. Lukanville, on calcareous rock-wall, cultivated area, ca. 20m alt., 7, Oct. 1997 (Matsumoto 28, 29 and 30).

*Tectaria hookerii* Brownlie

EFATE. Klems Hill, north of Mele, terrestrial on mountain slope of roadside, 3, Oct. 1997 (Matsumoto 22, 23 and 24).

ESPIRITU SANTO. Along the Pialapa River, 1st Camp to 2nd Camp, 220–540m alt., 15, Oct. 1997 (Matsumoto 124). Ibid., 2nd Camp to 1st Camp, 540–240m alt., 19, Oct. 1997 (Matsumoto 283). Tsureviu, 10m alt., 21, Oct. 1997 (Matsumoto 296). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 305).

*Tectaria latifolia* (G. Forst.) Copel.

EFATE. Eton, 10m alt., 27, Oct. 1996 (Iwashina 3002). Klems Hill, 27, Oct. 1996 (Iwashina 3006). Pang Pang around the Nainu River, terrestrial on bank of river, 3, Oct. 1997 (Matsumoto 13). Klems Hill, north of Mele, terrestrial on mountain slope of roadside, 3, Oct. 1997 (Matsumoto 21). Along the Elavor River, 10m alt., 3, Oct. 1997 (Sugimura 4048).

ESPIRITU SANTO. Along the Petsalili River, west of Wuntavislavo, 50m alt., 16, Nov. 1996 (Iwashina 3161). Between 1st Camp and Peavot, east ridge of Mt. Vutimele, 300m alt., 26, Nov. 1996 (Iwashina 3267). Lukanville, on calcareous rock-wall, cultivated area, ca. 20m alt., 7, Oct. 1997 (Matsumoto 31 and 32). Along the Pialapa River, 2nd Camp to 1st Camp, 540–240m alt., 19, Oct. 1997 (Matsumoto 283). Tsureviu, 10m alt., 21, Oct. 1997 (Matsumoto 295). Tanafo to Matantas, edge of forest, 270m alt., 8, Oct. 1997 (Sugimura 4066).

## ELAPHOGLOSSACEAE

*Elaphoglossum blumeanum* (Fée) J. Sm.

ESPIRITU SANTO. Nokovula, 1150m alt., 7, Nov. 1996 (Iwashina 3094). Ibid., 1200m alt., 7,



Nov. 1996 (Iwashina 3096). 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3195).

Note: Syn. *Elaphoglossum yunnanense* (Baker) C. Chr.

*Elaphoglossum* aff. *milnei*

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 235).

*Elaphoglossum* aff. *sordidum*

ESPIRITU SANTO. Between 1st Camp and 2nd Camp, east ridge of Mt. Vutimele, 800m alt., 21, Nov. 1996 (Iwashina 3176).

*Elaphoglossum* sp.

ESPIRITU SANTO. Along the Pialapa River, 2nd Camp to 1st Camp, 540–240m alt., 19, Oct. 1997 (Matsumoto 267).

#### EQUISETACEAE

*Equisetum ramossissimum* Desf subsp. *debile* (Roxb.) Hauke

AMBAE. Lake Manaro Lakua, Mt. Lombenben, 1397m alt., 15, Nov. 1996 (Iwashina 3154).

ESPIRITU SANTO. Along the Kerepua River, between 2nd Camp and 1st Camp, Mt. Tabwemasana range, 250m alt., 10, Nov. 1996 (Iwashina 3136). Along the Pialapa River, Tsureviu to 1st Camp, 10–220m alt., 14, Oct. 1997 (Matsumoto 103).

#### GLEICHENIACEAE

*Dicranopteris linearis* (Burm.) Underw.

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 141).

*Gleichenia* (*Diplopterigium*) *norrisii* Mett.

ESPIRITU SANTO. Between 2nd Camp and 1st Camp, east ridge of Mt. Vutimele, 900m alt., 26, Nov. 1996 (Iwashina 3255). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 158 and 208).

*Gleichenia* (*Sticherus*) *milnei* Baker

ESPIRITU SANTO. Between Nokovula and 2nd Camp, Mt. Tabwemasana range, 1000m alt., 10, Nov. 1996 (Iwashina 3128). 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 230).

*Gleichenia* (*Sticherus*) *oceanica* Kuhn

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1700m alt., 7, Nov. 1996 (Iwashina 3076). Between 2nd Camp and 1st Camp, east ridge of Mt. Vutimele, 1000m alt., 25, Nov. 1996 (Iwashina 3241). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 156). Between 2nd Camp and Mt. Vutimena, on the steep slope, 900m alt., 16, Oct. 1997 (Sugimura 4120).

## GRAMMITIDACEAE

*Calymodon latearatus* Copel.

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1500m alt., 7, Nov. 1996 (Iwashina 3058). Between 1st Camp and 2nd Camp, east ridge of Mt. Vutimele, 900m alt., 21, Nov. 1996 (Iwashina 3168). Between 2nd Camp and Mt. Vutimele, east ridge of Mt. Vutimele, 1200m alt., 23, Nov. 1996 (Iwashina 3228). 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 252 and 237b).

*Ctenopteris blechnoides* (Grev.) Wagner & Grether

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 255).

*Ctenopteris* aff. *blechnoides*

ESPIRITU SANTO. West peak of Mt. Tabwemasana, 1800m alt., 7, Nov. 1996 (Iwashina 3064).

*Grammitis hirtelloides* (Copel.) Copel.

ESPIRITU SANTO. Between 1st Camp and 2nd Camp, east ridge of Mt. Vutimele, 800m alt., 21, Nov. 1996 (Iwashina 3175). Between 2nd Camp and Mt. Vutimele, east ridge of Mt. Vutimele, 1400–1500m alt., 23, Nov. 1996 (Iwashina 3224). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 167 and 196). Mt. Vutimena, on the mountain pass, 1340m alt., 16, Oct. 1997 (Sugimura 4135).

*Grammitis hookeri* (Brack.) Copel.

ESPIRITU SANTO. West peak of Mt. Tabwemasana, 1800m alt., 7, Nov. 1996 (Iwashina 3067). Mt. Vutimena, on the mountain pass, 1340m alt., 6, Oct. 1997 (Sugimura 4136).

*Prosaptia contigua* (G. Forst.) C. Presl

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1200m alt., 7, Nov. 1996 (Iwashina 3059). 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3197). Between 2nd Camp and Mt. Vutimele, east ridge of Mt. Vutimele, 1300m alt., 23, Nov. 1996 (Iwashina 3225). Along the Pialapa River, 1st Camp to 2nd Camp, 220–540m alt., 15, Oct. 1997 (Matsumoto 116). Ibid., between 1st Camp and 2nd Camp, 500m alt., 15, Oct. 1997 (Sugimura 4113). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 171).

*Prosaptia contigua* (G. Forst.) C. Presl var. *monosora* Copel. ?

ESPIRITU SANTO. West peak of Mt. Tabwemasana, 1800m alt., 7, Nov. 1996 (Iwashina 3065).

## HELMINTHOSTACHYACEAE

*Helmintostachys zeylanica* (L.) Hook.

ESPIRITU SANTO. 1st Camp to Tsureviu, 240–10m alt., 20, Oct. 1997 (Matsumoto 289).

## HEMIONITIDACEAE

*Austrogramme decipiens* (Mett.) Hennipman

ESPIRITU SANTO. Between 2nd Camp and 1st Camp, east ridge of Mt. Vutimele, 1000m alt., 25, Nov. 1996 (Iwashina 3238).

*Cheilanthes hirsuta* (Poir.) Mett.

ESPIRITU SANTO. Along the Kerepua River, east of Kerepua, 210m alt., 4, Nov. 1996 (Iwashina 3028).

*Coniogramme fraxinea* (D. Don) Diels

ESPIRITU SANTO. Nokovula, 1050m alt., 9, Nov. 1996 (Iwashina 3108).

*Pityrogramma calomelanos* (L.) Link

ESPIRITU SANTO. Along the Kerepua River, 1st Camp, east of Kerepua, 210m alt., 4, Nov. 1996 (Iwashina 3018). Peavot, 50m alt., 27, Nov. 1996 (Iwashina 3274). Luganville, terrestrial on slope of roadside, ca. 20m alt., 7, Oct. 1997 (Matsumoto 37). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 301). Ibid., in the lower montane forest, 530m alt., 23, Oct. 1997 (Sugimura 4204).

## HYMENOPHYLLACEAE

*Histiopteris incisa* (Thunb.) J. Sm.

AMBAE. Lake Manaro Lakua, Mt. Lombenben, 1397m alt., 15, Nov. 1996 (Iwashina 3155).

ESPIRITU SANTO. West peak of Mt. Tabwemasana, 1800m alt., 7, Nov. 1996 (Iwashina 3066). Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1600m alt., 7, Nov. 1996 (Iwashina 3075). Between 2nd Camp and 1st Camp, east ridge of Mt. Vutimele, 900m alt., 26, Nov. 1996 (Iwashina 3254).

*Hymenophyllum* (*Meringium*) *pseudothunbridgense* Watts

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 191). Mt. Vutimena, on the mountain pass, 1340m alt., 16, Oct. 1997 (Sugimura 4133).

*Hymenophyllum* (*Mecodium*) *flabellatum* Labill.

ESPIRITU SANTO. 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3200). Between 2nd Camp and Mt. Vutimele, east ridge of Mt. Vutimele, 1500m alt., 23, Nov. 1996 (Iwashina 3220). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 183, 189 and 193). Ibid., 540–1050m alt., 18, Oct. 1997 (Matsumoto 236 and 263). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 335).

*Hymenophyllum* (*Meringium*) *holochilum* Bosch

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 263b).

*Hymenophyllum* (*Mecodium*) *imbricatum* Blume

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1600m alt., 7, Nov. 1996 (Iwashina 3052 and 3097). Between 1st Camp and 2nd Camp, east ridge of Mt. Vutimele, 800m alt., 21, Nov. 1996 (Iwashina 3174). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 187).

*Hymenophyllum (Mecodium) polyanthos* Sw.

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1600m alt., 7, Nov. 1996 (Iwashina 3048 and 3079). 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 238).

*Hymenophyllum (Mecodium) treubii* Racib.

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1600m alt., 7, Nov. 1996 (Iwashina 3048).

*Hymenophyllum (Meringium) aff. multifidum*

ESPIRITU SANTO. Between 2nd Camp and Mt. Vutimele, east ridge of Mt. Vutimele, 1500m alt., 23, Nov. 1996 (Iwashina 3222). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 186 and 192). *Ibid.*, 540–1050m alt., 18, Oct. 1997 (Matsumoto 263b).

*Hymenophyllum (Sphaerocionium) aff. cuneatum*

ESPIRITU SANTO. Between 2nd Camp and Mt. Vutimele, east ridge of Mt. Vutimele, 1500m alt., 23, Nov. 1996 (Iwashina 3219).

*Hymenophyllum (Sphaerocionium) sp.*

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 185 and 194).

*Trichomanes (Callistopteris) apiifolium* C. Presl

ESPIRITU SANTO. Between 1st Camp and 2nd Camp, east ridge of Mt. Vutimele, 800m alt., 21, Nov. 1996 (Iwashina 3173). Between 2nd Camp and 1st Camp, east ridge of Mt. Vutimele, 900m alt., 26, Nov. 1996 (Iwashina 3253). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 147, 172 and 195). *Ibid.*, 540–1050m alt., 18, Oct. 1997 (Matsumoto 247 and 261). *Ibid.*, on the steep slope, 870m alt., 18, Oct. 1997 (Sugimura 4162).

*Trichomanes (Cephalomanes) boryanum* Kunze

ESPIRITU SANTO. 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3193). Along the Pialapa River, 1st Camp to 2nd Camp, 220–540m alt., 15, Oct. 1997 (Matsumoto 126). *Ibid.*, between 1st Camp and 2nd Camp, 500m alt., 15, Oct. 1997 (Sugimura 4112). 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 223 and 256).

*Trichomanes (Crepidopteris) endlicherianum* C. Presl

ESPIRITU SANTO. 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3187). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 194b).

*Trichomanes (Crepidopteris) humile* G. Forst.

ESPIRITU SANTO. Point No. 2, east of Butmas, 300m alt., 8, Oct. 1997 (Matsumoto 59). Along the Pialapa River, 1st Camp to 2nd Camp, 220–540m alt., 15, Oct. 1997 (Matsumoto 117). Tanafo to Matantas, edge of forest, 270m alt., 8, Oct. 1997 (Sugimura 4068).

*Trichomanes (Gonocormus) assimile* Mett.

ESPIRITU SANTO. Nokovula, 1070m alt., 6, Nov. 1996 (Iwashina 3030 and 3034).

*Trichomanes (Gonocormus) saxifragoides* C. Presl

EFATE. East foot of Mt. Bernier, 150–350m alt., 28, Oct. 1997 (Matsumoto 376). Mt. Bernier, in the rain forest, 250m alt., 28, Oct. 1997 (Sugimura 4230).

*Trichomanes (Macroglena) meiforium* Bory

ESPIRITU SANTO. Between 2nd Camp and Mt. Vutimele, east ridge of Mt. Vutimele, 1200m alt., 23, Nov. 1996 (Iwashina 3227). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997

(Matsumoto 190 and 202). Mt. Vutimena, on the mountain pass, 1340m alt., 16, Oct. 1997 (Sugimura 4134).

*Trichomanes* (*Microgonium*) *tahitense* Nadeaud

ESPIRITU SANTO. Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 346). Tanafo to Matantas, edge of forest, 270m alt., 8, Oct. 1997 (Sugimura 4067). Along the Pialapa River, 1st Camp to 2nd Camp, 250m alt., 15, Oct. 1997 (Sugimura 4107).

*Trichomanes* (*Pleuromanes*) *pallidum* Blume

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 237).

*Trichomanes* (*Selenodesmium*) *caespifrons* C. Chr.

ESPIRITU SANTO. Between 2nd Camp and Mt. Vutimele, east ridge of Mt. Vutimele, 1300m alt., 23, Nov. 1996 (Iwashina 3226). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 148).

*Trichomanes* (*Selenodesmium*) *dentatum* Bosch

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, on the steep slope, 700m alt., 18, Oct. 1997 (Sugimura 4154).

*Trichomanes* (*Vandenboschia*) *aphlebioides* Christ

ESPIRITU SANTO. Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 351).

*Trichomanes* (*Vandenboschia*) *maximum* Blume

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 258).

#### HYPOLEPIDACEAE

*Hypolepis elegans* Carruth.

AMBAE. Lake Manaro Lakua, Mt. Lombenben, 1397m alt., 15, Nov. 1996 (Iwashina 3159).  
ESPIRITU SANTO. West peak of Mt. Tabwemasana, 1800m alt., 7, Nov. 1996 (Iwashina 3062). Nokovula, 1050m alt., 9, Nov. 1996 (Iwashina 3106). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 136 and 209). Ibid., 540–1050m alt., 18, Oct. 1997 (Matsumoto 241). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 310).

#### LINDSAEACEAE

*Lindsaea herveyi* Carruth. ex Seem.

ESPIRITU SANTO. 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3190 and 3191). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 135, 145 and 170). Ibid., 540–1050m alt., 18, Oct. 1997 (Matsumoto 231).

*Lindsaea moorei* (Hook.) E. Fourn.

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 224).

*Lindsaea pacifica* Kramer

ESPIRITU SANTO. Between 1st Camp and 2nd Camp, east ridge of Mt. Vutimele, 900m alt., 21, Nov. 1996 (Iwashina 3171). 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996

(Iwashina 3188). Between 2nd Camp and 1st Camp, east ridge of Mt. Vutimele, 900m alt., 26, Nov. 1996 (Iwashina 3256). 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 220).

*Lindsaea* aff. *pickeringii*

ESPIRITU SANTO. 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3189). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 166 and 181).

*Lindsaea pulchra* (Brack.) Carruth. ex Seem.

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1500m alt., 7, Nov. 1996 (Iwashina 3054). Nokovula, 1200m alt., 7, Nov. 1996 (Iwashina 3097). Between 2nd Camp and 1st Camp, east ridge of Mt. Vutimele, 1000m alt., 25, Nov. 1996 (Iwashina 3248). 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3199).

*Lindsaea repens* (Bory) Thwaites var. *cheilosora* Kramer

ESPIRITU SANTO. Along the Pialapa River, 2nd Camp to 1st Camp, 540–240m alt., 19, Oct. 1997 (Matsumoto 269).

*Lindsaea rigida* J. Sm.

ESPIRITU SANTO. Between 2nd Camp and Mt. Vutimele, east ridge of Mt. Vutimele, 1500m alt., 23, Nov. 1996 (Iwashina 3217).

*Sphenomeris deltoidea* (C. Chr.) Copel.

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 232).

*Tapeinidium denhamii* (Hook.) C. Chr.

ESPIRITU SANTO. Between 1st Camp and 2nd Camp, east ridge of Mt. Vutimele, 700m alt., 21, Nov. 1996 (Iwashina 3179). Between 1st Camp and Peavot, east ridge of Mt. Vutimele, 400m alt., 26, Nov. 1996 (Iwashina 3262). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 163).

LOMARIOPSIDACEAE

*Bolbitis lonchophora* (Fée) C. Chr.

ESPIRITU SANTO. Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 308).

*Bolbitis quoyana* (Gaudich.) Ching

ESPIRITU SANTO. Along the Petsalili River, west of Wuntavislavo, 50m alt., 16, Nov. 1996 (Iwashina 3165).

*Bolbitis* × *rivularis* (Brack.) Ching

ESPIRITU SANTO. Along the Pialapa River, 1st Camp to 2nd Camp, 220–540m alt., 15, Oct. 1997 (Matsumoto 129). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 356).

Note: Spores are abortive. Holotype is sterile hybrid (Hennipman 1977), *B. lonchophora* × *B.* aff. *rivularis* ?

*Lomagramma cordipinna* Holttum

ESPIRITU SANTO. Along the Pialapa River, 2nd Camp to 1st Camp, 540–240m alt., 19, Oct. 1997 (Matsumoto 282).

*Lomagramma polyphylla* Brack.

EFATE. Pang Pang around the Nainu River, terrestrial on bank of river, 3, Oct. 1997 (Matsumoto 15). East foot of Mt. Bernier, 150–350m alt., 28, Oct. 1997 (Matsumoto 378). Along the Elavor River, 10m alt., 3, Oct. 1997 (Sugimura 4046).

ESPIRITU SANTO. Between Peavot and 1st Camp, east ridge of Mt. Vutimele, 400m alt., 20, Nov. 1996 (Iwashina 3186). Point No. 3, east of Butmas, 350m alt., 8, Oct. 1997 (Matsumoto 70). Along the Pialapa River, Tsureviu to 1st Camp, 10–220m alt., 14, Oct. 1997 (Matsumoto 109).

*Lomariopsis brackenridge* Carruth.

ESPIRITU SANTO. Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 345).

*Lomariopsis oleandrifolia* (Brack.) Mett.

ESPIRITU SANTO. 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3204). 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 257).

## LOXOGRAMMACEAE

*Loxogramme parksii* Copel.

ESPIRITU SANTO. Nokovula, 1070m alt., 6, Nov. 1996 (Iwashina 3037). Ibid., 1150m alt., 7, Nov. 1996 (Iwashina 3093). Ibid., 1050m alt., 9, Nov. 1996 (Iwashina 3116). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 334).

## LYCOPODIACEAE

*Lycopodium cernuum* L.

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1600m alt., 7, Nov. 1996 (Iwashina 3049). Between 2nd Camp and Mt. Vutimele, east ridge of Mt. Vutimele, 1500m alt., 23, Nov. 1996 (Iwashina 3216). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 159). Between 2nd Camp and Mt. Vutimena, on the steep slope, 940m alt., 18, Oct. 1997 (Sugimura 4163).

*Lycopodium foliosum* Copel.

ESPIRITU SANTO. Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 350).

*Lycopodium* aff. *melanesicum*

ESPIRITU SANTO. Between 2nd Camp and 1st Camp, Mt. Tabwemasana range, 800m alt., 10, Nov. 1996 (Iwashina 3051).

*Lycopodium nummularifolium* Blume

ESPIRITU SANTO. Nokovula, 1050m alt., 9, Nov. 1996 (Iwashina 3125). Between 1st Camp and 2nd Camp, east ridge of Mt. Vutimele, 600m alt., 21, Nov. 1996 (Iwashina 3180). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 133). Between 2nd Camp and Mt. Vutimena, on the steep slope, 950m alt., 16, Oct. 1997 (Sugimura 4123). Along the Pialapa River, 2nd Camp to 1st Camp, 540–240m alt., 19, Oct. 1997 (Matsumoto 265).

*Lycopodium phlegmaria* L.

ESPIRITU SANTO. Along the Pialapa River, Tsureviu to 1st Camp, 10–220m alt., 14, Oct. 1997 (Matsumoto 102). Ibid., 2nd Camp to 1st Camp, 540–240m alt., 19, Oct. 1997 (Matsumoto

266). Between 2nd Camp and Mt. Vutimena, on the steep slope, 950m alt., 16, Oct. 1997 (Sugimura 4124). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 349). Tangoa, 60m alt., 12, Oct. 1997 (Sugimura 4092).

*Lycopodium* sp. 1 aff. *phlegmaria*

ESPIRITU SANTO. Between 1st Camp and 2nd Camp, east ridge of Mt. Vutimele, 600m alt., 21, Nov. 1996 (Iwashina 3181). Along the Pialapa River, 1st Camp to 2nd Camp, 220–540m alt., 15, Oct. 1997 (Matsumoto 123). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 132).

Note: More stenophyll type.

*Lycopodium* sp. 2 aff. *phlegmaria*

ESPIRITU SANTO. Along the Pialapa River, Tsureviu to 1st Camp, 10–220m alt., 14, Oct. 1997 (Matsumoto 110).

Note: Intermediate between *Lycopodium nummularifolium* and *L. phlegmaria*, but spores regular.

*Lycopodium phlegmarioides* Gaudich.

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1500m alt., 7, Nov. 1996 (Iwashina 3053). Nokovula, 1200m alt., 7, Nov. 1996 (Iwashina 3102).

*Lycopodium serratum* Thunb. var. *longipetiolatum* Spring

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1700m alt., 7, Nov. 1996 (Iwashina 3078). Between 2nd Camp and Mt. Vutimele, east ridge of Mt. Vutimele, 1200m alt., 23, Nov. 1996 (Iwashina 3229).

*Lycopodium volubile* G. Forst.

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1600m alt., 7, Nov. 1996 (Iwashina 3050).

#### MARATTIACEAE

*Angiopteris evecta* (G. Forst.) Hoff.

ESPIRITU SANTO. Point No. 2, east of Butmas, 300m alt., 8, Oct. 1997 (Matsumoto 64). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 343).

*Marattia smithii* Mett.

ESPIRITU SANTO. Between Nokovula and 2nd Camp, Mt. Tabwemasana range, 1000m alt., 10, Nov. 1996 (Iwashina 3130). 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3194). Between 2nd Camp and 1st Camp, east ridge of Mt. Vutimele, 1000m alt., 25, Nov. 1996 (Iwashina 3245). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 188). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 353). Ibid., in the lower montane forest, 550m alt., 23, Oct. 1997 (Sugimura 4203).

#### NEPHROLEPIDACEAE

*Nephrolepis hirsutula* (G. Forst.) C. Presl

ESPIRITU SANTO. Lukanville, 5m alt., 1, Nov. 1996 (Iwashina 3012). Nokovula, 1070m alt., 6, Nov. 1996 (Iwashina 3033). Point No. 3, east of Butmas, 350 m alt., 8, Oct. 1997 (Matsumoto



66, 74 and 75).

*Nephrolepis lauterbachii* Christ

AMBAE. Lake Manaro Lakua, Mt. Lombenben, 1397m alt., 15, Nov. 1996 (Iwashina 3156).  
 ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1200m alt., 7, Nov. 1996 (Iwashina 3060). Ibid., on the north ridge of Mt. Tabwemasana, 1700m alt., 7, Nov. 1996 (Iwashina 3077). Between 2nd Camp and 1st Camp, east ridge of Mt. Vutimele, 1000m alt., 25, Nov. 1996 (Iwashina 3240). Between 2nd Camp and Mt. Vutimena, on the steep slope, 900m alt., 16, Oct. 1997 (Sugimura 4122). Ibid., on the steep slope, 1200m alt., 16, Oct. 1997 (Sugimura 4127). Ibid., on the steep slope 800m alt., 18, Oct. 1997 (Sugimura 4159). Mt. Vutimena, on the mountain pass, 1340m alt., 16, Oct. 1997 (Sugimura 4137). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 207).

*Nephrolepis saligna* Carruth.

ESPIRITU SANTO. Luganville, on calcareous rock-wall, cultivated area, ca. 20m alt., 7, Oct. 1997 (Matsumoto 33). Point No. 3, east of Butmas, 350 m alt., 8, Oct. 1997 (Matsumoto 76).

*Nephrolepis* aff. *saligna*

ESPIRITU SANTO. Between 2nd Camp and 1st Camp, Mt. Tabwemasana range, 800m alt., 10, Nov. 1996 (Iwashina 3147). Luganville, terrestrial on slope of roadside, ca. 20m alt., 7, Oct. 1997 (Matsumoto 38). East of Butmas, edge of secondary lowland forest, 280m alt., 8, Oct. 1997 (Matsumoto 51). Between Tanafo and Matantas, edge of forest, 270m alt., 8, Oct. 1997 (Sugimura 4070). Along the Pialapa River, 2nd Camp to 1st Camp, 540–240m alt., 19, Oct. 1997 (Matsumoto 280).

Note: Intermediate *Nephrolepis saligna* and *N. bisserata*, but regular spores.

OLEANDRACEAE

*Oleandra neriiformis* Cav.

ESPIRITU SANTO. Palitaliefu, Mt. Tabwemasana, ca. 1050m alt., 7, Nov. 1996 (Hashimoto 59 and 60). Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1500m alt., 7, Nov. 1996 (Iwashina 3057). Between 1st Camp and 2nd Camp, east ridge of Mt. Vutimele, 800m alt., 21, Nov. 1996 (Iwashina 3177). 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 24, Nov. 1996 (Iwashina 3237). Along the Pialapa River, 1st Camp to 2nd Camp, 220–540m alt., 15, Oct. 1997 (Matsumoto 114). Ibid., between 1st Camp to 2nd Camp, 500m alt., 15, Oct. 1997 (Sugimura 4111). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 142). Between 2nd Camp and Mt. Vutimena, on the steep slope, 960m alt., 18, Oct. 1997 (Sugimura 4165).

OPHIOGLOSSACEAE

*Ophioderma pendulum* (L.) C. Presl

ESPIRITU SANTO. Palitaliefu, near Nokovula, Mt. Tabwemasana, ca. 1050m alt. 7, Nov. 1996 (Hashimoto 121, 122 and 123). 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 216).

*Ophioglossum petiolatum* Hook.

ESPIRITU SANTO. Point No. 3, east of Butmas, 350m alt., 8, Oct. 1997 (Matsumoto 67).

*Ophioglossum reticulatum* L.

ESPIRITU SANTO. Palitaliefu, near Nokovula. Mt. Tabwemasana, ca. 1050m alt., 8, Nov. 1996 (Hashimoto 22 and 23). Nokovula, 1050m alt., 9, Nov. 1996 (Iwashina 3105).

OSMUNDACEAE

*Leptopteris wilkensianus* (Brack.) Christ

ESPIRITU SANTO. Between 1st Camp and 2nd Camp, east ridge of Mt. Vutimele, 1000m alt., 21, Nov. 1996 (Iwashina 3166 and 3167). 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3214). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 169 and 200).

POLYPODIACEAE

*Belvisia callifolia* (C. Chr.) Copel.

ESPIRITU SANTO. Nokovula, 1050m alt., 10, Nov. 1996 (Iwashina 3135). Between Peavot and 1st Camp, east ridge of Mt. Vutimele, 400m alt., 20, Nov. 1996 (Iwashina 3185). Point No. 2, east of Butmas, 300m alt., 8, Oct. 1997 (Matsumoto 62). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 138 and 162). *Ibid.*, 540–1050m alt., 18, Oct. 1997 (Matsumoto 218). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 340). Between 2nd Camp and Mt. Vutimena, on the steep slope, 730m alt., 18, Oct. 1997 (Sugimura 4157).

*Belvisia mucronata* (Fée) Copel.

ESPIRITU SANTO. Nokovula, 1050m alt., 10, Nov. 1996 (Iwashina 3135). Between Peavot and 1st Camp, east ridge of Mt. Vutimele, 400m alt., 20, Nov. 1996 (Iwashina 3185). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 140). Between 2nd Camp and Mt. Vutimena, on the steep slope, 730m alt., 18, Oct. 1997 (Sugimura 4156). Along the Pialapa River, 2nd Camp to 1st Camp, 540–240m alt., 19, Oct. 1997 (Matsumoto 281).

*Drynaria rigidula* (Sw.) Bedd.

ESPIRITU SANTO. Nokovula, 1050m alt., 9, Nov. 1996 (Iwashina 3121). 1st Camp to Tsureviu, 20, Oct. 1997 (Matsumoto 284).

*Goniophlebium persicifolium* (Desv.) Bedd.

ESPIRITU SANTO. Between 2nd Camp and 1st Camp, east ridge of Mt. Vutimele, 1000m alt., 25, Nov. 1996 (Iwashina 3242). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 321 and 337).

*Goniophlebium subauriculatum* (Blume) C. Presl

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1600m alt., 7, Nov. 1996 (Iwashina 3081). 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3196). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 139).

*Lemmaphyllum accedens* (Blume) Donk

ESPIRITU SANTO. Point No. 2, east of Butmas, 300m alt., 8, Oct. 1997 (Matsumoto 60). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 331 and 333b).

*Lemmaphyllum* aff. *accedens*

ESPIRITU SANTO. Tanafo to Matantas, 300m alt., edge of forest, 8, Oct. 1997 (Sugimura 4077).

Note: More narrow frond.

*Microsorium punctatum* (L.) Copel.

ESPIRITU SANTO. Between 1st Camp and Peavot, east ridge of Mt. Vutimele, 300m alt., 26, Nov. 1996 (Iwashina 3270). East of Butmas, edge of secondary lowland forest, 280m alt., 8, Oct. 1997 (Matsumoto 42). Matevulu, north of Luganville, 5m alt., 8, Oct. 1997 (Matsumoto 80). Tanafo to Matantas, edge of forest, 300m alt., 8, Oct. 1997 (Sugimura 4079). Matevulu, 5m alt., 8, Oct. 1997 (Sugimura 4078).

*Phymatosorus nigrescens* (Blume) Pic. Serm.

ESPIRITU SANTO. Along the Pialapa River, Tsureviu to 1st Camp, 10–220m alt., 14, Oct. 1997 (Matsumoto 106). Ibid., 1st Camp to 2nd Camp, 220–540m alt., 15, Oct. 1997 (Matsumoto 120).

*Phymatosorus papuanus* (Baker) S. Matsumoto com. nov.

ESPIRITU SANTO. Nokovula, 1050m alt., 9, Nov. 1996 (Iwashina 3118). 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 219). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 327).

Note: Syn. *Polypodium papuanum* Baker in Becc., Malesia 3 (1886) 48. *Microsorium papuanum* (Baker) Parris, Kew Bull. 41 (1986).

*Phymatosorus powerii* (Baker) Pic. Serm.

ESPIRITU SANTO. 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3206). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 164).

*Phymatosorus scolopendria* (Burm.) Pic. Serm.

EFATE. Eton, 10m alt., 27, Oct. 1996 (Iwashina 3001). Forani, 10m alt., 27, Oct. 1996 (Iwashina 3003). Port Vila, on roadside rock-wall, ca. 20m alt., 30, Oct. 1997 (Matsumoto 501).

ESPIRITU SANTO. Luganville, 5m alt., 1, Nov. 1996 (Iwashina 3011). Along the Kerepua River, 1st Camp, east of Kerepua, 210m alt., 4, Nov. 1996 (Iwashina 3025).

*Pyrrhosia confluens* (R. Br.) Ching

ESPIRITU SANTO. Between 2nd Camp and 1st Camp, Mt. Tabwemasana range, 500m alt., 10, Nov. 1996 (Iwashina 3138).

*Pyrrhosia lanceolata* (L.) Ferwell

EFATE. Nagar Resort, 5m alt., 27, Oct. 1996 (Iwashina 3004). Port Vila, epiphyte on tree-trunk, 2, Oct. 1997 (Matsumoto 12). Along the Noai River, 10m alt., 8, Oct. 1997 (Sugimura 4053).

ESPIRITU SANTO. Luganville, 5m alt., 31, Oct. 1996 (Iwashina 3007 and 3008). Along the Kerepua River, 1st Camp, east of Kerepua, 210m alt., 4, Nov. 1996 (Iwashina 3021). Tangoa, edge of forest, 60m alt., 12, Oct. 1997 (Sugimura 4091). Luganville, on tree-trunk near seaside, 26, Oct. 1997 (Matsumoto 502).

*Selliguea feeioides* Copel.

AMBAE. Lake Manaro Lakua, Mt. Lombenben, 1397m alt., 15, Nov. 1996 (Iwashina 3157).

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1700m alt., 7, Nov. 1996 (Iwashina 3046). 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3198). Between 2nd Camp and Mt. Vutimele, east ridge of Mt. Vutimele, 1500m alt., 23, Nov. 1996 (Iwashina 3231). 2nd Camp to Mt. Vutimena, 700–

1370m alt., 16, Oct. 1997 (Matsumoto 155, 160 and 214).

Note: Syn. *Selliguea plantaginea* Brack.

*Selliguea lanceolata* (Mett.) Fourn.

ESPIRITU SANTO. West peak of Mt. Tabwemasana, 1800m alt., 7, Nov. 1996 (Iwashina 3069). Between Nokovula and 2nd Camp, Mt. Tabwemasana range, 1000m alt., 10, Nov. 1996 (Iwashina 3127). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 160b).

PSILOACEAE

*Psilotum complanatum* Sw.

ESPIRITU SANTO. Between 1st Camp and Peavot, east ridge of Mt. Vutimele, 300m alt., 26, Nov. 1996 (Iwashina 3268). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 131).

*Psilotum nudum* (L.) P. Beauv.

ESPIRITU SANTO. Between Nokovula and 2nd Camp, Mt. Tabwemasana range, 1000m alt., 10, Nov. 1996 (Iwashina 3129). Between 1st Camp and Peavot, east ridge of Mt. Vutimele, 300m alt., 26, Nov. 1996 (Iwashina 3269). Point No. 3, east of Butmas, 350m alt., 8, Oct. 1997 (Matsumoto 68). Luganville to Tangoa, ca. 10m alt., 10, Oct. 1997 (Matsumoto 93 and 98). 1st Camp to Tsureviu, 240–10m alt., 20, Oct. 1997 (Matsumoto 288).

PTERIDACEAE

*Acrostichum aureum* L.

ESPIRITU SANTO. Luganville to Tangoa, ca. 10m alt., 10, Oct. 1997 (Matsumoto 83).

*Acrostichum speciosa* Willd.

ESPIRITU SANTO. Luganville to Tangoa, ca. 10m alt., 10, Oct. 1997 (Matsumoto 82).

*Pteris comans* G. Forst.

ESPIRITU SANTO. Palitaliefu, near Nokovula, Mt. Tabwemasana, ca. 1050m alt., 8, Nov. 1996 (Hashimoto 67). Nokovula, 1070m alt., 6, Nov. 1996 (Iwashina 3043). Between 1st Camp and Peavot, east ridge of Mt. Vutimele, 400m alt., 26, Nov. 1996 (Iwashina 3271). Along the Pialapa River, 2nd Camp to 1st Camp, 540–240m alt., 19, Oct. 1997 (Matsumoto 272).

*Pteris ensiformis* Burm.

ESPIRITU SANTO. Along the Kerepua River, 1st Camp, east of Kerepua, 210m alt., 4, Nov. 1996 (Iwashina 3013). Along the Petsalili River, west of Wuntavislavo, 50m alt., 16, Nov. 1996 (Iwashina 3164). Tsureviu, 10m alt., 21, Oct. 1997 (Matsumoto 293).

*Pteris excelsa* Gaudich.

ESPIRITU SANTO. Nokovula, 1050m alt., 9, Nov. 1996 (Iwashina 3111).

*Pteris litoralis* Rech. f.

ESPIRITU SANTO. East of Butmas, edge of secondary lowland forest, 280m alt., 8, Oct. 1997 (Matsumoto 53). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 302).

*Pteris pacifica* Hieron.

ESPIRITU SANTO. Along the Petsalili River, west of Wuntavislavo, 50m alt., 16, Nov. 1996 (Iwashina 3163). 2nd Camp, east ridge of Mt. Vutimele, 1200m alt., 23, Nov. 1996 (Iwashina

3215). Near Peavot, 100m alt., 26, Nov. 1996 (Iwashina 3263). Point No. 2, east of Butmas, 300m alt., 8, Oct. 1997 (Matsumoto 63). Luganville to Tangoa, ca. 10m alt., 10, Oct. 1997 (Matsumoto 92). 1st Camp to Tsureviu, 240–10m alt., 20, Oct. 1997 (Matsumoto 285).

*Pteris papuana* Ces.

ESPIRITU SANTO. East of Butmas, edge of secondary lowland forest, 280m alt., 8, Oct. 1997 (Matsumoto 39).

*Pteris tripartita* Sw.

ESPIRITU SANTO. Along the Kerepua River, 1st Camp, east of Kerepua, 210m alt., 4, Nov. 1996 (Iwashina 3014). Near Peavot, 100m alt., 26, Nov. 1996 (Iwashina 3264). Point No. 2, east of Butmas, 300m alt., 8, Oct. 1997 (Matsumoto 65). Luganville to Tangoa, ca. 10m alt., 10, Oct. 1997 (Matsumoto 84). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 299).

*Pteris vittata* L.

EFATE. Ewor River, epilithic on mossy rock in the river, 3, Oct. 1997 (Matsumoto 20). Along the Elavor River, 10m alt., 3, Oct. 1997 (Sugimura 4045).

ESPIRITU SANTO. Along the Kerepua River, 1st Camp, east of Kerepua, 210m alt., 4, Nov. 1996 (Iwashina 3024). Luganville, terrestrial on slope of roadside, 20m alt., 7, Oct. 1997 (Matsumoto 35 and 36). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 298).

#### SCHIZAEACEAE

*Lygodium circinnatum* (Burm.) Sw.

ESPIRITU SANTO. Between Tanafo and Matantas, edge of forest, 300m alt., 8, Oct. 1997 (Sugimura 4073). Luganville to Tangoa, ca. 10m alt., 10, Oct. 1997 (Matsumoto 97). 1st Camp to Tsureviu, 20, Oct. 1997 (Matsumoto 286).

*Lygodium reticulatum* Schkuhr

EFATE. East foot of Mt. Bernier, 150–350m alt., 28, Oct. 1997 (Matsumoto 363).

ESPIRITU SANTO. Along the Kerepua River, 1st Camp, east of Kerepua, 210m alt., 4, Nov. 1996 (Iwashina 3087). Between 2nd Camp and 1st Camp, Mt. Tabwemasana range, 600m alt., 10, Nov. 1996 (Iwashina 3143 and 3144). Between Peavot and 1st Camp, east ridge of Mt. Vutimele, 400m alt., 20, Nov. 1996 (Iwashina 3184). Luganville to Tangoa, ca. 10m alt., 10, Oct. 1997 (Matsumoto 96). 1st Camp to Tsureviu, 240–10m alt., 20, Oct. 1997 (Matsumoto 287).

*Schizaea dichotoma* (L.) J. Sm.

EFATE. East foot of Mt. Bernier, 150–350m alt., 28, Oct. 1997 (Matsumoto 373). Mt. Bernier, in the rain forest, 270m alt., 28, Oct. 1997 (Sugimura 4232).

ESPIRITU SANTO. Palitaliefu, near Nokovula, Mt. Tabwemasana, ca. 1050m alt., 8, Nov. 1996 (Hashimoto 18 and 19).

#### SELAGINELLACEAE

*Selaginella distans* E. F. Warb.

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1500m alt., 7, Nov. 1996 (Iwashina 3072). Nokovula, 1100m alt., 7, Nov. 1996 (Iwashina 3089). Between 2nd Camp and 1st Camp, Mt. Tabwemasana range, 800m alt., 10,

Nov. 1996 (Iwashina 3150). Between 1st Camp and 2nd Camp, east ridge of Mt. Vutimele, 900m alt., 21, Nov. 1996 (Iwashina 3172). 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3211). Point No. 3, east of Butmas, 350m alt., 8, Oct. 1997 (Matsumoto 73). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 134). *Ibid.*, 540–1050m alt., 18, Oct. 1997 (Matsumoto 227 and 262). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 309).

*Selaginella durvillei* (Bory) A. Br. ex Kuhn

EFATE. Pang Pang around the Nainu River, terrestrial on bank of river, 3, Oct. 1997 (Matsumoto 18). Along the Elavor River, 10m alt., 3, Oct. 1997 (Sugimura 4044).

ESPIRITU SANTO. Along the Kerepua River, 1st Camp, east of Kerepua, 210m alt., 4, Nov. 1996 (Iwashina 3029). Between 2nd Camp and 1st Camp, Mt. Tabwemasana range, 400m alt., 10, Nov. 1996 (Iwashina 3137). Along the Petsalili River, west of Wuntavislavo, 50m alt., 16, Nov. 1996 (Iwashina 3162). Between 1st Camp and Peavot, east ridge of Mt. Vutimele, 300m alt., 26, Nov. 1996 (Iwashina 3266). 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 225b and 229).

*Selaginella firmuloides* E. F. Warb.

ESPIRITU SANTO. Along the Pialapa River, 1st Camp to 2nd Camp, 220–540m alt., 15, Oct. 1997 (Matsumoto 125).

*Selaginella firmula* (Bory) A. Br. ex Kuhn

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 228).

#### SINOPTERIDACEAE

*Doryopteris concolor* (Angsd. & Fisch.) Kuhn

ESPIRITU SANTO. Along the Kerepua River, 1st Camp, east of Kerepua, 210m alt., 4, Nov. 1996 (Iwashina 3017).

#### THELYPTERIDACEAE

*Chingia ferox* (Blume) Holttum

ESPIRITU SANTO. East of Butmas, edge of secondary lowland forest, 280m alt., 8, Oct. 1997 (Matsumoto 41).

*Christella dentata* (Forsk.) Brownsey & Jermy

EFATE. East foot of Mt. Bernier, 150–350m alt., 28, Oct. 1997 (Matsumoto 377).

*Christella harveyi* (Mett.) Holttum

EFATE. East foot of Mt. Bernier, 150–350m alt., 28, Oct. 1997 (Matsumoto 365).

ESPIRITU SANTO. Luganville to Tangoa, ca. 10m alt., 10, Oct. 1997 (Matsumoto 100).

*Christella parasitica* (L.) Lev.

ESPIRITU SANTO. Near Peavot, 100m alt., 26, Nov. 1996 (Iwashina 3265). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 358).

*Christella* aff. *parasitica*

ESPIRITU SANTO. Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 359).

Note: Lamina no glands on lower surface.

*Christella* aff. *peekerii*

ESPIRITU SANTO. Luganville, on calcareous rock-wall, cultivated area, ca. 20m alt., 7, Oct. 1997 (Matsumoto 27).

Note: Similar to *Christella harveyi* but no glands on lower surface of lamina.

*Christella* sp.

ESPIRITU SANTO. Along the Pialapa River, 2nd Camp to 1st Camp, 540–240m alt., 19, Oct. 1997 (Matsumoto 276).

*Coryphopteris seemanii* Holttum

ESPIRITU SANTO. Between 2nd Camp and Mt. Vutimele, east ridge of Mt. Vutimele, 1400m alt., 23, Nov. 1996 (Iwashina 3223). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 198 and 201).

*Macrothelypteris torresiana* (Gaudich.) Ching

ESPIRITU SANTO. Point No. 3, east of Butmas, 350m alt., 8, Oct. 1997 (Matsumoto 72). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 354).

*Plesioneuron attenuatum* (Brack.) Holttum

ESPIRITU SANTO. Between Nokovula and 2nd Camp, Mt. Tabwemasana range, 1000m alt., 10, Nov. 1996 (Iwashina 3133). East of Butmas, edge of secondary lowland forest, 280m alt., 8, Oct. 1997 (Matsumoto 50). Along the Pialapa River, 2nd Camp to 1st Camp, 540–240m alt., 19, Oct. 1997 (Matsumoto 275).

*Plesioneuron hopeanum* (Baker) Holttum

ESPIRITU SANTO. Between 2nd Camp and 1st Camp, east ridge of Mt. Vutimele, 1000m alt., 25, Nov. 1996 (Iwashina 3239 and 3246). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 184).

*Pneumatopteris costata* (Brack.) Holttum

ESPIRITU SANTO. Between 1st Camp and Peavot, east ridge of Mt. Vutimele, 300m alt., 26, Nov. 1996 (Iwashina 3257). Point No. 3, east of Butmas, 350m alt., 8, Oct. 1997 (Matsumoto 69). Luganville to Tangoa, ca. 10m alt., 10, Oct. 1997 (Matsumoto 86).

*Pneumatopteris parksii* (Ballard) Holttum

ESPIRITU SANTO. 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 22, Nov. 1996 (Iwashina 3209). East of Butmas, edge of secondary lowland forest, 280m alt., 8, Oct. 1997 (Matsumoto 52).

*Pneumatopteris* aff. *stokesii*

ESPIRITU SANTO. Nokovula, 1050m alt., 9, Nov. 1996 (Iwashina 3117).

*Pronephrium beccarianum* × *Christella* sp. ?

ESPIRITU SANTO. 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 173).

Note: Completely abortive spores and almost immature sporangia. New hybrid.

*Pronephrium beccarianum* (Cesati) Holttum

ESPIRITU SANTO. 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 24, Nov. 1996 (Iwashina 3236). 2nd Camp to Mt. Vutimena, 700–1370m alt., 16, Oct. 1997 (Matsumoto 176).

*Pronephrium rubrinerve* (Mett.) Holttum

ESPIRITU SANTO. Nokovula, 1070m alt., 6, Nov. 1996 (Iwashina 3032). Between 1st Camp and Peavot, east ridge of Mt. Vutimele, 400m alt., 26, Nov. 1996 (Iwashina 3259). East of

Butmas, edge of secondary lowland forest, 280m alt., 8, Oct. 1997 (Matsumoto 40). Between Tanafo and Matantas, edge of forest, 270m alt., 8, Oct. 1997 (Sugimura 4069).

*Sphaerostephanos doodioides* (Copel.) Holttum

ESPIRITU SANTO. East of Butmas, edge of secondary lowland forest, 280m alt., 8, Oct. 1997 (Matsumoto 43). Luganville to Tangoa, ca. 10m alt., 10, Oct. 1997 (Matsumoto 91). Tangoa, edge of forest, 60m alt., 12, Oct. 1997 (Sugimura 4085).

*Sphaerostephanos heterocarpus* (Blume) Holttum

ESPIRITU SANTO. East of Butmas, edge of secondary lowland forest, 280m alt., 8, Oct. 1997 (Matsumoto 44).

*Sphaerostephanos invisus* (G. Forst.) Holttum

EFATE. Klems Hill, 27, Oct. 1996 (Iwashina 3005). Pang Pang around the Nainu River, terrestrial on bank of river, 3, Oct. 1997 (Matsumoto 17). Klems Hill, terrestrial on mountain slope of roadside, north of Mele, 4, Oct. 1997 (Matsumoto 25).

ESPIRITU SANTO. Luganville, 5m alt., 1, Nov. 1996 (Iwashina 3010). Ibid., terrestrial on slope of roadside, ca. 20m alt., 7, Oct. 1997 (Matsumoto 34). Along the Kerepua River, 1st Camp, east of Kerepua, 210m alt., 4, Nov. 1996 (Iwashina 3022 and 3027). Along the Pialapa River, 2nd Camp to 1st Camp, 540–240m alt., 19, Oct. 1997 (Matsumoto 276).

*Sphaerostephanos unitus* (L.) Holttum

ESPIRITU SANTO. 1st Camp to Tsureviu, 240–10m alt., 20, Oct. 1997 (Matsumoto 292).

*Sphaerostephanos* sp.

ESPIRITU SANTO. Between 2nd Camp and 1st Camp, east ridge of Mt. Vutimele, 1000m alt., 25, Nov. 1996 (Iwashina 3239). 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 221).

#### TMESIPTERIDACEAE

*Tmesipteris vanuatuensis* A. F. Braithw.

ESPIRITU SANTO. Palitaliefu, near Nokovula, Mt. Tabwemasana, ca. 1050m alt., 8, Nov. 1996 (Hashimoto 11 and 12). Nokovula, 1070m alt., 6, Nov. 1996 (Iwashina 3031). Ibid., 1100m alt., 7, Nov. 1996 (Iwashina 3092). Between 2nd Camp and Mt. Vutimele, east ridge of Mt. Vutimele, 1150m alt., 23, Nov. 1996 (Iwashina 3230).

#### VITTARIACEAE

*Antrophyum semicostatum* Blume

ESPIRITU SANTO. Between Nokovula and Mt. Tabwemasana, on the north ridge of Mt. Tabwemasana, 1200m alt., 7, Nov. 1996 (Iwashina 3061). Between 1st Camp and 2nd Camp, east ridge of Mt. Vutimele, 700m alt., 21, Nov. 1996 (Iwashina 3178). Along the Pialapa River, 1st Camp to 2nd Camp, 220–540m alt., 15, Oct. 1997 (Matsumoto 128). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 338).

*Antrophyum alatum* Brack.

EFATE. East foot of Mt. Bernier, 150–350m alt., 28, Oct. 1997 (Matsumoto 375).

ESPIRITU SANTO. Point No. 2, east of Butmas, 300m alt., 8, Oct. 1997 (Matsumoto 61).



Along the Pialapa River, Tsureviu to 1st Camp, 10–220m alt., 14, Oct. 1997 (Matsumoto 101). Ibid., 2nd Camp to 1st Camp, 540–240m alt., 19, Oct. 1997 (Matsumoto 277). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 306 and 341).

*Antrophyum platangineum* (Cav.) Kaulf.

AMBAE. Lake Manaro Lakua, Mt. Lombenben, 1397m alt., 15, Nov. 1996 (Iwashina 3160).  
ESPIRITU SANTO. Along the Kerepua River, 1st Camp, east of Kerepua, 210m alt., 4, Nov. 1996 (Iwashina 3016). Matevulu, 5m alt., 8, Oct. 1997 (Sugimura 4080). Tangoa, edge of forest, 60m alt., 12, Oct. 1997 (Sugimura 4090).

*Vaginularia angustissima* (Brack.) Mett.

ESPIRITU SANTO. Between 2nd Camp and 1st Camp, Mt. Tabwemasana range, 600m alt., 10, Nov. 1996 (Iwashina 3139). Between 1st Camp and Peavot, east ridge of Mt. Vutimele, 400m alt., 26, Nov. 1996 (Iwashina 3272). Along the Pialapa River, 1st Camp to 2nd Camp, 220–540m alt., 15, Oct. 1997 (Matsumoto 119). Ibid., between 2nd Camp and 1st Camp, 450m alt., 19, Oct. 1997 (Sugimura 4175). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 333).

*Vittaria angustifolia* Blume

ESPIRITU SANTO. 2nd Camp, east ridge of Mt. Vutimele, 1100m alt., 24, Nov. 1996 (Iwashina 3234). 2nd Camp to Mt. Vutimena, 540–1050m alt., 18, Oct. 1997 (Matsumoto 244). Butmas, ca. 500m alt., 23, Oct. 1997 (Matsumoto 323).

*Vittaria elongata* Sw.

EFATE. East foot of Mt. Bernier, 150–350m alt., 28, Oct. 1997 (Matsumoto 368).  
ESPIRITU SANTO. Nokovula, 1050m alt., 7, Nov. 1996 (Iwashina 3090). Between 1st Camp and 2nd Camp, east ridge of Mt. Vutimele, 600m alt., 21, Nov. 1996 (Iwashina 3183). Between 1st Camp and Peavot, east ridge of Mt. Vutimele, 400m alt., 26, Nov. 1996 (Iwashina 3260). Tangoa, edge of forest, 60m alt., 12, Oct. 1997 (Sugimura 4084).

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Mt. Tabwemasana (1979 m), → Mt. Tabwemasana (1879 m),

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*Lygodium circinnatum* (Burm.) Sw. → Transfer to Lygodiaceae from Schizaeaceae

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Note: Syn. *Selliguea plantaginea* Brack. → Elimination

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*Adiantum pubescens* Schkuhr → *Adiantum hispidulum* Swartz

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*Histiopteris incisa* (Thunb.) J. Sm. → Transfer to Hypolepidaceae from Hymenophyllaceae

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*Selliguea lanceolata* (Mett.) Fourn. → *Selliguea plantaginea* Brack.

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*Adiantum pubescens* Schkuhr → *Adiantum fournieri* Copel.

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*Tectaria deculens* (C. Presl) Copel. → *Tectaria decurrens* (C. Presl) Copel.

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*Shenomeris deltoidea* (C. Chr.) Copel. → *Sphenomeris deltoidea* (C. Chr.) Copel.