Comment on Reinhard Witt's presentation

Nature gardening in Germany: an historical view from the start to today. How useful is the concept of native plants for wildlife?

Dr Steve Head

Dr Witt has three slides in the second section of his talk, the first being:

"How useful is the concept of native plants for wildlife? A contradiction between two books. Are non-native plants as useful as native?"

Dr Witt is commenting on aspects of the biodiversity of Jennifer Owen's Leicester garden[1], supporting his contention that gardens planted predominately with native species are considerably more rich in species than those typical of British gardens planted with a predominance of non-native species.

Wildbees in wildlife gardens with much non-native and pure native plants

		Jennifer Owen: 30 years main emphasis: non-native	**Renate Freundt: 28 years main emphasis: native**	**Iris Mühlberger: 4 years main emphasis: native**
A	All wild bees in gardens (including cuckoo bees) Generalists/specialists	59 species 29/5 (85%/15%)	127 species 58/28 (68%/32%)	84 species 27/17 (61%/39%)
B	*Native bee fauna species and % of native fauna in garden*	*270 species 21.9%*	*600 species 21.2%*	*600 species 14%*
C	*Garden area m^2*	*741*	*11,000*	*1400*
D	*Species per 100 m^2*	*7.96*	*1.15*	*6*

The top row (A) shows Dr Witt's comparisons, in which the total species count is far less in the British garden. This however does not allow for the very much smaller number of bee species found in Britain, shown in my row B, which then shows the percentage of the native bee fauna encountered in the gardens. Corrected for this, Jennifer Owen's garden now has the highest proportion of the whole native fauna of the three. Rows C and D show that her garden also has the highest species count per unit garden area, 33% higher than the larger Mühlberger garden.

[1] Owen, J. 2010 Wildlife of a garden: a thirty year study. RHS Peterborough

I can't comment on the division between generalists and specialists since I don't have a citation for the distinction, but this split should also be corrected for the actual numbers of the two classes of bee actually found in Britain.

Dr Witt's second slide entitled "How to pimp up biodiversity? E.g. wild bees" compares the diversity of bee species in Owen's garden unfavourably with the German examples

Bee species quoted	UK status	Likely to find in Leicester?
Andrena clarkella	Common in UK	Yes
Andrena hattorfiana	Rare pRDB3	No
Osmia bicornis	Common in UK, including urban gardens, recorded by Owen under the old name of *O.rufa*	Yes – In Owen's garden
Osmia uncinata	RDB2 Scottish Highlands only	No
Heriades truncorum	Rare (RDB 3) South-east England only	No
Macropis europaea	Rare (RDB3) Southern England, Norfolk	No

Four of the six species he claims are "missing" from Owen's garden are rare local Red Data Book species in Britain, not found in the Leicester area. The absence of *O. bicornis* in Owen's garden is incorrect, she recorded it under its old name of *Osmia rufa*. It is interesting therefore that Witt lists the same species both as a specialist (*O.bicornis*) and as a generalist under its old name. *Andrena clarkella* is the only species that could have been found in Owens garden but was not.

Finally, Witt's slide "How to pimp up biodiversity? E.g. Butterflies", shows six lepidoptera he lists as missing from Owen's garden, but found in Mühlberger's.

German common name	Scientific name	English name	UK status
Fünffleckwidderchen	Zygaena viciae	New Forest Burnet	Single hillside in Western Argyll, Scotland RDB Protected
Baldrianscheckenfalter	Melitaea diamine	False Heath Fritillary	Not UK species
Rotkleebläuling	Cyaniris semiargus	Mazarine blue	Extinct in UK since approx. 1900
Kleiner Schillerfalter	Apatura ilia	Lesser purple emperor	Not UK species
Kronwickendickkopf	*Erynnis tages*	Dingy skipper	Widespread but local, south-facing chalk and limestone downland
Wiesenknopfameisenbläuling	*Phengaris nausithous*	Dusky Large Blue	Not UK species

Of the six species 4 are not on the British list at all, so of course could not be found in Owen's garden. The New Forest Burnet moth is only known from a single Scottish hillside. The only potential candidate is the Dingy skipper, which is a local and decreasing UK BAP species.

It could be noted that two specialist butterflies were recorded by Owen but not acknowledged by Witt. These are the Silver washed fritillary *Argynnis paphia,* and White letter hairstreak *Strymonidia w-album,* however both were only recorded once.

It can be concluded that the evidence put forward to show the poor biodiversity of Owen's garden was flawed by its failure to appreciate the general paucity of UK species lists.