



Eva Crane Trust

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TITLE: Arthur Dobbs (1689-1765) and pollination by bees.

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RETROSPECT

Arthur Dobbs (1689–1765) and pollination by bees

Arthur Dobbs's observations and deductions on the role of bees in plant pollination, published in 1750¹, were mentioned in publications in 1950 and 1973^{2,3}, and his paper was reprinted in full in 1980⁵. Nevertheless his statement — the first — about the role of bees in plant pollination is still not widely known among beekeepers and bee scientists, although it preceded the well known larger works of Müller (1779), Sprengel (1793), Darwin (1862, 1876) and Knuth (1893–1896).

Dobbs referred to observations by Aristotle and Réaumur, and continued¹:

'... I have frequently follow'd a Bee loading the *Farina* [pollen], Bee-Bread or crude Wax, upon its Legs, through a Part of a great Field in Flower; and upon whatsoever Flower I saw it first alight and gather the *Farina*, it continued gathering from that Kind of Flower; and has pass'd over many other Species of Flowers, tho' very numerous in the Field, without alighting upon or loading from them: tho' the Flower it chose was much scarcer in the Field than the others. So that if it began to load from a Daisy, it continued loading from them, neglecting Clover, Honey-suckles, Violets, &c., and if it began with any of the others, it continued loading from the same Kind, passing over the Daisy. So in a Garden upon my Wall-Trees, I have seen it load from a Peach and pass over Apricots, Plums, Cherries, &c., yet made no distinction betwixt a Peach and an Almond. ...

'Now if the Facts are so, and my Observations true, I think that Providence has appointed the Bee to be very instrumental in promoting the Increase of



FIG. 1. Portrait of Arthur Dobbs, 1752, painted by William Hoare.

Vegetables ... Now if the Bee is appointed by Providence to go only, at each Loading, to Flowers of the same Species, as the abundant *Farina* often covers the whole Bee, as well as what it loads upon its Legs, it carries the *Farina* from Flower to Flower, and by its walking upon the *Pistillum* and Agitation of its Wings, it contributes greatly to the *Farina's* entering into the *Pistillum*, and at the same time prevents the heterogeneous Mixture of the *Farina* of different Flowers with it; which, if it stray'd from Flower to Flower at random, it would carry to Flowers of a different species. ...

'Now, if the *Farina* of specifically different Flowers should take the Place of its own Proper *Farina* in the *Pistillum*, like an unnatural coition in the animal world, either no generation would happen, or a monstrous one, or an Individual not capable of further generation.'

Arthur Dobbs was born in 1689, into an influential family who lived on the Castle Dobbs estate in Ireland. He was active in both politics and science, and

built up a considerable library at Castle Dobbs. Between 1722 and 1730 he contributed astronomical observations to the Royal Society in London, but published no papers. In his 1750 paper¹ he set out his approach to scientific observation: 'Since my view of doing good by making discoveries in the great world has been disappointed, upon my retirement into this little corner of it, amongst other amusements I have been contemplating the inhabitants of the little world: particularly that most useful and industrious society of bees.'

Figure 1 shows the only known portrait of Arthur Dobbs, painted in 1752 shortly before he was appointed 'Governor of His Majesty's Province of North Carolina'. He sailed there in 1754 — the rough crossing taking twelve weeks — and in 1758 completed new buildings on an estate at Russelborough, which he renamed Castle Dobbs. In 1762, when he was a widower of 73, he married Justina Davis then 15 years old, and she nursed him during his final illness; he died in 1765.

Arthur Dobbs's papers are held by the Public Records Office of Northern Ireland in Belfast. They are summarized in a biography published in 1990 by the Carrickfergus and District Historical Society⁴, which gives much information on his life and work, both in Ireland and in North Carolina.

In 1992 I visited Castle Dobbs, in Co. Antrim, Northern Ireland, and found that another house had replaced the one Arthur Dobbs lived in. I was, however, able to see the part of the garden where he carried out his astronomical observations, and probably those on bees.

References

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