Taiwania, **49**(3): 175-182, 2004

Orchidaceous Additions to the Philippine Flora

Paul Ormerod[1]

(Manuscript received 5 July, 2004; accepted 13 August, 2004)

ABSTRACT: Literature and herbarium studies of Philippine orchids has revealed a variety of new and noteworthy data in regard to new records, synonymy and the taxonomic position of some species. Two new combinations are proposed, viz. *Zeuxine mindanaensis* and *Z. wenzelii.*

KEY WORDS: Orchidaceae, Additions, Philippines.

The present paper is the result of herbarium and literature studies made at the Harvard University Herbaria (A, AMES, GH), Copenhagen (C) and Kew (K). At the time of these visits to the aforementioned institutions there was no intention to specifically concentrate on Philippine orchids but it soon became apparent that enough data had been accumulated to form a reasonable article on the subject covering a variety of genera that are generally under-studied in the Malesian flora.

Appendicula Blume

Valmayor (1984) lists 23 species from the Philippines, of which 17 are believed to be endemic. The widespread *A. reflexa* has not previously been recorded from the Philippines even though it is found on the adjacent islands of Borneo and Taiwan. The lack of prior records is due mostly the similarity of *A. reflexa* to the common endemic *A. micrantha* Lindl. with which the former was often confused.

Appendicula reflexa Blume, Bijdr.: 301, 1825.

Types: Java - Tjapus River, *Blume s. n.* (syntype: L); Mt. Pantjar, *Blume 296* (syntype: L, photo.!, isosyntype: L, photo.!).

Distribution: Vietnam ; Thailand; Malaysia; Indonesia; Philippines; Taiwan; Papua New Guinea; NE Australia; Solomon Islands; Vanuatu; New Caledonia; Fiji.

Specimens examined: PHILIPPINES – Luzon: cult. in Manila, 9 July 1905, *Loher 6021* (AMES); Rizal Prov., mountains behind Bosoboso, fl. in cult. 9 April 1907, *Ramos BS 3011* (AMES); Laguna Prov., 19 June 1912, *Reillo 17* (AMES); loc. cit., 100-200 m, June-August 1915, *McGregor BS 23022* (AMES); Tayabas Prov., Lucban, May 1907, *Elmer 9245* (AMES); Camarines Sur, Mt. Labu, 1100 m, 11 July 1929, *Quisumbing 5134* (AMES). Panay: Antique Prov., near Flores, Culasi, 1200-1500 m, 7 June 1918, *McGregor BS 32404* (AMES). Mindanao: Davao District, Todaya (Mt. Apo), August 1909, *Elmer 11329A* (AMES); Agusan Prov., Mt. Hilonghilong, 275 m, 21 March 1911, *Weber 68* (AMES); Cabadbaran (Mt. Urdaneta), July & August 1912, *Elmer 13382* (AMES); lake near Bunanan, 25 November 1911, *Weber 301* (AMES); Agusan River, Vernela, 15m, 24 June 1911, *Weber 148* (AMES); Bunanan, 75 m, 24 November 1911, *Weber s.n.* (AMES); Apo Range, Cottabato Divide, 790 m, 25 August 1911, *Weber 229* (AMES); Bukidnon Subprov., Tangculan area, Cumaycay River, 915 m, 23 July 1920, *Ramos & Edano BS 39182* (AMES).

Notes: *Appendicula reflexa* is closely related to *A. micrantha* but it can be distinguished from the latter by its flowers with a broadly conical mentum and the lip with a semicircular to lunate basal callus that is almost appressed to its floor. In *A. micrantha* the flowers have a squarish mentum and the lip has a hippocrepiform basal callus that raises almost vertically from its floor.

1. P. O. Box 8210, Cairns 4870, Queensland, Australia. Email: niel@bigpond.com

Eulophia R. Br. ex Lindl.

Seven species are listed from the Philippines by Valmayor (1984), of which three were considered endemic. One of these endemic taxa, *E. dentata* Ames, is now known to occur in Taiwan (Ormerod, 2003) whilst the other two are synonymized below. Thus only five species occur in the Philippines, none of them endemic.

Eulophia bicallosa (D. Don) P. F. Hunt & Summerhayes, Kew Bull. 20: 60, 1966.

Basionym: *Bletia bicallosa* D.Don, Prodr. Fl. Nepa1.: 30, 1825.

Type: Nepal - sine loc., *Buchanan-Hamilton s. n.* (holotype BM!, isotype: LINN).

Eulophia vanoverberghii Ames, Philipp. J. Sci., Bot. 7: 13, 1912.
Type: Philippines - Luzon, Bontoc Subprov., on hillocks, 1350 m, 2 April 1910, *Vanoverbergh 336* (holotype: AMES!).
Eulophia merrillii Ames, Orch. 5: 104, 1915. syn. Nov.
Type: Philippines - Mindanao, Caraga, 100 m, 6 October 1906, *Merrill 5452* (holotype: AMES!).

Distribution: India; Nepal; China; Thailand; Malaysia; Indonesia; Philippines; Taiwan; Papua New Guinea; NE Australia.

Specimens examined: PHILIPPINES – Luzon: Bontoc Subprov., 1300 m, 12 April 1911, *Vanoverbergh 1188* (AMES, BM); loc. cit., December 1913, *Vanoverbergh 3876* (AMES); loc. cit., 1 June 1916, *Vanoverbergh 4051* (AMES). Mindanao: Davao District, April-May 1917, *Copeland s.n.* (AMES); Cotabato Prov., Buayan, April 1932, *Ramos & Edano BS 85471* (AMES); loc. cit., Nutol, March-April 1932, *Ramos & Edano BS 85474* (AMES); Bukidnon Prov., Balsambangan, Malaybalay, 20 April 1917, *Rola BS 26536* (AMES). TIMOR: central part, *Riedel s.n.* (K).

Notes: Valmayor (1984) accepted *E. vanoverberghii* and *E. merrillii* as endemic Philippine species. Later Thomas (1998) reduced *E. vanoverberghii* to synonymy of *E. bicallosa.* Examination of the type of *E. merrillii* shows that it also fits into the variability of *E. bicallosa* and must also be reduced to the latter.

The specimen cited from Timor represents an addition to the flora of that island.

Eulophia exaltata Rchb.f., Bonpl. 5: 38, 1857.

Type: Java - near Gondang, 13 October 1844, *Zollinger 3352* (holotype: W).

Bletia stricta Presl, Rel. Haenk. 1: 98, 1827.
Eulophia stricta (Presl) Ames, Orch. 5: 103, 1915. [*non* Rolfe 1897].
Type: Philippines - Luzon, *Haenke s. n.* (holotype: PR).

Distribution: Indonesia (Borneo); Philippines.

Specimen examined: INDONESIA - Borneo: sine loc., *Ericsson s.n.* (K).

Notes: The name *E. stricta* has been adopted for this species ever since Ames (1915) proposed that combination based on *Bletia stricta.* However Ames overlooked the earlier African *E. stricta* Rolfe, making his combination a later homonym.

Thomas (1998) accepted the name *E. stricta* for the Asian plant, she listed the 1915 transfer of Ames and also a transfer accredited to Lindley (1833). In the latter place Lindley did not move *Bletia stricta* to *Eulophia* nor can I locate any reference prior to 1915 that validly makes such a transfer. Accordingly the name *E. exaltata* is reinstated whilst the African plant currently known as *E. serrata* Cribb must again be called *E. stricta* Rolfe.

I have cited a Bornean collection above because this is a new record for that island.

Hetaeria Blume

Seven species (five endemic) were listed by Valmayor (1984) from the Philippines. Of these, only *H. oblongifolia* Blume is correctly placed in the genus. The other six taxa are now

placed in other genera: *H. blackii* = *Rhomboda blackii* (Ames) Ormerod; *H. cristata* = *Rhomboda cristata* (Blume) Ormerod [it further does not occur in the Philippines and is endemic to Java]; *H. leytensis* = *Zeuxine philippinensis* (Ames) Ames; *H. mindanaensis* = *Zeuxine mindanaensis* (Ames) Ormerod and *H. wenzelii* = *Zeuxine wenzelii* (Ames) Ormerod. However herbarium research at AMES located material of another two true *Hetaeria* species hitherto unrecorded for the Philippines. Thus three species of *Hetaeria* can be attributed to the Philippine flora of which none are endemic.

Hetaeria anomala (Lindl.) Rchb.f., Trans. Linn. Soc., Bot. 30: 142, 1874.

Basionym: *Aetheria anomala* Lindl., J. Linn. Soc., Bot. 1: 185, 1857.

Type: NE India - Assam, Tingree, *Griffith s. n.* (holotype: K-L!).

Distribution: NE India; Burma; Thailand; Vietnam; SE China; Malaysia; Indonesia; Philippines; Taiwan.

Specimen examined: PHILIPPINES – Mindoro: Mt. Sablayan, February 1908, *Merritt FB 11031* (AMES).

Notes: As mentioned above, this is a new record for the Philippines.

Hetaeria elata Hook. f., F1. Brit. Ind. 6: 116, 1890.

Types: Peninsula Malaysia – Perak, *Scortechini 387B* (syntype: K!); Padang, Ulu Batang, 1495m, *Wray 1517* (syntype: K!).

Distribution: Indonesia (Sumatra?); Peninsula Malaysia and Sabah; Philippines.

Specimen examined: PHILIPPINES – Negros: Negros Oriental Prov.,Ceuernos Mts., Dumaguete, May 1908, *Elmer 10149* (AMES).

Notes: The Philippine specimen has poorly preserved immature flowers and it is difficult to be certain of the identification. It is possible that a new species is at hand since the callosities in the lip and the position of the column wings does not quite match that of any species in the *H. elata* group such as the Peninsula Malaysian *H. elegans* Ridl. (Syn.: *H. ophirensis* Ridl.) or the New Guinean *H. callosa* (J. J. Sm.) Ormerod.

Sumatra is added to the distribution above based on a photograph by Comber (2001) misidentified as *Goodyera procera* (Ker-Gawl.) W. J. Hook.

Liparis L. C. Rich.

At least 37 species (24 endemic) occur in the Philippines but this number can be expected to increase since the genus is poorly studied in the Malesian part of its distribution.

Liparis elliptica Wight, Icon. P1. Ind. Orient. 5: t. 1735, 1851.

Type: India - Nilgiri Hills, Coonoor, *Wight s. n.* (holotype: K).

> *Cestichis lyonii* Ames, Philipp. J. Sci., Bot. 6, 1: 47, 1911. *syn. nov.*
> *Liparis lyonii* (Ames) Ames, Orch. 5: 81, 1915.
> Type: Philippines - Luzon, Benguet Subprov., Baguio, *Lyon 155* (holotype: AMES!).

Distribution: Sri Lanka; India; Thailand; Indonesia; Philippines; Taiwan; New Caledonia; Fiji.

Specimens examined: PHILIPPINES – Luzon: Benguet Subprov., Baguio, March 1907, *Elmer 8463* (AMES); Bontoc Subprov., 20 m, January 1914, *Vanoverbergh 3885* (AMES).

Notes: An examination of the type of *Cestichis lyonii* shows it to be identical with *Liparis elliptica*, a species with a somewhat disjunct distribution since it is not yet recorded east of Java in Indonesia, nor is it yet found in Borneo or New Guinea but it does occur again in New Caledonia and Fiji.

Ludisia A. Rich.

This genus was first recorded from the Philippines by Ames & Quisumbing (1931) based on a cultivated collection of unknown local origin. In a recent account of the synonymy of the single species *L. discolor*, I (Ormerod, 2002) omitted the Philippines from its distribution since the plant is widely cultivated and no later local finds have been reported in the literature. However I later found in AMES a collection with seemingly genuine Philippine provenance which is reported on here.

Ludisia discolor (Ker-Gawl.) Blume, Fl. Javae n. s. 1: 95, 1858.

Basionym: *Goodyera discolor* Ker-Gawl., Bot. Reg. 4: t. 271, 1818.

Lectotype: t. 271 in Bot. Reg. 4, 1818 (vide Ormerod, 2002).

Distribution: Indonesia (Anambas and Natoena Islands); Peninsula Malaysia; Thailand; Burma; Vietnam; China; Philippines.

Specimen examined: PHILIPPINES – Palawan: Brooks Point, 17 October 1923, *Taylor BS 81147* (AMES).

Notes: The above record confirming that this species does occur in the Philippines is somewhat unexpected since there are not any nearby finds on Borneo, the nearest landmass. Indeed the nearest locality to Palawan where *L. discolor* can be found is in Vietnam.

A small correction is needed to the synonymy of *L. discolor* that I previously enumerated (Ormerod, 2002), viz. the correct authorship of the combination *Haemaria discolor*. The citation should read *Haemaria discolor* (Low ex Rchb. f.) Hook. f., Bot. Mag. s. 3, 52: t. 7486, 1896 [not Hasselb., in Bail., Stand. Cycl. Hort. 3: 1426, 1915].

Phaius Lour.

Valmayor (1984) records nine species from the Philippines of which two [*P. mindorensis* Ames and *P. ramosii* (Ames) Ames] must be excluded since these are now placed in *Cephalantheropsis* Guill. Also I (Ormerod, 1998) added *P. amboinensis* Blume to the flora and below will also add *P. borneensis* J. J. Sm. but at the same time reduce *P. linearifolius* Ames to *P. flavus* (Blume) Lindl. Thus there are at least eight species in the Philippines of which three appear to be endemic.

Phaius amboinensis Blume, Mus. Bot. Lugd.- Bat. 2: 180, 1856.

Type: Indonesia – Ambon Island, *Zippel s.n.* (lectotype: L, photo.!).

Distribution: Indonesia; Philippines; Palau; Papua New Guinea; Solomon Islands; Vanuatu; New Caledonia; Fiji; Samoa; Cook Islands; Tahiti.

Specimens examined: PHILIPPINES – Sulu Prov., Jolo Island, Mt. Daho, 610 m, September 1924, *Ramos & Edano BS 44242* (AMES, K). Negros: Negros Oriental Prov., Tanjay Lake Balinsasayao, 975 m, *Edano PNH 5344* (AMES).

Notes: As stated above this species was first recorded from the Philippines in 1998 based on a collection from Jolo in the far south of the Philippine archipelago. It is now evident that *P. amboinensis* also occurs further north in the Philippine archipelago and it may be more widespread than previously thought. It is also possible that *P. amboinensis* occurs on Mindoro because there is in AMES a sterile specimen collected by Ramos and Edano that is very similar to it.

Phaius borneensis J. J. Sm., Icon. Bogor. 2: 6, t. 3, fig. C, 1903.

Type: Borneo - Kalimantan, Bukit Kasian, *Nieuwenhuis s. n.* (holotype: BO).

Distribution: Borneo (Sabah; Kalimantan); Philippines.

Specimen examined: PHILIPPINES – Palawan: Penigsan, 15 September 1961, *Sandermann Olsen 257* (C).

Notes: I have compared the Philippine plant with Bornean material and believe them to represent the same species.

Phaius flavus (Blume) Lindl., Gen. Sp. Orch. P1.: 128, 1831.

Basionym: *Limodorum flavum* Blume, Bijdr.: 375, 1825.

Type: Java - Mt. Gede, *Blume s. n.* (holotype: L).

> *Phaius linearifolius* Ames, Philipp. J. Sci., Bot. 7: 10, 1912. *syn. nov.*
> Type: Philippines - Luzon, Bontoc Subprov., 1650 m, 28 June 1911, *Vanoverbergh 1288* (holotype: AMES 12223!, isotypes: AMES 12221!, 12222!).

Distribution: India; Nepal; Bhutan; Burma; Thailand; Laos; Vietnam; China; Taiwan; Japan; Philippines; Malaysia; Indonesia; Papua New Guinea; Vanuatu; New Caledonia; Samoa.

Notes: An examination of the numerous collections representing *P. flavus* at AMES shows that the narrow leaf width that was considered diagnostic for *P. linearifolius* falls within the variation of *P. flavus.* Therefore the former is reduced to synonymy above.

Zeuxine Lindl.

Valmayor (1984) reported nine species (six endemic) from the Philippines. However two of these species [*Z. luzonensis* (Ames) Ames and *Z. weberi* (Ames) Ames] were found to belong in the genus *Rhomboda* Lindl.by Ormerod (1995). Nevertheless ten species (seven endemic) are still to be found in the Philippines because three species placed in *Hetaeria* Blume by Ames (1915) actually belong in *Zeuxine.* One of these taxa, *H. lancifolia* Ames, was transferred to *Zeuxine* by Ormerod (1998) whilst the other two (*H. mindanaensis* and *H. wenzelii*) are transferred below.

Zeuxine mindanaensis (Ames) Ormd., **comb. nov.**

Basionym: *Hetaeria mindanaensis* Ames, Orch. 5: 45, 1915.

Type: Philippines - Mindanao, Agusan Prov., Sangaan, Cabadbarab Trail, 25 m, 11 December 1911, *Weber 317* (holotype: AMES!, isotype: AMES!).

Distribution: Philippines.

Notes: This species appears to be related to *Z. lancifolia* (Ames) Ormd., also from Mindanao, but it differs from that species in the flowers having a labellum with two internal appendages each side and a smaller transversely oblong epichile. In *Z. lancifolia* the labellum has only one internal appendage each side and the epichile is transversely elliptic.

Zeuxine philippinensis (Ames) Ames, Sched. Orch., Corrig.: 37, 1938.

Basionym: *Adenostylis philippinensis* Ames, Sched. Orch. 6: 9, 1923.

Type: Philippines – Leyte, Dagami, Puguajaan, 60 m, 31 July 1913, *Wenzel 0224* (holotype: AMES!).

> *Hetaeria leytensis* Ames, Sched. Orch. 6: 11, 1923. *syn. nov.*
> Type: Philippines - Leyte, Mt. Abucayan, 270 m, 20 January 1923, *Edano BS 42081B* (holotype: PNH*, isotype: AMES!).

Distribution: Philippines.

Specimen examined: PHILIPPINES – Leyte, Dagami, 60 m, 28 March 1913, *Wenzel 0375* (AMES).

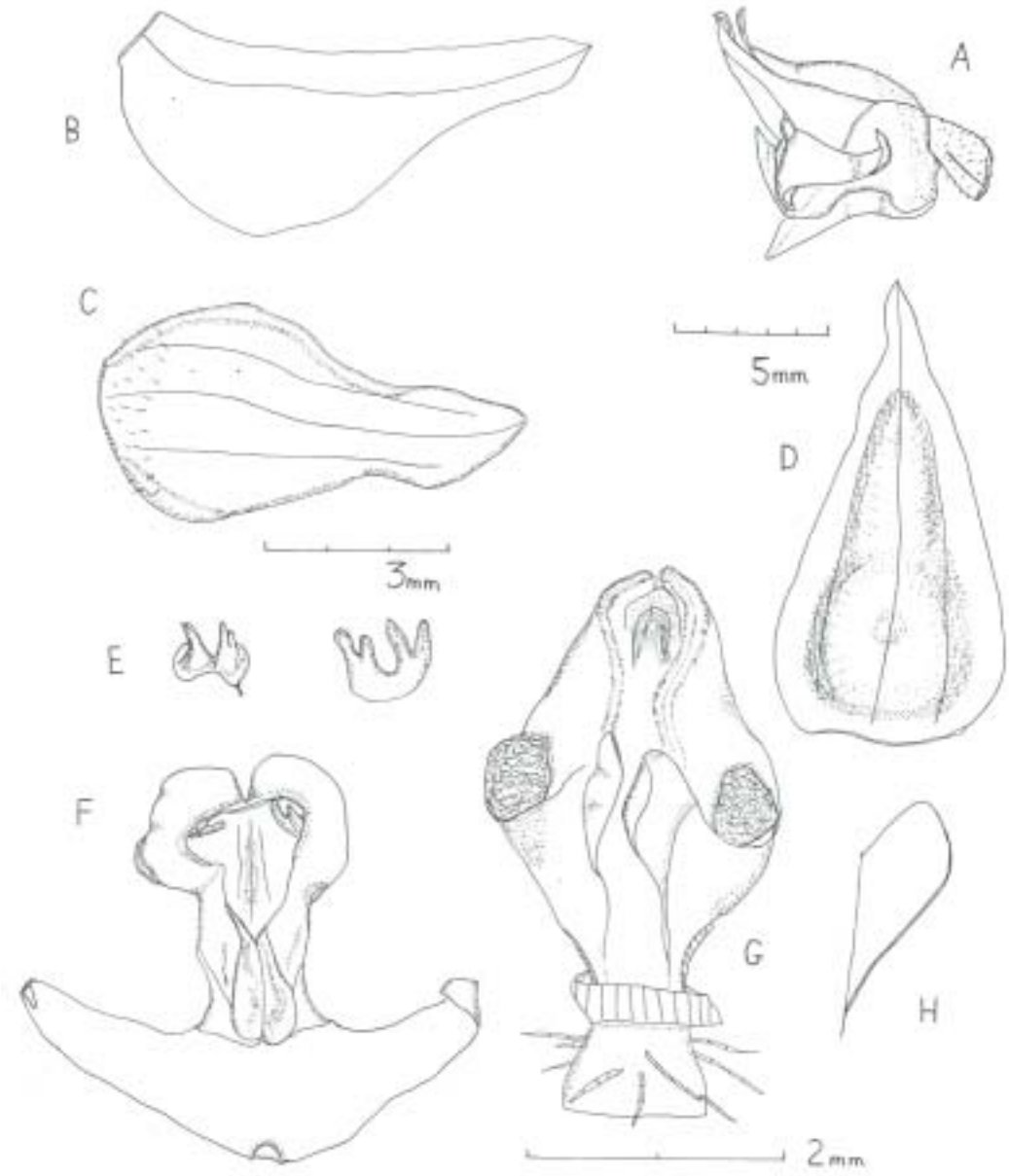

Fig. 1. *Zeuxine wenzelii*. A: Flower. B: Petal. C: Lateral sepal. D: Dorsal sepal, inside. E: Appendages from inside labellum. F: Labellum. G: Column, ventral. H: Columnwing. Figures to respective scales, except for E and H. Drawn from holotype.

Notes: *Adenostylis philippinensis* is based on a specimen with capsules forming on the inflorescence whilst the isotype of *Hetaeria leytensis* is a specimen with a young inflorescence. However both types have the same distinctive vegetative aspects such as the trullate-lanceolate leaves with darker green reticulation and the same floral characters which leads to the conclusion that only one species is represented.

Zeuxine wenzelii (Ames) Ormd., **comb. nov.**

Basionym: *Hetaeria wenzelii* Ames, Orch. 5: 46, 1915.

Type: Philippines – Leyte, Dagami, 60 m, 10 July 1913, *Wenzel 0227* (holotype: AMES!).

Distribution: Philippines.

Notes: This species appears to be related to *Z. triangula* J. J. Sm. from the island of Buru in the Indonesian province of Maluku. Both species are very similar florally but *Z. wenzelii* differs from *Z. triangula* in having flowers with a medially dilated column with a prominent ventral pair of obliquely subquadrate columnwings. In *Z. triangula* the column is basally dilated with a small ventral pair of semilunate ridges.

ACKNOWLEDGEMENTS

I wish to thank herbarium and library staff at AMES, BM, C and K for their hospitality during my visits.

LITERATURE CITED

Ames, O. 1915. Studies in the family Orchidaceae 5: 1-271. Merrymount Press, Boston, USA.

Ames, O. and E. Quisumbing. 1931. New or noteworthy Philippine orchids 1. Philipp. J. Sci., Bot. **44**: 369-383.

Comber, J. B. 2001. Orchids of Sumatra. RBG Kew, UK. 1026 pp.

Lindley, J. 1830-1840. The Genera and Species of Orchidaceous Plants. Ridgways, London, UK. 553 pp.

Ormerod, P. 1995. A Reinstatement of *Rhomboda* Lindl. (Orchidaceae Subtribe Goodyerinae). Orchadian **11**: 323-339.

Ormerod, P. 1998a. Notes on the orchids of New Guinea and the Pacific 5. Austral. Orch. Rev. **63**: 12-14.

Ormerod, P. 1998b. Miscellaneous Goodyerinae studies. Austral. Orch. Rev. **63**: 10-11.

Ormerod, P. 2002. Taxonomic changes in Goodyerinae (Orchidaceae: Orchidoideae). Lindleyana **17**: 189-238.

Ormerod, P. 2003. Orchidaceous additions to the floras of China and Taiwan. Taiwania **48**: 87-93.

Thomas, S. 1998. A preliminary checklist of the genus *Eulophia*. Lindleyana **13**: 170-202

Valmayor, H. 1984. Orchidiana Philippiniana. 2 vols. Eugenio Lopez Foundation, Manila. Vol. **1**: 1-360, **2**: 1-377.

菲律賓蘭科植物誌新見聞

Paul Ormerod[1]

(收稿日期：2004 年 7 月 5 日；接受日期：2004 年 8 月 13 日)

摘　　要

研究菲律賓野生蘭之文獻與標本，發現了許多新的與值得注意的資料，例如新紀錄種、異名與一些品種的分類地位。本文提出兩個新組合名，即：*Zeuxine mindanaensis* 與 *Z. wenzelii*。

關鍵詞：蘭科、新見聞、菲律賓。

1. P. O. Box 8210, Cairns 4870, Queensland, Australia. Email: niel@bigpond.com