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The Hymenoptera collections of WILLIAM EDWARD SHUCKARD and the dispersal of his type material

With 1 figure

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Summary

An inquiry is made into the dispersal of the Hymenoptera collections formed by WILLIAM EDWARD SHUCKARD and the survival of his type material.

Zusammenfassung

Untersucht wird der Verbleib der Hymenopteren-Sammlungen von WILLIAM EDWARD SHUCKARD und seines Typenmaterials.

Additional key words

T. Desvignes - W.H.L. Walcott - W.W. Saunders - E. Saunders - Hope Entomological Collections, Oxford - Natural History Museum, London - dispersal of some 19th Century entomological collections

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Introduction: WILLIAM EDWARD SHUCKARD (1803-1868)

This paper represents an inquiry into the dispersal and survival of the important collections formed by WILLIAM EDWARD SHUCKARD, an entomologist active in the first half of the 19th Century. While the inquiry does not succeed in identifying any substantial remains of what must once have been an extensive collection, and while a part of that collection is certainly lost, it is hoped that the information placed on record may alert curators to the possible survival of SHUCKARD material in the collections for which they are responsible; may, by identifying apparently lost types of species described by SHUCKARD, lead to their recovery; and may perhaps elicit additional information on SHUCKARD and the successive inheritors of his collections.

SHUCKARD's Publications on the Hymenoptera

Taxonomy: Hymenoptera other than bees

SHUCKARD's entomological publications are listed in standard bibliographies (HAGEN, 1863; HORN & SCHENKLING, 1929). Descriptions of new species-group taxa (of Aculeata other than Formicoidea) were included in the following publications, full references to which are given under the appropriate heading:

1836. *Description of the genera and species of the British Chrysididae*. SHUCKARD described as new a number of species, not all in fact British, from, chiefly, specimens in his own collection (SHUCKARD, 1836). The species described are listed at Appendix 1.
1837. *Essay on the indigenous fossorial Hymenoptera*. In this work, a landmark in the study of the British aculeate wasps, SHUCKARD described as new a number of species from specimens in the British Museum, in the collection of the Entomological Society of London, in his own collection, and in other private collections, but chiefly from specimens in his own (SHUCKARD, 1837a).¹ The species described in the *Essay* are listed at Appendix 2. The generic nomenclature of SHUCKARD's *Essay*, especially in respect of his use of *Pemphredon*, was criticized by WESTWOOD (vide, in that order, WESTWOOD, 1836, 1837a, SHUCKARD, 1837b, WESTWOOD, 1837b).
1837. *Description of a new British wasp; with an account of its developement*. SHUCKARD described *Odynerus* [now *Gynomerus*] *laevipes* in both sexes from the 'vicinity of Blackwater, upon the borders of Hampshire', where it was discovered by FREDERICK SMITH (SHUCKARD, 1837c: 495). Syntypes were presumably in both SHUCKARD's and SMITH's collections, but there is no card for the species in the departmental type index in the Natural History Museum.
1838. *Descriptions of new exotic Hymenoptera*. SHUCKARD described as new a number of species of exotic Hymenoptera, again chiefly from specimens in his own collection (SHUCKARD, 1838). The species described in this paper are listed at Appendix 3.

The British Bees, 1866

On the verso of the half-title to the *Essay*, there had appeared the notice: 'On the 1st of May [1837] will be published, uniform with the present Work, *The Bees of Great Britain ...*'. The notice was followed by an invitation to readers to subscribe to the new work. In September of the same year, the promised work was referred to as 'my forthcoming *Essay upon the Bees of Great Britain*', and it is evident that at that date SHUCKARD intended to carry the work down to species level (SHUCKARD, 1837c: 491). Either because too few subscribers came forward, or for some other reason, the proposed work (the first seven sheets of which had already been printed in 1835)² did not appear in that year, nor, indeed, for another thirty years, when it was published by Lovell Reeve under the title *British bees: an introduction to the study of the natural history and economy of the bees indigenous to the British Isles* (SHUCKARD, 1866). In the meantime, SHUCKARD had lost successively his collections and his library and it may be surmised, from the work's elaborate, and no doubt genuinely felt, dedication to WILLIAM WILSON SAUNDERS, that the work had been rescued from oblivion only by SAUNDERS' intervention: SAUNDERS' well-attested liberality towards authors (cf. Anon., 1844) had not at that date been summarily extinguished. SHUCKARD in his preface, dated June 1866, thanked THOMAS DESVIGNES 'for the kindness and willingness with which he lent me, for the purposes of this work, my own selection from the Bees of his choice collection of British insects'. However, since a substantial part of the work had been printed in 1835, and since the remainder of the text, including the whole of the systematic treatment, must have been in at least an advanced state to justify the notice in the *Essay* in 1837, it may be thought that the loan - probably in large part of specimens originally in SHUCKARD's own collection - was primarily for purposes of illustration: the sixteen plates were drawn and engraved by E. W. ROBINSON in 1866. SHUCKARD (1866: Preface, viii) described his work as 'truly a labour of love' and in fact it stands as a testament to a lifetime's observations in the study and in the field. The work as published was carried down only to genus level but under genera included lists of species. It included no new species, although SHUCKARD sought to attach his and BAINBRIDGE's names, as authors, to two species that, years before, they had circulated under manuscript names which had in the interval been published by FREDERICK SMITH.³

The Dispersal of SHUCKARD's Hymenoptera Collections

It is with the present whereabouts of the type material of the species described from material in SHUCKARD's own collection and in other private collections (CHANT, HASLEHURST, RUDD, STEPHENS, and WALKER) that the present paper is more particularly concerned: type material of those species described from specimens in the British Museum or in the collection of the Entomological Society of London (dispersed: exotic insects auctioned 1859; Hymenoptera, among other groups, to the British Museum 1863) should of course be present in the Natural History Museum, London; of those described from HOPE's and WESTWOOD's collections in the University Museum, Oxford; and of those described from the Entomological Club's collection probably in London.

Neither BATES (1869) nor NEWMAN (1868c), in their obituary notices, gave any information concerning the disposal or dispersal of SHUCKARD's collection. RICHARDS (1935), in revising the specific names applied to the British aculeate Hymenoptera, curiously made no attempt to verify the application of SHUCKARD's numerous names for British Pompilidae and Sphecidae although he had access to both the London and the Oxford collections: there is no reference in his paper to any SHUCKARD type. HORN & KAHLE (1936: 258), copied by HORN, KAHLE,

FRIESE & GAEDIKE (1990: 364), gave: 'Samml[ung]. via Th. Desvignes 1868 via J. C. Stevens (London) verauktioniert', but, as will become apparent, this was far from being an accurate or adequate statement of the facts. DAY (1979: 3) and MORGAN (1984: 9) designated as 'lectotypes' of two SHUCKARD taxa (a pompilid and a chrysid) specimens in STEPHENS' collection, although there is no evidence that these were in fact syntypes.

Evidence, sometimes conflicting, on what did in fact become of SHUCKARD's Hymenoptera comes from a variety of sources. Figure 1 shows in broad outline the major routes of dispersal indicated by these sources.

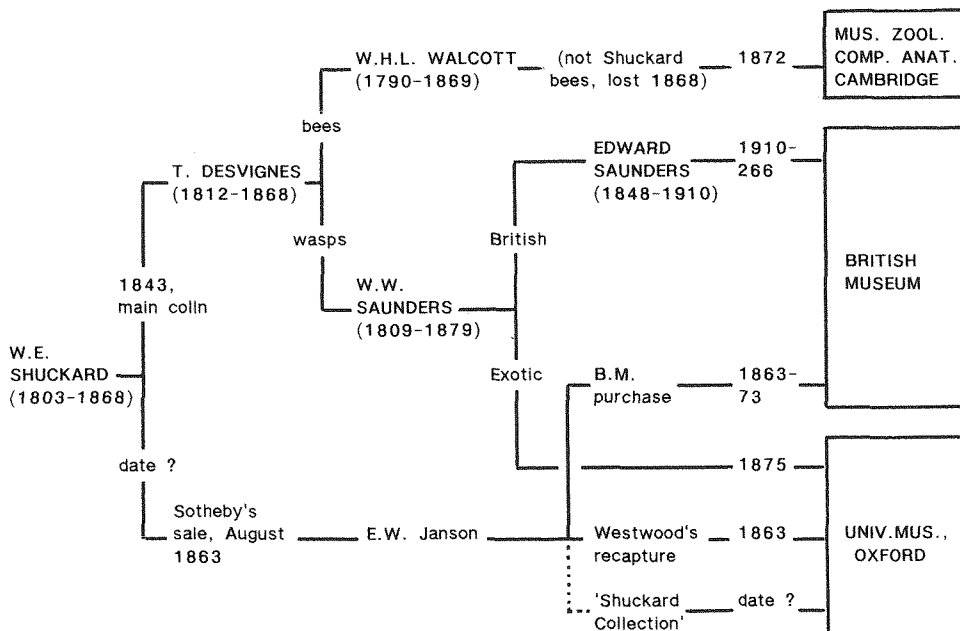


Fig. Major routes of dispersal of SHUCKARD's collections. Dotted line indicates conjectural. Names of collectors in capital letters.

SHUCKARD's collections, or a substantial part of them, passed to THOMAS DESVIGNES in 1843 (SHUCKARD, 1866: 292, here possibly writing specifically of his bees).⁴ Although SHUCKARD suggested elsewhere (ibid., 222) that his enthusiasm for the Hymenoptera had waned prior to that date⁵, it seems likely that the disposal of his collections was necessitated by some reversal of his fortunes, since, as will be made apparent, he had at about the same date pawned some part of his collection that, from its contents, was clearly not a mere duplicate collection.

SHUCKARD's library was sold at auction by S. LEIGH SOTHEY & JOHN WILKINSON on 13 and 14 August 1863. The sale catalogue was entitled:

Catalogue of the valuable library of a distinguished entomologist, comprising some of the best works on insects, and other branches of natural history, by eminent authors; also the miscellaneous library, containing books in the different languages and departments of literature; some interesting engravings, drawings and paintings.

The catalogue did not identify the 'distinguished entomologist', but that this was indeed SHUCKARD is clear from the fact that the sale included many of his works, often in multiple copies and parts. It included also a parcel of waste and just two lots of insects:

- 179 INSECTS. Four boxes containing an immense number of various kinds of flies and other insects, SOME RARE. 4
- 180 INSECTS. Entomologia Britannica, six boxes, so named, containing many hundred insects, and 1 other with spiders, &c. 7

A priced copy of the sale catalogue in the British Library shows that both lots were purchased by [E.W.] JANSON, the first for 15/-, the second for £1-11-0. The exotic Hymenoptera included in Lot 179 were offered by JANSON to the British Museum, when the curator [presumably FREDERICK SMITH, who had become an Assistant in the Zoological Department, under J. E. GRAY, in 1850] selected a number of specimens, but before the sale had been completed WESTWOOD intervened:

Purchased from Mr. Janson a selection from the Collection of Exotic Hymenoptera purchased by him at Messrs. Sothebys at the sale of Shuckards Books. This collection of insects contained a large number of specimens borrowed in 1841 by Shuckard from the Entomological Society, the East India House, & the collections of Mr. Hope & Westwood, & was afterwards pawned by Shuckard illegally, & after many years payment of interest on the money advanced (which at length was discontinued & the insects consequently forfeited to the Pawnbroker) the collection was sold by Auction & purchased by Mr. Janson - & by him offered to the British Museum, the Curator of which selected 100 specimens at 2/4 each which I fortunately ascertained previous to the completion of the sale to the British Museum, as the selection contained a great number of Mr. Hope's & my own Uniques, which I claimed, but as the sale had taken place in a strictly legal manner & so long a period had elapsed, I was only able to obtain repossession of the Hopeian & my own types by paying for them the price offered by the British Museum. (Memorandum by WESTWOOD, August/September 1863: copy in the Natural History Museum, London, Insect Room Lists, 1, item 28; HARVEY et al., 1996: 219.)

The specimens regained by WESTWOOD are listed, as he gave them, at Appendix 4, and should of course all still be extant in the Hope Entomological Collections at Oxford; but, for immediate purposes, the tracing of the present whereabouts of the type material of the taxa described by SHUCKARD in 1837 and 1838, the significance of WESTWOOD's memorandum is that it refers specifically to exotic material borrowed by SHUCKARD in 1841. The material recovered by WESTWOOD should not, therefore, include type material of any of the exotic Hymenoptera described by SHUCKARD in 1838. Some of these were, however, included in the British Museum's second selection, made after WESTWOOD's recapture.

The British Museum purchase was initially, erroneously, recorded (Zoological Accessions, Annulosa, 3: 847-848, Accession No. 63-73) as comprising 113 Coleoptera ('Various localities / Purchased of E. W. JANSON / From the Collection of Mr. E. W. [error for W. E.] SHUCKARD'). This was corrected at pp. 849-850, as Accession No. 63-81, by a now itemized listing, and a note on p. 850 recorded that 'One of the specimens of *Paragia* is the type upon which the genus was founded, *P. decipiens* described by SHUCKARD in the Transactions of The Entomological Society of London Vol. II. p. 82'. The list given in the Register is copied at Appendix 5.

The specimens purchased by WESTWOOD and by the Museum amount jointly to fewer than 200, and cannot account for more than a small part of the 'immense number of various kinds of flies and other insects' of the sale catalogue. It seems likely that the residue of Lots 179 and 180 is represented by a collection in the University Museum, Oxford, known as the SHUCKARD Collection (vide infra).

The University Museum of Natural History, Oxford

The 'Shuckard Collection' is a miscellaneous collection comprising a large number of insects of various orders, including Coleoptera, Hymenoptera and Diptera, British and exotic, 'formerly the contents of 13 small drawers of a Victorian cabinet' (curator's note), recently re-housed in five standard museum drawers (where it is now mixed with some BURCHELL material and shows evidence of recent *Anthrenus* damage).

How and when the collection came to the Museum are uncertain. There is no direct reference to its acquisition in A. Z. SMITH (1986), but SMITH's *History of the Hope Entomological Collections* does appear to offer three distinct possibilities. (1) The collection is to be identified with certain entries in the Schedule appended to F. W. HOPE's Deed of Gift of 4 August 1849 (A. Z. SMITH, 1986: 126). If so, it must necessarily consist of material acquired by HOPE in or before 1849 and can hardly be the residue of JANSON's purchase at Sotheby's sale of August 1863. (2) The collection is to be identified with the second entry in A. Z. SMITH's inventory (1986: 159) of WESTWOOD's collection, purchased and presented by F. W. HOPE in 1857: 'A Buhl inlaid Cabinet of 26 small drawers containing English Hymenoptera Hemiptera &c'. If so, it must necessarily consist of material acquired by WESTWOOD in or before 1857 and again can hardly be the residue of JANSON's purchase at Sotheby's sale of August 1863. (3) The collection is part of the material acquired by the Museum on the dispersal of W. W. SAUNDERS' collection (between 1873 and 1879). If so, it could well have included material from the 1863 sale. However, it cannot be equated with any of the entries in A. Z. SMITH's inventory (1986: 147-148). Possibility (2) is suggested by the convergent references to '13 small drawers of a Victorian cabinet' and 'A Buhl inlaid Cabinet of 26 small drawers'), but the date is a problem - unless WESTWOOD in 1863 or later used a half of this cabinet for material acquired after 1857 (but then, what of the 'Hymenoptera Hemiptera &c' originally contained?).

If the provenance of the collection is unclear, so also is its relationship to SHUCKARD's published work. Few specimens bear labels of any kind, and none of the species described by SHUCKARD appears to be represented. For example, *Crabro* (sensu SHUCKARD, chiefly *Crossocerus* species), under which name SHUCKARD described 14 supposedly new species, and which one might therefore reasonably expect to find represented, is apparently absent, while *Pemphredon*, of which he described as new one species, *luctuosus*, is represented by a series of 13 specimens standing as '*lugubre*, Fab.' Some of these bear small MS labels 'Here[ford?]. Sh[uckard?].', or 'Shrop[shire?]. Sh[uckard?].'. The printed labels used as drawer labels for some of the British Hymenoptera (including the *Pemphredon* [mis-spelled *Pemphedron*] do not come from the label-list included in SHUCKARD's *Fossorial Hymenoptera*. [The same mis-spelling *Pemphedron* occurs repeatedly in SAMOUELLE's *Compendium* (1819a) and its associated label-list, the *Nomenclature* (1819b), which may suggest a date for the formation of the Oxford collection of between 1819 and 1829, when CURTIS's *Guide* and STEPHENS' *Nomenclature* both became available. However, SAMOUELLE does not list *lugubre*.] A cryptic note of uncertain date, in a bold hand, inserted at the end of the series, reads: 'Duplicates ?? / ? Selected by / Shuckard'.

THOMAS DESVIGNES (1812-1868)

As noted above, THOMAS DESVIGNES acquired the more important part of SHUCKARD's collections in 1843. He did not, as will have become apparent, acquire the whole of SHUCKARD's collections. What he did acquire, perhaps incorporated with material from other sources, remained in his possession until his death on 11 May 1868, which was followed shortly by that of SHUCKARD himself (10 November). The anonymous obituarist of *The Entomologist's Monthly Magazine* wrote (1868: 26): 'His [Desvignes'] collection of British Insects will shortly be sold at Stevens'. ... In the Aculeate Hymenoptera it is also good, including, as it does, the types of Shuckard's Fossores'.

DESVIGNES' collection of British insects was sold at auction by STEVENS on 30 June 1868 (*Athenaeum* June 1868: 847, notice of sale, unfortunately without any details). Prior to the sale, however, the British Museum had purchased from DESVIGNES' executors, apparently between 10 and 15 June, his collection of British Ichneumonidae, comprising 6881 specimens, the collection being registered as Accession No. 68-52 (Zoological Accessions, *Annulosa*, 4: 125). [Some of DESVIGNES' Ichneumonidae had already in 1857 gone to Oxford via J. O. WESTWOOD (A. Z. SMITH, 1986: 114; 'British Ichneumonidae named by Desvignes').] No copy of the sale catalogue has been seen [the Natural History Museum series of STEVENS' catalogues does not extend back to this date: the British Library does not hold J. C. STEVENS' catalogues and Dr. ELIZABETH JAMES (personal communication) was unable to trace copies in any of the other copyright libraries] and, therefore, primary evidence as to lotting and purchasers is lacking. Neither BATES (1869: lvi) nor NEWMAN (1868b: 108), in their obituary notices, gave any information on the disposal of DESVIGNES' collection. HORN & KAHLE (1935: 55), followed by HORN, KAHLE, FRIESE & GAEDIKE (1990: 91) gave only 'Sammlg. 1868 via J. C. Stevens (London) verauktioniert: Brit. Ichneumonid. an Brit. Mus. N.H. (London)'. However, some material was purchased by E. W. JANSON, either for stock or acting on behalf of clients: a ledger entry dated 4 July 1868 records the sale to W. W. SAUNDERS of 'Insects etc. (Desvignes) / £8-1-0'. This sale may well have included those types of SHUCKARD's British Hymenoptera later referred to, with other SHUCKARD specimens then in his collection, by EDWARD SAUNDERS in his *Synopsis* (1882-1884) or in his *Hymenoptera Aculeata* (1896). Some of DESVIGNES' Odonata were acquired by MCLACHLAN (MCLACHLAN, 1869: 220).

It is perhaps significant that SAUNDERS did not refer to any SHUCKARD bees, while certain remarks by FREDERICK SMITH (vide infra) indicate that these were bought, probably in their entirety, by W. H. L. WALCOTT.

W. H. L. WALCOTT (1790-1869)

It is particularly with regard to WALCOTT and SAUNDERS that problems arise. Conflicting accounts were given by FREDERICK SMITH (1805-1879) and the Rev. F. D. MORICE (1849-1926), both of whom should have been in full possession of the facts, SMITH as a contemporary of SHUCKARD and sharing his interests, MORICE as a close friend and co-worker of EDWARD SAUNDERS. SMITH (1876 [1891]: 55), under *Andrena fucata* SMITH, noted: 'There were specimens in the Shuckardian collection, purchased by Mr. Walcott, of Bristol'. MORICE (1910: 50), in his obituary of EDWARD SAUNDERS, noted 'His father [i.e., William Wilson Saunders] had purchased Shuckard's fine collection of British Hymenoptera, including several of that author's "types".'. SMITH's and MORICE's statements cannot be reconciled: even if SMITH were supposed to have been writing simply with SHUCKARD's British Apoidea in mind, MORICE, prima facie, was writing of SHUCKARD's British Hymenoptera as a whole.

Possibly both accounts are correct in essence while incomplete in detail: it may also be noted that MORICE's interests, as an author, lay in the wasps rather than the bees.

WALCOTT, according to SMITH, as already noted, purchased 'the Shuckardian collection' [scil., of bees]. Presumably this would have been at STEVENS' sale in June 1868, but it could have been a private purchase from DESVIGNES' executors prior to the sale (cf. the British Museum's purchase of DESVIGNES' Ichneumonidae). Whichever the fact, WALCOTT never received SHUCKARD's collection: '... the entire collection [Shuckard's] perished in its transit from London' (SMITH, 1872: 97, under *Andrena vitrea* SMITH); '... the Shuckardian collection, purchased by Mr. Walcott, of Bristol ... perished in its transit to that place from London' (SMITH, 1876 [1891]: 55, under *Andrena fucata* SMITH). WALCOTT might possibly, however, have acquired other SHUCKARD material at other dates, and, if so, specimens may survive in what remains of his collection. NEWMAN (1869: 294) recorded that after WALCOTT's death his collection remained in the possession of his family and that there was a probability that it would be deposited in the Museum of the Bristol Scientific Institution (a precursor of the present Bristol Museums and Art Gallery). WALCOTT's collection of British Hymenoptera did not, however, remain in Bristol but was presented by his daughter, in 1872, to the Museum of Zoology and Comparative Anatomy in Cambridge. It was not maintained as a separate collection, and specimens labelled simply 'Britain / Walcott Coll.' - there are no data labels - may now be found dispersed among the general British collection in the University Museum of Zoology (Dr. W. A. FOSTER, personal communication). Since the WALCOTT specimens bear no data labels, it is improbable that any SHUCKARD material could be recognized among them. [There were in the Bristol Museum in 1913 two cases of bees collected by WALCOTT in the neighbourhood of the city (HUDD & GRIFFITHS, 1914: 37 l.c.), but the Museum's geological, botanical and entomological collections were largely destroyed by bombing in 1940, and, according to Mr. R. J. BARNETT (in litt., 8 February, 1996) there is no evidence of any WALCOTT material today.]

Some exotic specimens from WALCOTT's collection were acquired by FREDERICK SMITH (BAKER, 1993: 118), and these, so far as they survive, are probably now all in the Natural History Museum, London. They included the types of some species described by SMITH in his *Catalogue of Hymenopterous Insects in the Collection of the British Museum* (1853-1854).

WILLIAM WILSON SAUNDERS (1809-1879)

SAUNDERS, according to MORICE, as already noted, purchased SHUCKARD's collection of British Hymenoptera. Presumably, as with WALCOTT, this would have been at STEVENS' sale of DESVIGNES' collection in 1868, and possibly it may be linked with JANSON's ledger entry of 4 July 1868 (see under DESVIGNES). SAUNDERS, over a number of years a generous sponsor of entomological publication, an author himself, and a collector who formed extensive and important collections in many branches of natural history, including, among the insects, Hymenoptera, at his home, Hill Field, in Reigate, was buying actively during the middle years of the century: he had, for example, contracted to buy a substantial part of the insect material collected in the Malay Archipelago by A. R. WALLACE (cf. BAKER, 1993: 51, 117-118, 1996: 182).

SAUNDERS' underwriting firm (he was at some time Chairman of Lloyds) collapsed in 1873 following an unprecedented series of disasters in maritime insurance, necessitating, as one consequence, the sale of his collections. E. W. JANSON appears to have purchased, at the house sales that were conducted at Hill Field (summary in CHALMERS-HUNT, 1976), a large part of, at least, SAUNDERS' insect collections, and by 1879 these had substantially been sold on. The

firm's ledger, now in the Natural History Museum, London, records the dispersal by families and buyers of much of SAUNDERS' insect collection but does not mention any Hymenoptera. By whatever route, SAUNDERS' exotic Hymenoptera, including the WALLACE material, went to Oxford in 1875 (vide A. Z. SMITH, 1986: 148). His British Hymenoptera, including some part of SHUCKARD's collection and certainly including some types of SHUCKARD's fossore, apparently passed directly to his son, EDWARD SAUNDERS (vide infra): there is certainly nothing in A. Z. SMITH's list to indicate the presence of SHUCKARD fossore among the miscellaneous boxes of Hymenoptera that went to Oxford ('Also 4 boxes of unarranged Hymenoptera. In larger green box 408 indiv.s including ... 44 Fossore ... In deal Box No. 195 325 individuals including ... 13 Fossore ...'), and the small number of specimens runs counter to any such suggestion - SHUCKARD's collection must have been considerable. Unfortunately, all this material (the inventory does not make it clear whether the boxes recorded contained exotic or British specimens) seems now to have lost its identity.

EDWARD SAUNDERS (1848-1910)

EDWARD SAUNDERS' Hymenoptera went to the British Museum (Natural History) in 1910, his British material (10,000 specimens) presented by MORICE, his other palaearctic material (30,000 specimens) purchased from Mrs SAUNDERS (Zoology Accessions, Insects, 8: 73, Accession No. 1910-266). The British material certainly included some specimens coming from SHUCKARD's collection: SAUNDERS himself stated that he possessed the types of *Pemphredon luctuosa* (1896: 92), *P. lethifer* (1896: 94), and *Crabro walkeri* (1896: 133), and referred elsewhere in the same work - but not as types - to other SHUCKARD specimens in his collection. YARROW (1970: 177) designated an ex-SAUNDERS specimen in BM(NH) as lectotype of *Passaloecus corniger* SHUCK. Whether SAUNDERS' collection included type material of all those of SHUCKARD's species described from SHUCKARD's own collection is at present uncertain but seems doubtful: MORICE, as already noted, referred only to 'several types'.

Other Private Collections that held syntypes of SHUCKARD's species

These were (vide Introduction and Appendices 1 and 2) and their present locations, so far as ascertained, are:

Mr. CHANT	JOHN CHANT (d. 1867). Collection auctioned by J. C. STEVENS on 24 April 1868 (NEWMAN, 1868a: 106; CHALMERS-HUNT, 1976: 106). Some Hymenoptera were included (Lot 61, buyer unknown).
The Entomological Club, London	In part to British Museum, in part, including some Hymenoptera, to University Museum, Oxford (vide A. Z. SMITH, 1986: 117).
Mr. HASLEHURST	Presumably the J. W. HASLEHURST of Trinity College, Cambridge, listed by CURTIS (1839) as a subscriber to the <i>British Entomology</i> . No information on any collection.
The Rev. F. W. HOPE	University Museum, Oxford.
The Rev. G. T. RUDD	No information on his collection. Was a correspondent of JOHN CURTIS.
J. F. STEPHENS	British Insects to British Museum 1853.
FRANCIS WALKER	Collection dispersed, parts to British Museum and University Museum, Oxford, part auctioned by J. C. STEVENS 1877.
J. O. WESTWOOD	University Museum, Oxford.

Epilogue

The type material of SHUCKARD's species is clearly not all in one place, and may be even more widely dispersed than the above notes indicate. WALCOTT, SHUCKARD, DESVIGNES and W. W. SAUNDERS were close contemporaries, the three first named dying within 1868-69, and will have been well known to one another. Apart from any major dispersal of collections by sale, whether lifetime or executors', it is not improbable that WALCOTT, SHUCKARD and DESVIGNES all exchanged material among themselves or with other collectors, or gave away specimens, and that therefore what would now be recognized as syntypal series may have become even more widely scattered. It is known, for example, from the B.M.'s Accessions Register, that on several occasions WALCOTT presented named British bees to the Museum, and from CURTIS's *British Entomology* (e.g., 1834, pl. 524) that SHUCKARD provided him with specimens and records. It is of course conceivable that MORICE, on presenting EDWARD SAUNDERS' British Hymenoptera to the British Museum (Natural History) in 1910, may have reserved material in which he was particularly interested or on which he contemplated publishing. If so, further SHUCKARD specimens might be found in MORICE's collection in Oxford.

Those SHUCKARD types that have been located in the Natural History Museum, London, are indicated, with their registration numbers, in Appendices 1 and 2. It is no part of the present inquiry to conduct a physical search for the greater number presently untraced, a task in any event better left to someone better cognizant of those families of wasps, the Chrysididae, Pompilidae and Sphecidae, with which SHUCKARD's papers were more particularly concerned. It is hoped, however, that the information given in the present paper may, by limiting the field of inquiry, assist others in tracing missing types. These cannot at present be written off as permanently lost; neither, should questions of identity arise, would it be wise at the present stage to consider the creation of neotypes.

Acknowledgments

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Notes

¹ SHUCKARD's personal, interleaved and annotated, copy of his *Essay*, acquired probably by W. W. SAUNDERS and subsequently passing through the hands of EDWARD SAUNDERS, R. C. L. PERKINS (by whom it was purchased from a dealer), and the late MALCOLM SPOONER, is now in the Entomology Library of the Natural History Museum, London. The front endpaper has a pencilled inscription, apparently in

SHUCKARD's hand, 'from the author's library with his MSS notes and emendations on the interleaves', and is further annotated by PERKINS. SHUCKARD's notes consist chiefly of additional synonymy, but the following are of taxonomic interest:

Facing p. 108 (*Oxybelus ferox*): 'The ♂ of argentipes certainly'.

Facing p. 111 (*Oxybelus argentatus*): 'The ♂ is doubtfully my Ferox'.

P. 143: *Lindenius* corrected to *Lindenii*.

P. 178: *rufiventris* PANZER corrected to *clavipes* L.

P. 182: *Spilomena* substituted for *Celia*.

Facing p. 214: *Fargeii* corrected to *Fargeavii*.

² There is some confusion here. Facing p. 117 in his personal copy, SHUCKARD noted; 'as far as here was printed in 1835', but p. 117 occurs in signature I (pp. 113-128). As SHUCKARD noted elsewhere that the first seven sheets (i.e., signatures B-H) had been printed in August 1835, it seems likely that the annotation should have been made on, or on the interleaf facing, p. 112.

³ *Andrena longipes* SHUCKARD, SHUCKARD 1866: 202, pl. 3; fig. 2, = *Andrena longipes* SMITH, 1847 = *Andrena bucephala* STEPHENS, 1846; *Osmia pilicornis* BAINBRIDGE, SHUCKARD 1866: 296, = *Osmia pilicornis* SMITH, 1846.

'This insect [*longipes*] was first captured by me, and with this, my manuscript name, attached to it, was distributed to entomologists with an unsparing hand. The ordinary courtesy of the science has been, for the describer, when not the capturer, to adopt and circulate the original authority, and not to appropriate it. Similar buccaneering has been practised with poor Bainbridge's *Osmia pilicornis*, to which he had attached this manuscript name, he being the first to introduce it, having caught it at Birchwood.' (SHUCKARD, 1866: 211-212, footnote.)

'... Mr. Bainbridge ... who ... distributed specimens with this manuscript name [*pilicornis*] attached, which has since been appropriated by another entomologist to whom the science was wholly unknown at that time [FREDERICK SMITH], but as it is scarcely consistent with scientific courtesy to adopt such a course ... I have restored to Mr. Bainbridge his just rights, and have claimed the same for myself, in the case of *Andrena longipes*, and which many cabinets must still possess with my name attached, in my own writing, unless their possessors have chosen to adopt the illegitimate parentage; for the entomologists of my own standing well know that I always freely distributed specimens to all who desired them of the many very desirable insects which I captured in the course of my entomological career.' (SHUCKARD, 1866: 299-300.) *O tempora! O mores!*

⁴ 'One of Leach's specimens [of *Anthocopa papaveris* LATR.] I received in exchange from that establishment [the British Museum] in 1842, and which is now in the possession of Mr. Desvignes, to whom my collections passed in the following year.'

⁵ '... the second [specimen of *Macropis*] was caught in the New Forest by the late John Walton, Esq. [1784-1862], ... who kindly presented it to me for my collection when I was at the zenith of my enthusiasm for the Hymenoptera, and with that collection it passed to Mr. Thomas Desvignes, in whose possession it remains'.

⁶ Two correspondents, probably from a common source, have asserted that the material lost in transit to Bristol perished in a railway accident. SPOONER, writing to VARDY (24 June 1887), had '... the collection was destroyed en route from London to Bristol, while being carried by the G.W.R. F. Smith relates this in *Ent. Ann.* of 1872, p. 97'. In fact, SMITH made no reference to the form of transport and, while the suggestion of loss in a railway accident is plausible, the incident is of dubious historicity. Nothing to support it has so far been found in published sources or in Museum archives. At about the same date the entire library, manuscripts and collections of the Rev. T. A. MARSHALL, including his numerous types of British Hymenoptera, were lost in transit between Milford Haven and Barnstaple - not, as might be assumed today, by road or rail accident, but by the foundering of a ship (*Proceedings of the Entomological Society of London for the Year 1869* : iv).

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Appendix 1. Species of Chrysididae described by Shuckard in 1836

Species name	page	sex	locality [collection]	type depository*
CHRYSIDIDAE				
<i>Chrysis ignita</i> varr.:				
<i>Alcione</i>	161	?	no localities indicated [no collection indicated - probably syntypes of all of these varieties were in Shuckard]	no card
<i>Asterope</i>	161	?		
<i>Celeno</i>	162	?		
<i>Electra</i>	162	?		
<i>Maia</i>	162	?		
<i>Taygeta</i>	162	?		
<i>Chrysis Ruddii</i>	163	?	near London ... New Forest, Hampshire [no collection indicated]	no card
<i>Chrysis Leachii</i>	168	?	no locality indicated [British Museum]	no card
<i>Chrysis neglecta</i>	169	♀	'frequents sandy situations .. abundant .. at Highgate' [no collection indicated; syntypes presumably in Shuckard]	no card, although a ♀ in Stephens' colln was designated as lectotype by Morgan (1984)
<i>Euchroæus quadratus</i>				
Leach MS	169	?	no locality indicated [British Museum]	no card
<i>Hedychrum bidentulum</i>				
Lep. varr.:				
<i>Imperiale</i>	175	?	Bexley [Shuckard]; unrecorded [in B.M. as <i>imperiale</i> Leach]	no card
<i>Viride</i> !!	175	?	Battersea-fields [Shuckard]	no card
<i>Ænea</i> !!	175	?	Yarm, in Yorkshire [Rudd ?]	no card

* 'no card' - no card in BMNH departmental card index to types. This index, arranged in alphabetical sequence of species under superfamilies, is one of two indices held in the department, the other being a loose-leaf index with entries in numerical sequence of type registration numbers. [N.B. Two species were expressly stated by Shuckard to have been described from specimens in the British Museum, and for these at least type material should be recorded.]

!! names omitted by Kimsey & Bohart (1990)

Appendix 2. Species of Hymenoptera described by Shuckard in 1837.

Species name	page	sex	locality [collection]	type depository*
POMPILIDAE				
<i>Pompilus sericatus</i>	60	♂	'somewhere in the vicinity of London' [Shuckard]	holotype ♂ OUM (Day, 1979: 15)
<i>Pompilus crassicornis</i>	63	♀	Hampstead [Shuckard]; Southend [Hope]; Burghfield [Haslehurst].	no card; no ref. to type material in Day (1979)
<i>Pompilus agilis</i>	251	♀♂	Turnham Green, Middlesex; Green Street Green and Birchwood, Kent [Shuckard]	lectotype ♀ designated by Day (1979: 3)

SPHECIDAE

For the current placement of Shuckard's taxa in this family, reference should be made to Bohart & Menke (1976). Unfortunately, this work gives mere checklists of names, without indicating whether placements, either as valid species or as synonyms, are based on the examination of type material.

<i>Oxybelus ferox</i>	108 ♂	'somewhere in the neighbourhood of London' [Shuckard]	no card
<i>Oxybelus nigricornis</i>	112 ♀♂	locality unknown [British Museum]	BMNH 21.1109
<i>Oxybelus nigroaeneus</i>	113 ♂	locality unknown [British Museum]	no card
<i>Trypoxylon aurifrons</i>	117 ♂	locality unknown [British Museum]	no card
<i>Crabro cetratus</i>	131 ♂	'in the vicinity of London' [Shuckard; Chant]	no card
<i>Crabro tarsatus</i>	133 ♂	Highgate [Shuckard]	no card
<i>Crabro xylurgus</i>	139 ♀♂	no locality: 'in most Cabinets'	no card
<i>Crabro lindenius</i>	143 ♀♂	'in the vicinity of London' [Walker]; at Ripley in Surrey [Stephens]; 'in my own and other Cabinets'	no card
<i>Crabro proximus</i>	156 ♂	no locality given [Entomological Society of London]	no card
<i>Crabro hyalinus</i> (Stephens MS)	161 ♀	no locality given [Stephens]	BMNH 21.1736
<i>Crabro capitosus</i>	159 ♀	Battersea Fields [Shuckard]	no card
<i>Crabro transversalis</i>	162 ♂	locality unknown [Westwood]	OUM ?
<i>Crabro spinipectus</i>	163 ♂♀	'in the immediate vicinity of London' [Shuckard]	no card
<i>Crabro pubescens</i>	165 ♂	locality unknown [Entomological Society of London; Stephens]	no card
<i>Crabro obliquus</i>	167 ♀♂	'in the neighbourhood of London' [Shuckard, ♀]; Barmouth [Walker, ♀]; locality ? [Stephens, ♂]	no card
<i>Crabro propinquus</i>	168 ♀♂	'in the vicinity of London' [Shuckard]	no card
<i>Crabro geniculatus</i> (Stephens MS)	169 ♀	Ripley in Surrey [Stephens]	no card
<i>Crabro walkeri</i>	170 ♂	no locality [Shuckard, ex Walker]	BMNH 21.1735 ex E.S.
<i>Diodontus luperus</i>	186 ♀♂	no locality [Shuckard]	no card
<i>Passaloecus corniger</i>	191 ♀♂	Battersea Fields [Shuckard]	!! BMNH 21.1807 (lectotype by Yarrow)
<i>Pemphredon luctuosus</i>	197 ♂	Battersea Fields [Shuckard]	BMNH 21.887 ex ES
<i>Cemonus lethifer</i>	201 ♀♂	no locality [Shuckard]	no card: type was in ES and should therefore be in BMNH
<i>Gorytes fargeli</i>	214 ♀♂	Highgate and Battersea; 'most Cabinets'	no card

* 'no card': no card in BMNH card index to types (See Appendix 1). According to Mr C.R. Vardy, late BMNH staff (*in litt.*, 24 January 1996), J. Leclercq some years ago labelled some specimens, probably *Crossocerus*, in the Museum collection as 'types' but did not confirm this action by publication. The specimens concerned would not therefore have been registered as types.

'BMNH 00.000': BMNH type registration number.
'!!' specimens of species so marked, probably syntypes, were included in material received in exchange by the British Museum from Shuckard in 1842 (Accession No. 42-16; Trustees' minute of 9 April 1842).

'ES' Edward Saunders Collection

'OUM ?': Type material should be in OUM but not registered and not traced May 1996.

Appendix 3. Species of Hymenoptera described by Shuckard in 1838.

Species name	page	sex	locality [collection]	type depository*
MUTILLIDAE				
<i>Psammatha chalybea</i>	69	♂	neighbourhood of Sydney, New South Wales [Shuckard, Entomological Society of London, ex Kirby]	no card
POMPIDAE				
<i>Ceropales picta</i>	70	♀	Cape of Good Hope [Shuckard]	no card
<i>Ceropales anomalipes</i>	70	♂	the Brazils ? [Shuckard]	no card
<i>Exeirus lateritius</i>	72	♂♀	Sydney, New South Wales, and Van Diemen's Land [Shuckard, Entomological Club]	no card
NYSSONIDAE [SPHECIDAE]				

For the current placement of Shuckard's taxa in this family, reference should be made to Bohart & Menke (1976). Unfortunately, this work gives mere checklists of names, without indicating whether placements, either as valid species or as synonyms, are based on the examination of type material.

<i>Astata australasiae</i>	72	♀	New Holland [Shuckard]	BMNH 21.68
<i>Pison obscurus</i>	75	♀♂	Cape of Good Hope ? [Shuckard]	no card
<i>Pison spinolae</i>	76	♀	Sydney, New South Wales [Shuckard; Hope]	BMNH 21.561
<i>Pison punctifrons</i>	77	♀	Either from India or St. Helena [Oriental] [Westwood]	OUM ?
<i>Pison westwoodii</i>	77	♀	Van Diemen's Land [Westwood]	OUM ?
<i>Pison auratus</i>	78	♀	Cape of Good Hope ? [Australia] [Shuckard]	BMNH 21.581
<i>Pison rufipes</i>	79	♀	Van Diemen's Land [Shuckard, Westwood]	BMNH 21.530; OUM ?
<i>Pison argentatus</i>	79	♀	the Mauritius [Westwood]	OUM ?
<i>Gorytes brasiliensis</i>	80	♂	the Brazils [Shuckard]	no card
VESPIDAE				
<i>Paragia decipiens</i>	82	♀	New South Wales [Shuckard]	BMNH 18.1

* 'no card': no card in BMNH card index to types (See Appendix 1).
'BMNH 00.000': BMNH type registration number.
'OUM ?': type material should be in OUM, but not registered and not traced May 1996.

Appendix 4. Hymenoptera recovered by WESTWOOD in 1868

(List appended to WESTWOOD's memorandum, reproduced in text)

List as set out by WESTWOOD:

39 Thynnidae	(11 from Coll. Hope 5 from Coll Westwood 23 from general collection
16 Mutillidae	(3 from Coll Hope
15 other Mutillidae	(2 Coll. Hope, 1 Coll. Westwood
9 other Hymenoptera	(1 Coll Hope <i>Trachypus</i> unique

9 specimens @ 2/4, 52 @ 2/- 19 @ 1/- _____ 7. 4. 0.
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Appendix 5. Contents of British Museum Accession 1863-81.

Zoological Accessions, Annulosa, 3, 1850-1863, pp. 849-850, Purchased of E. W. JANSON.

'The Genera Spalangia, Monomatium, Dicranorhina, Nephritomma, & Megalomma are proposed by Shuckard in Lardners Cyclopaedia - they were however never characterized. One of the specimens of Paragia is the type upon which the genus was founded, *P. decipiens* described by Shuckard in the Transactions of the Entomological Society of London. Vol. II. p. 82.' (P. 850.)

List as set out in Accessions Register:

18 Thynnidae	Australia
3 Do.	Brazil
18 Myzine	Africa India & Brazil
6 Pompilidae	Brazil
1 Monedula (N[ew]. G[enus].)	Brazil
3 Larridae	Brazil
3 Crabronidae	[no entry]
9 Vespidae	[no entry]
2 <i>Paragia</i>	Australia
1 <i>Mutilla</i>	Europe
3 Do.	India
6 Do.	Africa
6 Do.	Mexico
3 Do.	Australia
3 Apidae	Brazil
1 <i>Methoca</i>	----- ?
3 Vespidae (M.S.)	Australia
4 Masaridae	Africa
1 <i>Mutilla gigantea</i>	Brazil
2 ----- <i>bifurca</i>	"
2 ----- <i>Klugii</i>	Mexico
1 <i>Ceramius Fonscolombii</i>	Europe
1 ----- <i>Lichtensteinii</i>	C. G. Hope
1 <i>Spalangia</i> - N[ew]. G[enus].	Australia
1 <i>Monomatium</i> - N.G.	Sumatra
1 <i>Dicranorhina</i> - N.G.	[no entry]
1 <i>Nephritomma</i> N.G.	Brazil
1 <i>Megalomma</i> N.G.	Gambia
1 <i>Cacopterus</i> N.G.	Brazil
7 Vespidae	Various local.