

*Notes on the Flora of La Graciosa
(Canary Islands)*

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RESUMEN

Notas sobre la flora de La Graciosa (Islas Canarias): Enumeración de 80 especies de fanerógamas, anotadas y colectadas durante una breve visita en dicha isla. Se considera citas florísticas poco conocidas y se presenta algunos datos sobre la vegetación en general.

During field work in the eastern part of the Canary Islands archipelago in February-March 1969 the author made an one-day excursion to the island of Graciosa, north of Lanzarote. The flora of this 27km² of mainly desert seems to be only scarcely known. There may well be material deposited in various herbaria from the island, but what have been brought to common knowledge through publications have, so far, been only a few short plant lists or brief descriptions of the vegetation.

The first list of species from Graciosa was given by Berthelot (1836), who, however, included many doubtful cases and questionmarks. Further contributions to the flora of the island were given by Christ (1888), Bolle (1892, 1893), Pitard & Proust (1908), and Bannerman (1922). In the flora of Pitard & Proust were listed 35 species from Graciosa.

The vegetation of the island is — where the landscape is not completely devoid of plants — marked by open plant

communities of the classes *Ammophiletea* and *Salicornietea fruticosae* (cp. Esteve Chueca 1968, and Sunding, in press). Some of the more common plant communities are the *Cyperus kalli* - *Euphorbia paralias* community on unstable sand (the sand dune forming *Traganum moquini* community) and the *Salsola vermiculata* community on more stabilized sand or rocky ground. On higher parts of the mountain slopes (highest point of elevation 266 m) one meets a richer plant assemblage, with *Euphorbia obtusifolium* var. *regis-jubae* and *Launaea arborescens* entering as dominants besides *Salsola vermiculata*. The vegetation of the island will be described more in detail in another connection.

Even if the species list to be given below is truly incomplete and several species could be added to the list by more thorough investigations, it is believed that the publication of such a list at this moment could be of some value. The Spanish government is planning to build a giant tourist resort of the entire island. Such a development, possibly even including a construction of a bridge to Lanzarote, will surely make considerable changes to the flora and vegetation of Graciosa.

Herbarium material of critical species are deposited in the herbarium of the Botanical Museum, University of Oslo (O).

List of species

Aizoaceae

1. *Aizoon canariense* L.
2. *Mesembryanthemum crystallinum* L.
3. *Mesembryanthemum nodiflorum* L.

Boraginaceae

4. *Heliotropium bacciferum* Forsk. ssp. *erosum* (Lehm.) Maire

Caryophyllaceae

5. *Herniaria hirsuta* L. var. *cinerea* (DC.) Lor. et Bar.

6. *Minuartia geniculata* (Poir.) Thell.
7. *Polycarpaea divaricata* (Ait.) Poir. (Berthelot 1836)
8. *Polycarpaea nivea* (Ait.) Webb
9. *Polycarpon tetraphyllum* (L.) L. (Bolle 1892)
10. *Silene apetala* Willd.
11. *Spergularia diandra* (Guss.) Boiss.
12. *Spergularia marginata* Kitt. (Pitard & Proust 1908)

Chenopodiaceae

13. *Arthrocnemum fruticosum* (L.) Moq. (Berthelot 1836, Bolle 1892, Bannerman 1922; as *Salicornia fruticosa*)
14. *Atriplex halimus* L.
15. *Atriplex parvifolia* Lowe
16. *Beta patellaris* Moq.
17. *Chenolea tomentosa* (Lowe) Maire
18. *Chenopodium album* L. (Berthelot 1836)
19. *Chenopodium murale* L.
20. *Salsola longifolia* Forsk.
21. *Salsola vermiculata* L.
(The dubious record of *Suaeda vermiculata* Forsk. from Graciosa originates from Bolle (1892), who listed this species from the island instead of the common *Salsola vermiculata*, but giving the latter name as a synonym!)
22. *Suaeda vera* Forsk. ex J. F. Gmel.
23. *Traganum moquini* Webb ex Moq.
Bannerman (1922, p. 296) reports that two species of *Traganum* are found on Graciosa. *T. moquini* is fairly variable, and long-leaved forms may differ considerably from such with shorter leaves. All what I have observed in the island, fall well within the limit of variation of this single species.

Cistaceae

24. *Helianthemum canariense* Pers.

Compositae

25. *Atractylis cancellata* L.

26. *Calendula aegyptiaca* Desf.
27. *Ifloga obovata* Bolle
28. *Ifloga spicata* (Forsk.) Sch. Bip.
29. *Launaea arborescens* (Batt.) Murb.
30. *Launaea nudicaulis* (L.) Hook. f.
31. *Leontodon nudicaulis* (L.) Banks
32. *Otanthus maritimus* (L.) Hoffm. et Link
Syn. *Diotis maritima* (L.) J.E. Sm.
(Bolle 1892, as *Diotis candidissima*)
33. *Reichardia tingitana* (L.) Roth

Cruciferae

34. *Carrichtera annua* (L.) DC.
35. *Lobularia libyca* (Viv.) Webb et Berth.
36. *Notoceras bicornis* (Ait.) Amo
37. *Sisymbrium erysimoides* Desf.

Euphorbiaceae

38. *Euphorbia obtusifolia* Poir. var. *regis-jubae*
(Webb et Berth.) Maire
39. *Euphorbia paralias* L.
40. *Mercurialis annua* L. (Pitard & Proust 1908)

Frankeniaceae

41. *Frankenia ericifolia* Chr. Sm. ex DC. (Berthelot
1836, Bolle 1892)
42. *Frankenia pulverulenta* L.

Geraniaceae

43. *Erodium chium* (L.) Willd.
44. *Erodium laciniatum* (Cav.) Willd.
45. *Erodium malacoides* (L.) L'Hér. (Berthelot 1836)

Malvaceae

46. *Malva parviflora* L.

Orobanchaceae

47. *Orobanche graciosa* (Webb et Berth.) Beck-Mann.
Phelipaea graciosa ("gratiosa") Webb et Berth.
(Webb & Berthelot 1836 - 1850, sect. 3 p. 153)

(1845).

Dubious taxon, cp. also Beck-Mannagetta 1930, p. 112. The description given by Webb & Berthelot (1.c.) is too incomplete.

Papilionaceae

48. *Astragalus hamosus* L.
49. *Lotus arabicus* L. var. *trigonelloides* (Webb et Berth.) Pit.
50. *Lotus lancerottensis* Webb et Berth.
51. *Medicago nigra* (L.) Krockner
52. *Ononis natrix* L. (Pitard & Proust 1908)
53. *Ononis serrata* Forsk.

Besides the two above mentioned species, Berthelot (1836), Bolle (1892), and Pitard & Proust (1908) list several other species of the genus *Ononis* from Graciosa: *O. hebecarpa* Webb et Berth., *O. laxiflora* Desf., "*O. ochreata*" nom. nud., *O. pendula* Desf., and *O. vaginalis* Vahl. The entire genus is in need of a revision in the Canary Islands, especially in the eastern part of the archipelago.

54. *Trigonella stellata* Forsk.

Plantaginaceae

55. *Plantago amplexicaulis* Cav.
What Berthelot (1836) lists as *P. argentea* seems to have been merely hairy forms of *P. amplexicaulis*.
56. *Plantago coronopus* L.
57. *Plantago ovata* Forsk. (Pitard & Proust 1908)

Plumbaginaceae

58. *Limonium papillatum* (Webb et Berth.) O. Ktze. (Berthelot 1836, as *Statice pruinosa*)
59. *Limonium puberulum* (Webb) O. Ktze. (Berthelot 1836)

Polygonaceae

60. *Emex spinosa* (L.) Campd.

Primulaceae

61. *Anagallis arvensis* L. f. *azurea* Hyl.

Ranunculaceae

62. *Adonis microcarpa* DC. (Pitard & Proust 1908, as
A. intermedia Webb et Berth.)

Resedaceae

63. *Oligomeris linifolia* (Vahl) McBride
64. *Reseda crystallina* Webb et Berth.

Scrophulariaceae

65. *Misopates orontium* (L.) Raf.

Solanaceae

66. *Lycium intricatum* Boiss.
67. *Nicotiana glauca* Grah.

Umbelliferae

68. *Bupleurum semicompositum* L.

Zygophyllaceae

69. *Fugonia cretica* L.
70. *Zygophyllum fontanesii* Webb et Berth. (Banner-
man 1922)

Cyperaceae

71. *Cyperus kalli* (Forsk.) Murb.

Gramineae

72. *Avena fatua* L.
73. *Catapodium tuberosum* Moris
74. *Lamarckia aurea* (L.) Moench
75. *Phalaris minor* Retz.
76. *Schismus barbatus* (L.) Thell.
77. *Stipa capensis* Thunb.
Syn. *S. retorta* Cav., *S. tortilis* Desf.
78. *Tetrapogon villosus* Desf.
79. *Trachynia distachya* (L.) Link.

Liliaceae

80. *Asphodelus tenuifolius* Cav.

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