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Letters

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Sibling species were first recognized by William Derham (1718).—Sibling species are closely related and often sympatric taxa that are reproductively isolated but difficult to separate morphologically (Lincoln et al. 1998). The study of sibling species has provided important advances in evolutionary biology, particularly in understanding the speciation process (e.g. Mayr 1963, Futuyma 1998). Mayr (1999: xxii) noted that the first discovery of sibling species was reported in 1768 by Gilbert White (1720–1793) in the avian genus *Phylloscopus*. Stresemann (1975) also believed that White was the first to recognize the difference between the species *Phylloscopus trochilus* and *P. collybita*. Those observations are not completely accurate. White, in letters of 4 August 1767, 18 April 1768, and 17 August 1768 to Thomas Pennant (White 1813) indeed recognized multiple species of *Motacilla trochilus* (= *Phylloscopus trochilus*). But his letters make it clear that he knew that William Derham (1657–1735) had also recognized this nearly 50 years earlier. Derham, in John Ray's "Letters" (Derham 1718:108) stated that he had discovered three distinct species of "*Regulus non cristatus*" (ex Aldrovandus 1637, Willughby and Ray 1678; = *Phylloscopus trochilus*, the *Motacilla Trochilus* of Linnaeus [1758:188]). Credit for the first recognition of sibling species should be given to William Derham (1718).

White was a gifted observer and naturalist, and he provided the reader with more information than Derham about these *Phylloscopus* species, which White called "smallest," "middle," and "largest" "willow-wrens" (letter to Pennant of 18 April 1768; White 1813, i:76–81), or, one, "smallest uncrested willow wren" ("or chiff-chaf"; White 1813, ii:230). This information was insufficient for us to consider the species involved as having been described, however, and even with these clues another naturalist, a Mr. Markwick, was unable to find more than one species (White 1813). White's descriptions are indeed difficult to attribute to three species, and even he seemed to have some trouble with the presumed third: "I make no doubt but there are three species of the *willow-wrens*: two I know perfectly; but I have not been able yet to procure the third" (White 1813, i:77). It is easy to see two, both in White (1813) and in Willughby and Ray's (1678) description of the variation found in what both works listed as a single species. What the presumed third species may have represented is unclear; history suggests that only two species were involved (Vieillot [1817] formally described *collybita*).

The dawning recognition of sibling species by these two naturalists was not restricted to *Phylloscopus*. Derham (1718:108) recognized "two sorts (if I mistake not)" of *Locustella*. White, in a letter to Pennant of 29 May 1769 (White 1813), also thought that he had two *Locustella*. Derham must have thought these observations important, for together they make up the only footnote that he wrote in his edited production of John Ray's (1628–1705) correspondence. Unlike the situation in *Phylloscopus*, in which the two sibling species *trochilus* and *collybita* were clearly borne out by subsequent naturalists, it is unclear what these observers may have been seeing in *Locustella*.

William Derham was an Englishman whose career was devoted to religion, and he had a strong interest in natural history. He was elected a fellow of the Royal Society in 1702, and at the time that his edited volume of John Ray's letters appeared was a canon at Windsor (Encyclopaedia Britannica 1910). His major works were theological, but he contributed to science both by contributing papers to the *Transactions of the Royal Society* and by editing and publishing several natural-history works that were important in his time (Encyclopaedia Britannica 1910). KEVIN WINKER, *University of Alaska Museum, 907 Yukon Drive, Fairbanks, Alaska 99775, USA. E-mail: ffwsw@uaf.edu*

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LITERATURE CITED

- ALDROVANDI, U. 1637. *Ornithologiae*, Tomus alter. Bononiae.
- DERHAM, W. 1718. *Philosophical Letters between the Late Mr. Ray and Several of His Ingenious Correspondents, Natives and Foreigners*. W. and J. Innys, St. Paul's Church-yard, London.
- ENCYCLOPAEDIA BRITANNICA. 1910. *The Encyclopaedia Britannica*, 11th ed., vol. VIII. Cambridge, United Kingdom.
- FUTUYMA, D. J. 1998. *Evolutionary Biology*, 3rd ed. Sinauer Associates, Sunderland, Massachusetts.
- LINCOLN, R., G. BOXSHALL, AND P. CLARK. 1998. *A Dictionary of Ecology, Evolution and Systematics*, 2nd ed. Cambridge University Press, Cambridge, United Kingdom.

- LINNAEUS, C. 1758. *Systema Naturae*, editio decima. Holmiae, Sveciae.
- MAYR, E. 1963. *Animal Species and Evolution*. Belknap Press of Harvard University Press, Cambridge, Massachusetts.
- MAYR, E. 1999. *Systematics and the Origin of Species*, reprint ed. Harvard University Press, Cambridge, Massachusetts.
- STRESEMANN, E. 1975. *Ornithology from Aristotle to the Present*. Harvard University Press, Cambridge, Massachusetts.
- VIEILLOT, L. P. 1817. *Nouveau Dictionnaire d'Histoire Naturelle, Nouvelle Édition*. Tome XI, Paris.
- WHITE, G. 1813. *The Natural History of Selborne*, in two volumes. White, Cochrane, and Company, London.
- WILLUGHBY, F., AND J. RAY. 1678. *The Ornithology of Francis Willughby*. John Martyn, London.

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