

SHORT COMMUNICATION

NEW RECORDS OF THE FERN HYBRID *Asplenium* × *rouyi* VIANE (*A. onopteris* L. × *A. scolopendrium* L.) IN THE AZORES (ASPLENIACEAE, PTERIDOPHYTA)

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Several individuals of the fern hybrid *Asplenium* × *rouyi* are recorded from Santa Maria Island, Azores. After the destruction of the single plant known on Faial Island, these are the only currently known living individuals of this extremely rare hybrid and should be protected by the local authorities.

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INTRODUCTION

Although both of its parental species are common in large parts of western Europe, records of the fern hybrid *Asplenium* × *rouyi* are extremely rare. After its first collection and description by Rouy near Porto in continental Portugal in the 19th century (ROUY 1895), it was not recollected until 1999 (SCHÄFER & RASBACH 2000). Sadly, the single plant detected on Faial Island, Azores, was destroyed soon after its discovery which was not only the fault of local authorities (MENDES 2000) but also of the author who informed too late, ignoring plans of huge gravel extraction in this protected reserve. Fortunately another seven individual plants of the hybrid could be detected in 2001 on the easternmost Azorean island, Santa Maria. The plants were presented to the local environment and forest department soon after their discovery.

MATERIAL AND METHODS

In total, seven individual hybrid plants in four different locations were found during a mapping project of the flora of Santa Maria island in 2001. Single fronds of all but one of these plants were collected (Tab. 1). The plants were left in their

original places. Sori of young fronds were fixed in a 3:1 mixture of 100% ethanol and glacial acetic acid. Determinations of the hybrids were then checked cytologically by H. Rasbach using the method described by MANTON (1950).

RESULTS

All cytological examinations showed $2n = 72^1$ chromosomes in meiosis. Thus, the hybrids are diploid without homologous chromosomes and the parental species are also diploid. Due to the scolopendroid morphology of the sori, one parent is *A. scolopendrium* L. and the second one has to be another diploid *Asplenium* with frond morphology similar to *A. onopteris*. The only other Azorean *Asplenium* with a similar morphology is *A. adiantum-nigrum* L., that can be excluded as it is triploid. So the hybrid combination *A. onopteris* L. × *A. scolopendrium*, named *Asplenium* × *rouyi* Viane, is confirmed.

All hybrids were found in the eastern part of Santa Maria island at altitudes of 250-350 m (Fig. 1). The climate in this region is oceanic with a strong mediterranean influence (SCHÄFER 2003). Most of the hybrids grow on west or south-west exposed slopes in pastures or hedges were

frequent landslides and grazing animals create a lot of open soil. Up to ten species of colonising ferns can be found in large, mixed populations in these places. Thus, the possibility of hybrid

crosses is high. Besides *Asplenium ×rouyi*, three other fern hybrids of this genus were found in this region in 2001: *A. ×diasii*, *A. ×santamariae* and *A. ×ticinense* (SCHÄFER 2003).

Table 1

Single fronds of *Asplenium ×rouyi* collected on Santa Maria Island (collections: AZU - Herbarium of the University of the Azores, Terceira, Azores; BM - Herbarium of the British Natural History Museum, London, UK).

No.	Collection No.	Coll.	UTM	Location	Habitat	Date	Altitude
1	Az-Ma-1110	BM	8974	E Cardal	SW exposed slope in pasture	05.08.2001	350 m asl.
2	Az-Ma-935	BM	9074	Terra do Raposo	W exposed slope in pasture	16.6.2001	270 m asl.
3	Az-Ma-1075	BM	9274	Feteirinha N Santo Espírito	W exposed slope in pasture	24.07.2001	300 m asl.
4	Az-Ma-1076	BM	9274	Feteirinha N Santo Espírito	W exposed slope in pasture	24.07.2001	300 m asl.
5	Az-Ma-969	AZU	9372	Forno S Arrebentão	W exposed slope in pasture	21.6.2001	250 m asl.
6	Az-Ma-970/I	BM	9372	Forno S Arrebentão	W exposed slope in pasture	21.6.2001	250 m asl.
7	Az-Ma-970/II	AZU	9372	Forno S Arrebentão	W exposed slope in pasture	21.6.2001	250 m asl.

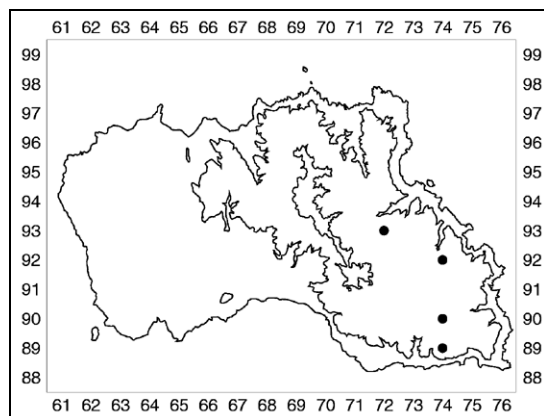


Fig. 1. Distribution of *Asplenium ×rouyi* Viane on Santa Maria Island, Azores in UTM-grid (WGS-84); contour lines are along 200 m isohypses.

CONCLUSIONS

The hybrid *Asplenium ×rouyi* is probably more common in the Azores than previously thought. Due to the large populations of its parental species and the high number of suitable habitats it certainly exists on several islands of the archipelago. Its conspicuous, bright green fronds are easily detected in the field and should be included in any future mapping projects of the Azorean flora.

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