Beard & al 2000

SWP (WA) has 5710 native species (3000 endemic, 52.5%). Less species-rich (by area) and endemic-rich than the CFR. Much of the richness resides in just a few families/clades, as in the Cape. Endemism is greates in woody, sclerophyll shrubs. But also some herbaceous perennials (e.g Droseraceae, Orchidaceae, Stylidiaceae). This is similar to the CFR.

Like the Cape, the SWP is biogeographically an island.

Recent environmental deterioration has brought about the extinction of many genera and families and stimulated explosive speciation within a limited number of pre-adapted sclerophyllous genera. On the other hand, south-western Australia has been a major centre of diversity for Myrtaceae and Proteaceae since at least the Eocene. Suggested that the Australian sclerophyll flora evolved initially in response to low soil nutrient levels and was pre-adapted to developing xeric conditions.

Another factor affecting SWP and CFR, in particular, is most likely to have been habitat specialization. Richardson *et al*. (1995) noted that edaphic specialization and associated beta-diversity are extremely high both in fynbos and kwongan (kwongan: see Beard, 1976). As a local example, Taylor & Hopper (1988) recorded that of 60 *Banksia* spp. in Western Australia, 39 occurred only in single specialized habitats.

One feature not adequately discussed in the literature is the relative treelessness of the CFR (however, see Cowling & Holmes, 1992). The SWP forms the greatest contrast to the CFR where sclerophyll forest and woodland, as original vegetation, covered 41% of the province, mallee 22% and kwongan 33% (Beard & Sprenger, 1984). Mallee is a eucalypt-dominated shrubland considered by Beard (1981) to represent a firedegraded low forest. Kwongan comprises several types of shrubland, all confined to dry shallow or sandy soils (Pate & Beard, 1984). A deeply weathered regolith covering most of the SWP provides a deep moisture storage zone favouring widespread tree cover. Much of the CFR consists of mountain slopes with shallow soils, but the readiness of introduced tree species, especially *Pinus* L., to invade fynbos shows that there is somehow an empty niche here.

Baldi et al. 2008

Tests the hypothesis that species–area relationships are not positive if habitat heterogeneity does not increase with area. Large reserves were less heterogeneous than small reserves, probably because large reserves were established in large blocks of unproductive land whereas small reserves tended to be in more fertile land. In total, 3975 arthropod

species were included in the analysis. The slope of the species–area relationship was positive only for Neuroptera and Trichoptera. There was no significant relationship in the other nine taxa examined. The density (number of species ha)1) of all species, however, showed a positive correlation with heterogeneity. The results indicate that habitat heterogeneity rather than area per se is the most important predictor of species richness in the studied system.

Cowling et al. 1994

Compared edaphic and biological aspects of plant endemism in floristic lists from five edaphi- cally matched sites, and the taxonomic aspects in regional floras, from the Agulhas Plain, South Africa and the Barrens, south western Australia. The two regions are very closely matched in terms of their mediterranean-type climates, land- forms, soil types and disturbance regimes. Both regions have large neo-endemic floras. Levels of narrow endemism on the various substrata were similar on both continents, ranging from near zero on the relatively fertile calcareous sands to 30% on the highly infertile quartzites and siliceous sands. On both continents more than 90% of endemics were edaphic specialists. There were differences for the two regions in the biological profiles of endemics. South African endemics were most likely to be low shrubs with soil-stored and ant-dispersed seed. Australian endemics were concentrated among low to medium height shrubs with either canopy-stored or soil-stored seed. The strong overall similarities in patterns of endemism on the two continents suggests similar speciation histories in phylogenetically distantly related floras.

Cowling and Witkowski 1994

This paper compares the occurrence of plant traits in five edaphically matched sites

at the Barrens, southwestern Australia and the Agulhas Plain, southwestern South Africa. The

two regions are very closely matched in terms of their Mediterranean-type climates, landforms,

soil types and disturbance regimes. There was good evidence for convergence between the two continents in the frequency of other seed biological traits. The study indicates strong convergence between Australian and South African shrublands in the frequency of a wide range of traits relating to

plant form and function.

Dufour et al 2006

We propose and provide evidence for the simple hypothesis that local species diversity is related to spatial environmental heterogeneity. Richness generally increased with increasing environmental variability and ‘‘roughness’’ (i.e. decreasing spatial aggregation). For the first

time, these predictions were tested for plant communities using field data, which we collected in a wooded pasture in the Swiss Jura mountains Effects occurred at all scales, but the nature of the effect changed with scale, suggesting a change in the underlying mechanisms, which will need to be taken into account if scaling up to larger landscapes.