

ERICACEAE OF LATIMOJONG RANGE, SOUTH SULAWESI

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Abdulrokhman Kartonegoro. 2014. *Ericaceae* dari Pegunungan Latimojong, Sulawesi Selatan. *Floribunda* 4 (8): 191–194. —. Suku *Ericaceae* di Sulawesi diwakili oleh empat marga yaitu *Diplycosia* Blume, *Gaultheria* L., *Rhododendron* L. dan *Vaccinium* L. Inventarisasi jenis-jenis *Ericaceae* di Pegunungan Latimojong dilakukan berdasarkan koleksi dari lapangan dan studi herbarium di Herbarium Bogoriense. Ditemukan tiga puluh jenis dan dua varietas terdiri dari 4 jenis *Diplycosia*, 3 jenis *Gaultheria*, 19 jenis *Rhododendron* dan 6 jenis *Vaccinium*. Dua puluh tujuh jenis dan dua varietas diketahui endemik di Sulawesi serta 17 jenis endemik di Pegunungan Latimojong. Tingginya endemisitas jenis-jenis *Ericaceae* di Latimojong, membutuhkan lebih banyak perhatian dan perlindungan sebagai daerah konservasi.

Kata kunci: Konservasi, Endemik, *Ericaceae*, Pegunungan Latimojong, Sulawesi.

Abdulrokhman Kartonegoro. 2014. *Ericaceae* of Latimojong Range, South Sulawesi. *Floribunda* 4(8): 191–194. —. The family of *Ericaceae* in Sulawesi is represented by four genera namely *Diplycosia* Blume, *Gaultheria* L., *Rhododendron* L. and *Vaccinium* L. The inventory number of species family *Ericaceae* in Latimojong Range was conducted based on field collections and herbarium study in Herbarium Bogoriense. Thirty species and two varieties are recognized consist of 4 of *Diplycosia*, 3 of *Gaultheria*, 19 of *Rhododendron* and 6 of *Vaccinium*. Twenty seven species and two variety are endemic to Sulawesi while 17 of it endemic for Latimojong Range. High endemicity of species *Ericaceae* in Latimojong Range will need more concern and protection as a conservation site.

Keywords: Conservation, Endemic, *Ericaceae*, Latimojong Range, Sulawesi.

The *Ericaceae* form a very important position in the physiognomy of Malesian mountain flora, in many islands even the leading feature of dwarf forest or elfin forest. A considerable number of species, especially of *Rhododendron* L. and *Vaccinium* L. is already described and further exploration will doubtless furnish still more material. The highlands of Borneo and New Guinea especially are extremely rich in *Ericaceae*, as are the Philippines. There are swarms of species in Borneo, mainly endemic. Java, Sumatra, the Lesser Sunda Islands, Celebes and the Moluccas are less rich centers of development (Steenis 1934).

The rich *Ericaceae* region extends from the Himalayan Chinese region over Borneo to New Guinea where it ends rather abruptly. In respect of the *Ericaceae*, New Guinea belongs definitely to the Indo-Malaysian region phytogeographically. There is even a rather large and showy genus viz. *Dimorphanthera* which has its center of development in Papua. Australia and the Pacific region are poor in *Ericaceae*. This is very peculiar phenomenon as there is hardly any climatic evidence which can put forward to explain the absence of a rich *Ericaceae* flora in Queensland for instance (Steenis 1934).

Latimojong Range geographically located in the South Sulawesi Province lies among the Enrekang, Tana Toraja and Luwu Regency in 03° 08'07"–03°17'50" S and 119°53'31"–120°17'50" E. Latimojong Range has some mountain peak such a Rante Mario (3.478 m), Ninimori (3.397 m), Rante Kambola (3.083 m), Sikolong (2.745 m), Latimojong (3.305 m), Lapande (2.457 m), Sinaji (2.130 m), Bajaja (2.706 m) and Katapu (2.130 m). This area has mountainous topography with a slope gradient from 5 % till 100 % and was decided as a Protected Forest (Hutan Lindung) with extensive 41.534 Ha by the Decree of Ministry of Agriculture No. 760/Kpts/Um/10/82 at 12 October 1982 (Darma *et al.* 2005).

The account of Flora in Latimojong Range was never been done for a complete and poorly known. Some count with a proposed new species was done for *Begonia* and *Cyrtandra* (Bone & Atkins 2013; Thomas *et al.* 2011). *Ericaceae* as a member of a montane and alpin vegetation is easy growing in the Latimojong Range. Similar to other group, seems *Ericaceae* is shown a great number of species and high level endemism in the Latimojong Range. The conservation measures for this group are needed as far the Latimojong Range not

a conservation area and uses as a model. This model is use for a recommendation to government for proposing a new conservation area.

METHODS

An account of the species of *Ericaceae* in Latimojong Range was done from Herbarium study and Field explorations. Herbarium study was done using the specimens at Herbarium Bogoriense (BO) in the Research Center for Biology, Indonesian Institute of Sciences (LIPI), Cibinong, West Java. Field exploration was also done at the Latimojong Range in the South Western Part from the path of Rante Lemo Village in Enrekang Re-

gency, South Sulawesi in the middle of 2010. Generic and specific name uses in this account are following the last revision for the family by Sleumer (1966).

RESULTS

There are 30 species and 2 varieties of *Ericaceae* known in this study. The complete species is shown in the Table 1 below. Four species from *Diplycosia*, 2 species and 1 variety of *Gaultheria*, 18 species and 1 variety of *Rhododendron* and 6 species of *Vaccinium* known occur in the Latimojong Range.

Key to Genera of *Ericaceae* in Sulawesi (modified from Sleumer 1966)

- 1a. Ovary inferior, fruit a berry *Vaccinium*
- 1b. Ovary superior, fruit a capsule 2
- 2a. Fruit open septicidally *Rhododendron*
- 2b. Fruit open loculicidally 3
- 3a. Anther-cells elongate to apical tubules, connate, not aristate *Diplycosia*
- 3b. Anther-cells not elongate to apical tubules, not connate, aristate *Gaultheria*

Table 1. Species of *Ericaceae* in Latimojong Range.

Name	Distribution
1 <i>Diplycosia aperta</i> J.J.Sm.	Endemic to Sulawesi
2 <i>Diplycosia celebensis</i> J.J.Sm.	Endemic to Latimojong Range
3 <i>Diplycosia crassiramea</i> Sleumer	Endemic to Latimojong Range
4 <i>Diplycosia gracilipes</i> J.J.Sm.	Endemic to Latimojong Range
5 <i>Gaultheria celebica</i> J.J.Sm. var. <i>celebica</i>	Endemic to Latimojong Range
6 <i>Gaultheria celebica</i> J.J.Sm. var. <i>petiolata</i> J.J.Sm.	Endemic to Sulawesi
7 <i>Gaultheria viridiflora</i> Sleumer	Endemic to Latimojong Range
8 <i>Rhododendron arenicolum</i> Sleumer	Endemic to Latimojong Range
9 <i>Rhododendron bloembergenii</i> Sleumer	Endemic to Sulawesi
10 <i>Rhododendron celebicum</i> (Blume) DC.	Endemic to Sulawesi
11 <i>Rhododendron eymae</i> Sleumer	Endemic to Latimojong Range
12 <i>Rhododendron impositum</i> J.J.Sm.	Endemic to Latimojong Range
13 <i>Rhododendron lagunclicarpum</i> J.J.Sm.	Endemic to Latimojong Range
14 <i>Rhododendron leptobranchion</i> Sleumer	Endemic to Latimojong Range
15 <i>Rhododendron malayanum</i> Jack	West Malesia
16 <i>Rhododendron nanophyton</i> Sleumer var. <i>nanophyton</i>	Endemic to Latimojong Range
17 <i>Rhododendron nanophyton</i> Sleumer var. <i>petrophilum</i> Sleumer	Endemic to Latimojong Range
18 <i>Rhododendron pseudobuxifolium</i> Sleumer	Endemic to Latimojong Range
19 <i>Rhododendron psilanthum</i> Sleumer	Endemic to Latimojong Range
20 <i>Rhododendron pudorinum</i> Sleumer	Endemic to Latimojong Range
21 <i>Rhododendron quadrasianum</i> Vidal var. <i>selebicum</i> J.J.Sm.	Endemic to Sulawesi
22 <i>Rhododendron radians</i> J.J.Sm. var. <i>radians</i>	Endemic to Sulawesi

Table 1. Species of *Ericaceae* in Latimojong Range (continued).

No	Name	Distribution
23	<i>Rhododendron rhodopus</i> Sleumer	Endemic to Sulawesi
24	<i>Rhododendron scarlatinum</i> Sleumer	Endemic to Latimojong Range
25	<i>Rhododendron vanvuurenii</i> J.J.Sm.	Endemic to Sulawesi
26	<i>Rhododendron zollingeri</i> J.J.Sm.	Java, Sulawesi, Lesser Sunda
27	<i>Vaccinium centrocelebicum</i> Sleumer	Endemic to Latimojong Range
28	<i>Vaccinium latissimum</i> J.J.Sm.	Endemic to Sulawesi
29	<i>Vaccinium lucidum</i> (Blume) Miq.	Sumatra, Java, Sulawesi, Lesser Sunda Island
30	<i>Vaccinium pilosilobum</i> J.J.Sm.	Endemic to Latimojong Range
31	<i>Vaccinium tomicipes</i> J.J.Sm.	Endemic to Latimojong Range
32	<i>Vaccinium warburgii</i> Sleumer	Endemic to Sulawesi

DISCUSSION

The biological diversity of Sulawesi shows relationship with Sundaland to the west, The Philippines to the north and Australia to the east. While few plant genera are endemic to Sulawesi compared with Borneo and New Guinea, the level endemism at species level is high. An understanding of the origin and affinities of the flora of this island is crucial to understanding of the biogeography of the entire region with a sparse plants collection (Mendum & Atkins 2004).

Sulawesi has about 63 species and 5 varieties of family *Ericaceae* which disperse among several mountainous areas in the island. Most of them are endemic and the rest are wide dispersing in Malesia. The family of *Ericaceae* in Sulawesi represented by 4 genera contains *Diplycosia*, *Gaultheria*, *Rhododendron* and *Vaccinium*. *Rhododendron* is the richest species with 29 species and 2 varieties, followed by *Diplycosia* with 17 species and 1 variety, *Vaccinium* with 15 species and 1 variety, the last is *Gaultheria* with only 2 species and 1 variety. Most of those species in Herbaria known only by few specimens (Sleumer 1966; Argent 2007).

Latimojong Range was known as the high land in Sulawesi with the highest peak in Mount Rante Mario with c. 3478 m above the sea level. This area has more of sub alpin vegetations than other mountainous area in Sulawesi that can be expected of occurrence of *Ericaceae* in the mountains. Species recorded from herbarium specimens and field exploration in the Latimojong Range resulted about 30 species and 2 varieties of *Ericaceae*. Similar to whole island of Sulawesi, in Latimojong Range *Rhododendron* possesses the rich num-

ber with 18 species and 1 variety, followed by *Vaccinium* with 6 species, *Diplycosia* with 4 species and *Gaultheria* with 2 species and 1 variety (Table 1). From those 30 species known, 27 are endemic to Sulawesi and 17 are endemic to Latimojong Range. These high numbers of endemism give Latimojong Range as unique and restrict place to distribution of the family.

Genus *Diplycosia* in Latimojong Range is represented by 4 species, *D. aperta*, *D. celebensis*, *D. crassiramea* and *D. gracilipes*. Beside in Latimojong Range, *D. aperta* also found in Mount Mambulilin in West Sulawesi, while the other 3 species are really endemic to Latimojong Range. *Gaultheria* has 2 species, *G. celebica* and *G. viridiflora* with 1 variety of *G. celebica* var. *petiolata*. *Gaultheria celebica* var. *celebica* and *G. viridiflora* endemic to Latimojong Range, while *G. celebica* var. *petiolata* also found in Mount Lompobatang in South Sulawesi. *Gaultheria celebica* var. *celebica* is known only from the type collection from Mount Sinaji in Latimojong Range.

The richest species of *Rhododendron* has 18 species and 1 variety with 11 of them endemic to Latimojong Range. Some species are very restricted with known only from the type collection such as *R. nanophyton* var. *petrophilum*, *R. psilanthum*, and *R. scarlatinum*. In the other hand the species like *R. nanophyton* var. *nanophyton*, *R. eymae*, *R. pseudobuxifolium* and *R. rhodopus* only known in few plants in the peak of Mount Rante Mario. The non-endemic species including *R. bloembergenii*, *R. malayanum*, and *R. quadrasianum* var. *selebicum* found in Mount Nokilalaki, Mount Kambuno and Mount Mambulilin in Central and West Sulawesi, *R. celebicum* found in Poso and Mount Klabat in North Sulawesi, *R. radi-*

ans found in Mount Roreka Timbu in Central Sulawesi, *R. rhodopus* found in Luwuk area, Mount Roreka Timbu and Mount Sesean in Central Sulawesi, *R. vanvuureni* found in Mount Lompoh, Limbung and Mamasa in West Sulawesi and *R. zollingeri* found in Mount Lompobatang.

Vaccinium has 6 species with 3 species endemic (*V. centrocelebicum*, *V. pilosilobum* and *V. tomicipes*). *V. latissimum* is also known found in Mamasa and Poso in West and Central Sulawesi, *V. lucidum* wide disperse from Central Sulawesi to South Sulawesi and also in Sumatra, Java to Lesser Sunda Islands. *V. warburgii* is only known from one collection in Mount Poka Pinjang and also found in Camba area in South Sulawesi.

Number of species recorded shows that *Ericaceae* has high degree of endemism in the Latimojong Range. It is possible that there are other plants family that also has high endemism in this area like *Orchidaceae*, *Gesneriaceae*, *Begoniaceae* etc. This study indicated that the area should be protected. So far the status as a protected forest in this area should be reviewed in order to upgrading the status as a conservation area such as Nature Reserve or National Park.

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