

## Octavius Pickard-Cambridge (1828–1917) and his worldwide web

### Zoë M. Simmons

Oxford University Museum of Natural History,  
Parks Road,  
Oxford, OX1 3PW  
e-mail: zoe.simmons@oum.ox.ac.uk

### Mollie S. Davies

School of Biological Sciences,  
Queens University Belfast,  
Chlorine Gardens,  
Belfast, BT9 5DL  
e-mail: molliesdavies@gmail.com

### Abstract

The Octavius Pickard-Cambridge collection of exotic Araneae is a large and significant historic collection of world spiders. Held at Oxford University Museum of Natural History, it encompasses most spider families, with material collected and studied by many prominent researchers between 1860–1917. A synopsis of the collection, its history and the main correspondents and colleagues of Pickard-Cambridge is presented, along with biographical notes on many of the people who were influential in the construction and preservation of this unique collection.

**Keywords:** Araneae • collections • OUMNH • Oxford • Poulton

### Introduction

The scientific interests of Reverend Octavius Pickard-Cambridge (1828–1917, hereafter OPC) were wide ranging within both Arachnida and Insecta, and broadly across ornithology, though his taxonomic focus and passion were the Araneae (spiders). He was a fervid natural historian and early Darwinian, devoting much time and energy to his work from an early age. During his lifetime he published on a broad range of subjects, producing over 290 publications, 167 of which were on the Arachnida. OPC also kept a variety of notebooks, recording species occurrences, behaviours of various animals (the squirrels in his garden were a particular delight), exchanges of publications with various authors, and the transfer of material sent, received, and exchanged between researchers and collectors and himself (1866–1911). Of these, the last set of books detailing the collections content are of particular importance (Fig. 1) as they hold information which evidences type status of specimens, both of species described by OPC and other authors.

As well as keeping multiple volumes of notebooks, OPC was an avid correspondent, exchanging many letters with key workers and collectors of the day including John Blackwall (1790–1881; Fig. 2), Eugène Louis Simon (1848–1924; Fig. 3), Tord Tamerlan Theodor Thorell (1830–1901), Ludwig Carl Christian Koch (1825–1908; Fig. 4), and Władysław Kulczyński (1854–1919; Fig. 5).

Due to the influence of Richard Henry Meade (1814–1899), OPC developed relatively robust methods for preservation of specimens (Meade 1852) including separating species by identity or collecting instance. Before this, it

had been the fashion to place specimens in magazine bottles to which new specimens were constantly added and mixed with others, making identification of individual specimens from different publications near impossible (O. Pickard-Cambridge 1881). He also began retaining type specimens of species that he described, not trusting that they would not be lost or damaged (A. W. Pickard-Cambridge 1918).

In 1917, just a few months after his death, Oxford University Museum of Natural History (OUMNH) received into its care, the complete arachnid collection of OPC. The bequest was executed by his son, Arthur Wallace Pickard-Cambridge (hereafter AWPC; 1873–1952). Correspondence between him and the then curator, Edward Bagnall Poulton (1856–1943), shows a strong working relationship, with queries from Poulton as to the appropriate use of the collection and specifics of its layout. Arthur himself helped with the transfer and undertook the arrangement of his father's collection within the museum.

AWPC wrote a biography of his father's life printed for private circulation in 1918 (A. W. Pickard-Cambridge 1918). A small yet relatively comprehensive account, it remains one of the best sources of information regarding the life and times of OPC. Perhaps most importantly it includes transcriptions from some of OPC's early diaries that were not included in the archival portion of the bequest.

The purpose of this paper is to provide an overview of OPC and his collection at the OUMNH. This is to be achieved by providing brief summaries on OPC himself, and some of the people named throughout the collection. It is by no means an exhaustive list of either the wet collection or archival contents and it is quite possible that valuable information has been overlooked, or more likely, lies unrecognised within such a wealth of material. It is the intention of the authors to provide this concise historical record, so that the OPC collection may be recognised, preserved, and acknowledged for its scientific importance.

### The OPC arachnid collection

The donation of arachnid material was extensive, with bottles containing all major orders of arachnids and biogeographical regions. At the time of its transfer “specimens were contained in about 5,000 bottles, many of them containing several separate tubes, and occupied over 600 feet of shelf, often in double rows” (A. W. Pickard-Cambridge 1918: 66).

As stated earlier, there was also a substantial archival element to the gift, of books and journal publications, but also of personal letters, notebooks, and illustrations. Edward Bagnall Poulton, then Hope Professor of Zoology at Oxford University (a post strongly associated with the OUMNH, with offices on-site at the museum at that time) described the bequest as “the greatest contribution to systematic zoology that the University had ever received by one gift” (Smith 1986: 141). The library portion of the gift was estimated at around 140 bound volumes and a “large number of pamphlets and offprints” (Smith 1986: 141). The archives

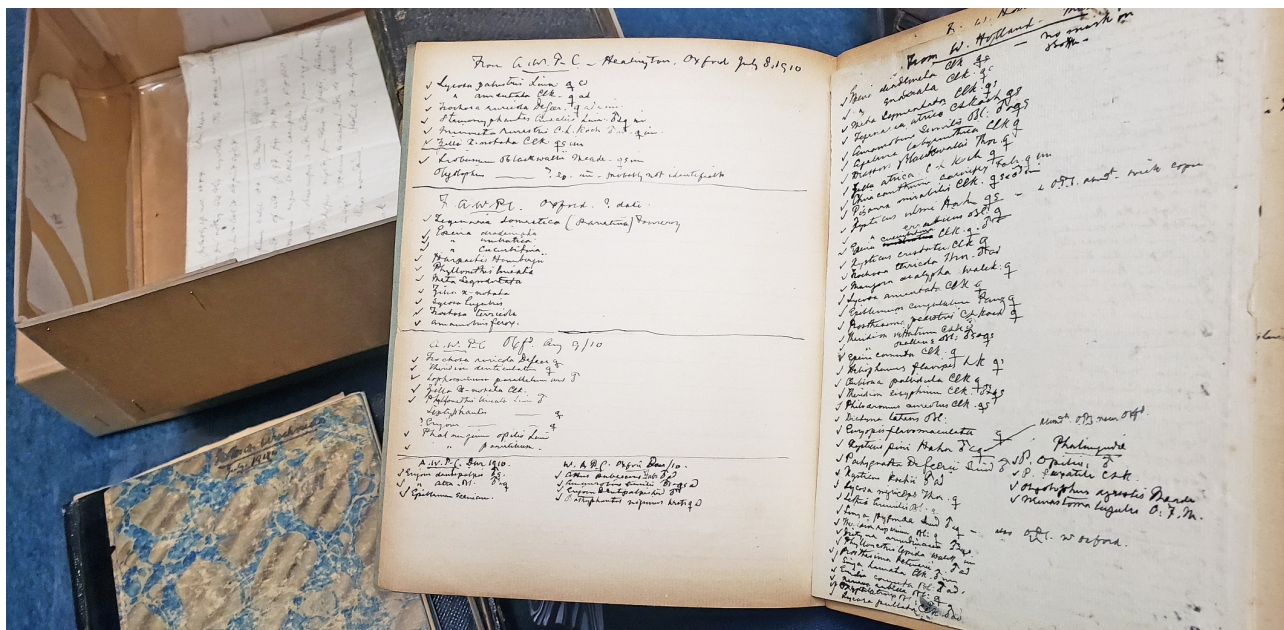


Fig. 1: Octavius Pickard-Cambridge notebook collection, showing a list of specimens from Arthur Wallace Pickard-Cambridge collected in Headington, Oxford July 8th 1910 (left side) and another list of specimens received from W. Holland (right side).

include over 2000 letters, notebooks, files (largely manuscript notes and lists), and leaves—this last portion being mostly composed of drawings, illustrations (Fig. 6), and specimen lists. It is estimated that the specimen collection holds between 200–250,000 specimens; the bulk of which is wet material held in 75% spirit, though there are also small sub-collections of dried materials including specimens, webs, and nests. Of the 5000 bottles of wet material, approximately 1700 are of British or miscellaneous materials, which includes the remains of Blackwall's collection and many bottles of unidentified material with broad localities such as 'Dorset' or 'Scotland'. The other 2300 bottles make up the Octavius Pickard-Cambridge Exotic Araneae Collection which holds the most interest for researchers, containing much unrecognised type material.

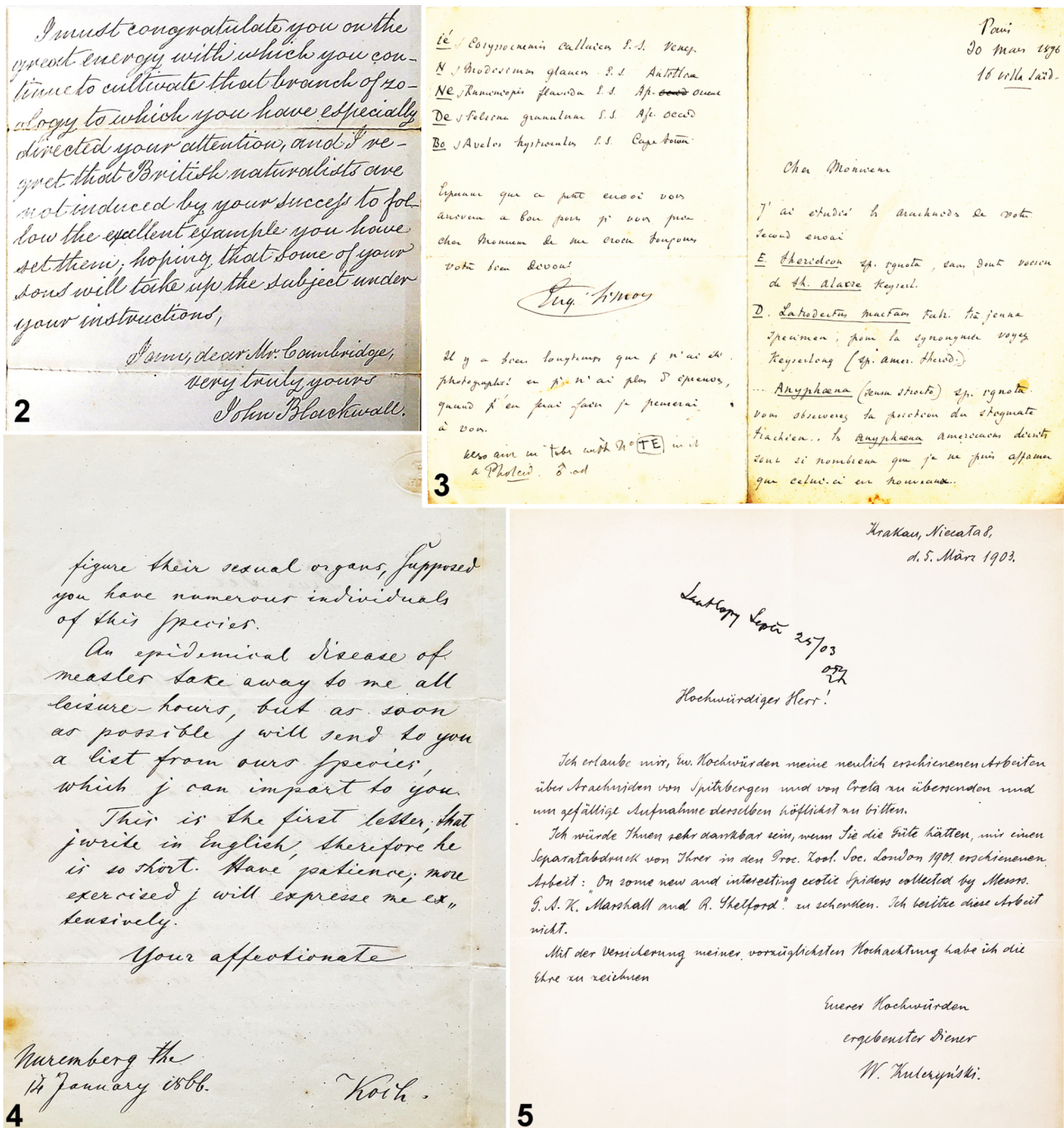
Whilst Pickard-Cambridge undertook much collecting within the British Isles, mainly in the areas surrounding Bloxworth in Dorset where he lived and worked, he also went abroad twice. Both trips were undertaken ostensibly as a form of pilgrimage, with the intention of visiting important historic religious sites; first through Egypt and then, on his second trip, in Syria and Palestine. These trips formed a "modest and scientific version of the Grand Tour" (Colloms 1977: 61) common to the Victorian Era. However, papers published after his travels (O. Pickard-Cambridge 1872, 1876a) show that these trips were used as much, if perhaps not more so, for spider hunting and specimen collection as they were for education and theology. On the return leg of his trip to Syria and Palestine, Pickard-Cambridge took the opportunity to stop in Nürnberg, Germany, to spend several days with Ludwig Carl Christian Koch (1825–1908), establishing them as lifelong colleagues.

Unfortunately, the two diaries detailing OPC travels abroad in 1864 and 1865 are not amongst those held in the archives at OUMNH. Tantalizingly, Colloms (1977)

referred to these missing notebooks in her account of OPC as a Victorian country parson but failed to list their repository. Details associated with the specimens collected on these trips are minimal at best, but further information has subsequently been added through a combination of archival research and data extraction from published papers. This information will be collated for future publication.

The bulk of Pickard-Cambridge's collection then built up over the course of his lifetime through exchange and gifts from the vast number of naturalists with whom Pickard-Cambridge corresponded and hosted at his home in Dorset. Material flowed freely from many areas of the world, both from collectors working in the field and between arachnologists working on identifying and describing species.

As far as records indicate, the material remained much in its original arrangement until sometime in 1956, when George Hazelwood Locket (1900–1991) (Locket 1964; Smith 1986) worked with museum staff to organise and arrange the British materials. A card index, put together by Glynis M. Hassell (née Everett) detailing species names and cross-referenced against bottle content remains one of the best methods of searching the contents of the collection. More recently, work has been undertaken to convert the card index to digital records and capture images of the bottle labels. The collection remains complex in nature, and specimens can be difficult to find without experience of working with historic materials or access to the associated archives. Much time-consuming and painstaking work is needed to properly identify potential type material. Labelling is poor and cross-referencing against notebooks is necessary. The difficulties of working with such a collection have no doubt led to the relatively low usage of the materials since its donation, though it is hoped that this will not prove too daunting for modern researchers given the potential spider treasure trove that it represents (Fig. 7).



Figs. 2–5: Examples of the correspondence from the O. Pickard-Cambridge archive. **2** letter from J. Blackwall; **3** letter from E. Simon; **4** letter from L. Koch; **5** letter from W. Kulczyński.

Staff are working to make a complete digital record of the bottle labels for the Exotic Collection, and it is hoped that scanned images will be made available via the museums 'Collections On-line' site (<https://oumnh.ox.ac.uk/collections-online>) in due course. In the meantime, all records and specimens can be accessed through direct enquiry to the department via e-mail or in-person visit.

### OPC's worldwide web

To encourage research and increase the accessibility of the collection, the following section contains notes on the

major contributors and correspondents of OPC. Collection and archive records are incomplete, as it is not the intention of the authors to present a complete list of contents, but rather to provide a starting point for those interested in the historic collections.

The 18 listed arachnology contributors are presented in order of their significance within the collection based on the quantity of archival material and relative importance of the correspondent in terms of arachnological research, with a summary of all of them found in Table 1. Figures given are indicative only, further cataloguing work is needed to confirm many of the records.

Person	Dates	Localities (from collection materials)	Material contributed		Notes
			Specimens	Archive	
<b>John Blackwall</b>	1790–1881	Largely British & European. Notable others: Africa, Seychelles, Madeira, Cape Verde Islands	~750	179 mostly letters	Majority of remaining Blackwall specimens appear to be held in this collection
<b>Eugène Louis Simon</b>	1848–1924	Largely French and European; includes world materials	~400	295+	Borrowed much material for comparative & descriptive purposes; likely some unrecognised type material
<b>Tord Thamerlan Teodor Thorell</b>	1830–1901	Majority of specimens are from Sweden; includes world materials	~100	92 mostly letters	Borrowed and subsequently described many specimens already belonging to OPC
<b>Ludwig Carl Christian Koch</b>	1825–1908	Majority of specimens are from Germany (Nuremberg); includes world materials	~250	78	Many species labelled TYPE; further research needed to establish provenance
<b>Wladyslaw Kulczyński</b>	1854–1919	Poland, Estonia, few other European countries	~70	64	Small number of types
<b>Richard Henry Meade</b>	1814–1899	Mauritius & Madagascar	~50	57 mostly letters + 1 notebook	
<b>James William Helenus Trail</b>	1851–1919	Amazons	~600	none listed	
<b>Denis Robert Pack-Beresford</b>	1864–1942	Large collection from India and Ceylon; Algeria	~500	2 letters	Material largely unidentified
<b>Henry Ogg Forbes</b>	1851–1932	Portugal and Sumatra	~175	5 drawings of <i>Forbesia</i> spiders	Some material listed as coming via Janson (natural history dealers)
<b>Alexander Willem Michiel van Hasselt</b>	1814–1902	Holland	~140	141 letters	
<b>Eugen Wilhelm Theodor von Keyserling</b>	1832–1889	Germany	~18	3 letters	
<b>Henry Houghton Burton Bradley</b>	1845–1918	Australia	80	12 mostly letters	
<b>Reginald Innes Pocock</b>	1863–1947	–	–	8	Correspondence regarding duplicate material from Central America ( <i>Biologia Centrali-Americana</i> )
<b>Arthur Randell Jackson</b>	1877–1944	Scotland	1	24 + 1 file	
<b>Rose Monterio (née Bassett)</b>	1840–1898	Mozambique	~30	none listed	
<b>Thomas de Grey, 6th Baron of Walsingham</b>	1843–1919	France, Cyprus, Morocco, USA	~150	2	
<b>Roger de Lessert</b>	1878–1945	Switzerland	~30	31 mostly letters	
<b>George William Peckham &amp; Elizabeth Maria Peckham (née Gifford)</b>	1845–1914 1854–1940	Mexico & South Africa	~50	44 mostly letters	Also, undetermined number of articles in archive relating to Salticidae in <i>Biologia Centrali-Americana</i>

Table 1: Indicative figures for the top 18 arachnological contributors associated with the specimens and archive of OPC, ordered with those who arguably had the greatest impact first.

### *John Blackwall (1790–1881)*

Initially working with his father, an Irish linen merchant, Blackwall showed an early interest in natural history, and would go on to publish papers in ornithology, botany, astrology, and meteorology (Cardwell 2020; O. Pickard-Cambridge 1881). From roughly 1820, for Blackwall “the Araneidea (or true spiders) became the objects of an intensity of interest which never afterwards flagged” (O. Pickard-Cambridge 1881: 146). This research on spiders led to Blackwall being elected Fellow of the Linnean Society in 1827 and, in 1833 he gave up on his business, instead moving to North Wales to focus on his interest in natural history (Cardwell 2020). He went on to describe over 300 species of spiders, 67 of which were new to science (Cardwell 2020). Blackwall is often quoted as being the first British author to confirm, and consistently use, the minute and complex structure of the male palpi as a differentiating factor between closely related, and similarly coloured species (O. Pickard-Cambridge 1881). Like other naturalists

of his time, he was prone to the unorganized method of placing all of his type specimens within magazine bottles all mixed together.

Blackwall first became associated with OPC through R. H. Meade (see below). In an obituary written by OPC about Blackwall, the author stated that he was “induced to take up the study of spiders” due to a series of 15 articles written by Blackwall that appeared in *The Annals and Magazine of Natural History* (1851–57), which “awakened” OPC’s interest in Araneae (O. Pickard-Cambridge 1881: 147).

The remains of Blackwall’s spider collection eventually passed to OPC, but not before a considerable number of specimens were lost. OPC also reported that a great many of Blackwall’s types that were used in his seminal work *A History of Spiders in Great Britain and Ireland* were either lost or damaged whilst in transit between Blackwall and Tuffen West (1823–1891), the engraver and lithographer tasked with creating the plates (O. Pickard-Cambridge 1881). Unfortunately for all involved, West spent much time in the early 1860s in mental institutions (Dolan 2021) causing

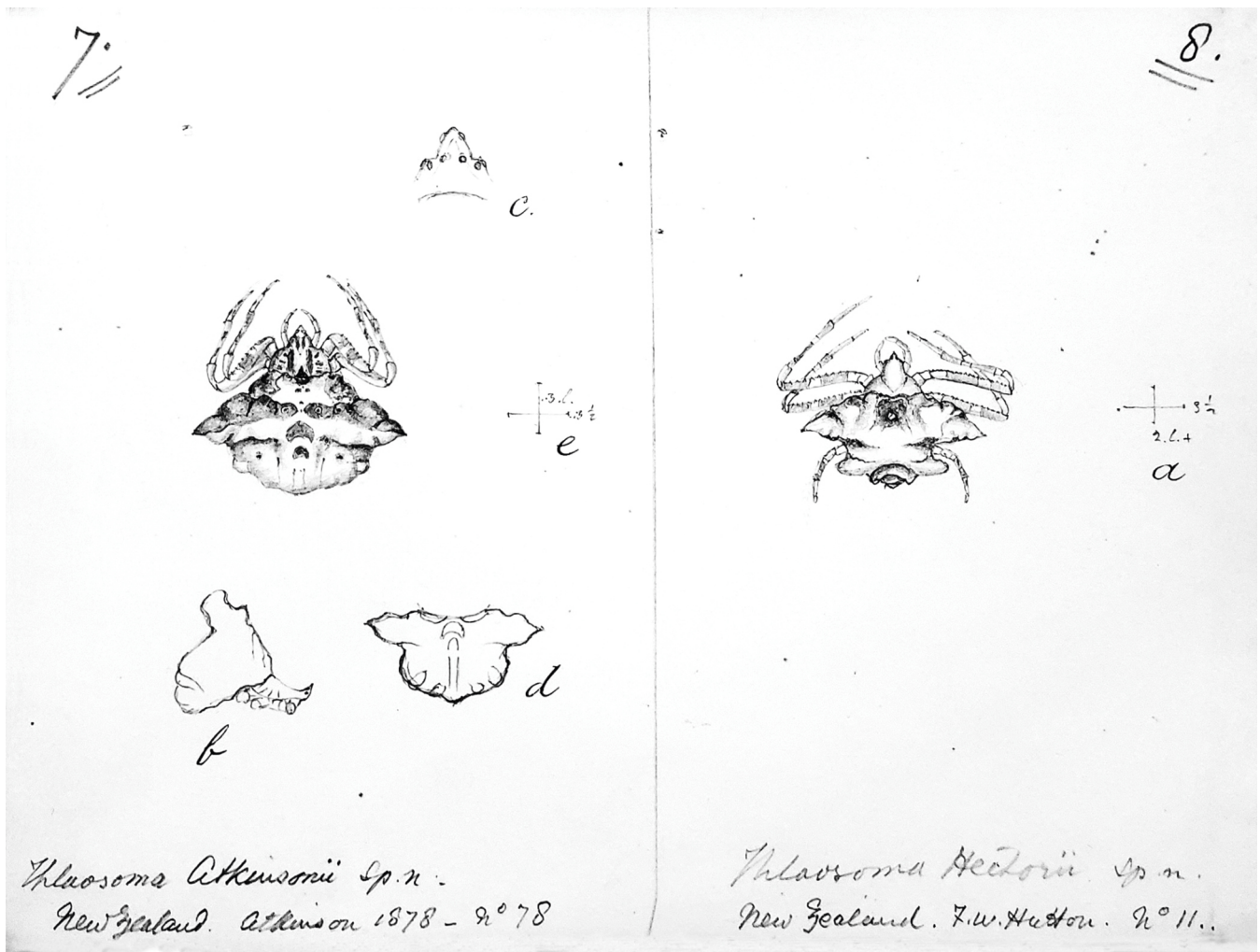


Fig. 6: Illustrations of two spiders from New Zealand by O. Pickard-Cambridge, published as figs. 7 & 8, Plate LII in 'On some new and rare spiders from New Zealand' (O. Pickard-Cambridge 1880).

much delay in the publication and undoubtedly the loss of some of the specimens. The project was rescued when OPC stepped in to help, organising the production of the remaining plates.

#### Eugène Louis Simon (1848–1924)

Producing his first works at the age of 16, Simon is considered the most prolific arachnologist in history, with his four-volume treatise *Histoire Naturelle des Araignées* (Natural History of Spiders) still being used worldwide as the model work for all spiders (Platnick & Raven 2013; Mammola *et al.* 2017). Working at the Muséum National d'Histoire Naturelle (National Museum of Natural History) in Paris, and financing his own expeditions, such as to Venezuela and the Philippines, allowed Simon to amass a vast collection (Platnick & Raven 2013). Over his lifetime he published over 270 spider-related scientific works and described 5633 species (Mammola *et al.* 2017). As calculated by Platnick & Raven (2017), 3789 of these species remain valid, making Simon the most prolific spider author of all time. For comparison, OPC ranks as the ninth most prolific author, having 932 valid spider species.

OPC and Simon corresponded and shared many specimens during their overlapping careers. The archives at OUMNH hold a substantial number of letters from Simon to OPC, and OPC's notebooks record many specimens travelling back and forth between Paris and Bloxworth. Letters range in date from 1867–1914, totalling over 295 articles of correspondence (e.g. Fig. 3). OPC only met Simon in person twice, the first time in Brighton in 1871, the second at a British Association meeting in Cambridge in 1894.

#### Tord Thamerlan Teodor Thorell (1830–1901)

Employed at the University of Uppsala as an associate professor (1856), an assistant professor (1859) and eventually assuming the professorship (1864–1865) in Zoology, Thorell is another prolific arachnologist (Hofberg 1906). He currently ranks as the fourth most prolific author, with 1168 valid spider species described (Platnick & Raven 2017). After moving to Italy in 1875, Thorell studied arachnology with Giacomo Doria (1840–1913) at the Museo Civico di Storia Naturale (Civic Museum of Natural History) and went on to describe specimens collected by Odoardo Baccari (Clouse & Giribet 2012).



Fig. 7: The O. Pickard-Cambridge Exotic Araneae Collection in its current storage, February 2022.

Thorell was another vigorous correspondent, and the archives at OUMNH hold over 92 letters from Thorell to OPC, received from 1869–1896. Many of these letters are long, containing personal details of Thorell's life and work, and it is clear from reading them that Thorell considered OPC a close friend as well as a colleague in arachnology (Z. Simmons pers. obs.). A separate publication detailing this is in preparation.

#### *Ludwig Carl Christian Koch (1825–1908)*

Son of Carl Ludwig Koch (C. L. Koch), Ludwig Carl Christian Koch (L. Koch) was also a notable entomologist and arachnologist, earning him the nickname of Spider Koch (Hessel 2000). Taking an interest in the work of his father from an early age, L. Koch researched alongside his father, C. L. Koch, and his father's friends by going on expeditions in Regensburg (Hessel 2000). Showing an interest in arachnids, myriapods, isopods, and beetles, by the age of 14, L. Koch had expanded these to include botany (Hessel 2000). After completing his medical studies in the cities of Erlangen and Würzburg, L. Koch worked in Nürnberg, first as an assistant doctor, and finally settling as a general practitioner (Hessel 2000). As a doctor, L. Koch had a high reputation, he held the position of member of the medical board and became an honorary member of the Nürnberg medical association (Hessel 2000). Regarding arachnids, lengthy work using a microscope almost blinded him, causing him to take a step back from this research. Although he eventually returned to arachnids, in this latency period he focused on molluscs. His authority on the subject of arachnids led to many research connections, and he was often sent specimens to identify (Hessel 2000).

The archives at OUMNH contain 78 letters from L. Koch to OPC received between 1866 and 1907 (e.g. Fig. 4) and a variety of material studied by L. Koch is scattered throughout the spider collection.

#### *Władysław Kulczyński (1854–1919)*

Studying at Jagiellonian University in Kraków (Krakow), Kulczyński achieved his MSc (1877), Doctor honoris causa (1906), and Habilitation (1909) here, eventually becoming professor of Biology in 1919 (Anon 2022d). He went on several research expeditions, from 1869–1887 he collected specimens from the Tatra Mountains (Slovakia and Poland); these are now held by the Muzeum Tatrzańskie (Tatra Museum) in Zakopane, Poland (Anon 2020); see also Wawer (2021). And at the beginning of the 1900s, Kulczyński amassed a collection from the Chornohora Mountains, Ukraine, based on material from friends and colleagues (Hirna *et al.* 2016). Additionally, Kulczyński was scientific secretary of the Physiographical Commission (1879–1919) and subsequently head of the Physiographical Museum of the Academy of Sciences and Letters (1906–1919) (Anon 2022d). The aim of this commission was to gather information, first on Galicia, Poland, and then the whole country, and collections curated by Kulczyński were incorporated into the Academy of Sciences and Letters (Razowski 2000).

There are 64 letters from Kulczyński to OPC sent between 1883 and 1912 held in the archives of OPC (e.g. Fig. 5). Contained within these are notes on specimens exchanged, and translations of the original letters from Polish by A. W. Pickard-Cambridge.

#### *Richard Henry Meade (1814–1899)*

Early friend and influencer of OPC, Meade was a surgeon by profession and, whilst better known as a dipterist, had an early interest in arachnids which he shared with OPC (Anon 1899; MacLachlan 1900). He authored a *Monograph of the British Phalangidae or Harvestman* in 1855, producing supplementary materials in 1861. Meade did not publish anything more for the next decade, re-emerging as a dipterist having spent that time collecting British material. He went on to become an expert in Muscidae (house flies) (MacLachlan 1900). One of his most influential publications, as previously mentioned, was that describing the method for storing spiders in separate tubes (Meade 1852; O. Pickard-Cambridge 1881).

#### *James William Helenus Trail (1851–1919)*

A collector of insects in his youth, Trail studied natural science subjects and then medicine at the University of Aberdeen (M.S. 1920; D. P. 1920). Taking a sabbatical from his medical practice, Trail went to South America working for the Amazon Steam Company as a naturalist in Brazil for two years from 1873. A prominent botanist throughout the rest of his life, Trail eventually became Regius Professor of Botany (1877) at the University of Aberdeen (M.S. 1920; D.P. 1920). He was editor of the *Scottish Naturalist* journal (1884–1892; subsequently *Annals of Scottish Natural History*), and the last years of his life were spent devoted to the

flora of north-eastern Scotland (D. P. 1920). Collection records indicate that there are at least 48 bottles of material labelled as 'Trail' in the OPC exotic Araneae collection from 'Amazons' (it is assumed that these were collected whilst working for the Amazon Steam Navigation Company between 1873–1875). This portion of the collection is unusual as it is largely unworked, and no correspondence can be found in the archive.

*Denis Robert Pack-Beresford (1864–1942)*

Coming from the well-known Carlow family, the Irish naturalist Pack-Beresford started off studying the aquatic larvae of gnats with G. H. Carpenter (1865–1939), and soon ventured into arachnids (R. Ll. P., A. W. S. & Jackson 1942). Studying woodlice and conducting surveys on Lambay Island (of woodlice and spiders) and Clare Island (of harvestmen and spiders), Pack-Beresford added 106 new species to the Irish list, of which, six were new to the British Isles (R. Ll. P., A. W. S. & Jackson 1942). Both the archive and OPC collection at OUMNH contain a small amount of material from Pack-Beresford.

*Henry Ogg Forbes (1851–1932)*

The Scottish naturalist Henry Ogg Forbes studied medicine at the University of Aberdeen and, after an eye injury ended his education, he instead proceeded to go on expeditions (Gibbney 2021; Poppe & Poppe 2021). Working as a scientific collector in Portugal (1875–1877) and the East Indies (1878–1884), Forbes continued exploring after marrying Annabella Forbes (née Keith), with the pair following in the footsteps of their hero Alfred Russell Wallace by travelling in Indonesia (Wilson 2021). Both wrote experiences on their travels, Henry's titled *A Naturalists Wanderings in the Eastern Archipelago* and Annabella's *Insulinde: Experiences of a Naturalist's Wife in the Eastern Archipelago*. Working as director (1890–1893) of the Canterbury Museum, New Zealand, Forbes settled in the role of consulting director for museums (1911–1932) in Liverpool, which he held until his death (Gibbney 2021). There is material in the OPC collection labelled as collected by Forbes. Some of it appears to have been bought at auction, whilst other portions may have come directly from Forbes to OPC (Z. Simmons pers. obs.).

*Alexander Willem Michiel van Hasselt (1814–1902)*

Born in Amsterdam, van Hasselt completed his medical studies at Utrecht University (1837) and obtained his PhD from Hogeschool (University of Applied Sciences) Leiden (1842) (van der Kreek 2000). He held academic roles, such as lecturer of toxicology (1842–1858) and member of the Royal Academy of Sciences, Mathematics and Physics department, before becoming head of the Military Medical Services (1870) in the Franco-Prussian war (van der Kreek

2000). It was said about van Hasselt that "in medicine and toxicology he had a national reputation, but in arachnology he had gained international fame" (van der Kreek 2000: 174). He eventually earned the rank of Major General (1875) and, just five years later (1880), was appointed president of the Nederlandsche Entomologische Vereeniging (Netherlands Entomological Society) (van der Kreek 2000). There is a small amount of material (5 bottles, possibly more: there are numerous abbreviations for van Hasselt in the collection which need to be reconciled) from van Hasselt in the OPC exotic Araneae collection and 141 letters in the archive, sent between 1880–96 from van Hasselt to OPC.

*Eugen Wilhelm Theodor von Keyserling (1832–1889)*

After studying zoology (1856–1857) at the University of Dorpat (now University of Tartu), Keyserling went on many expeditions to the Russian Empire, the Caucasus region, Armenia, Persia (Iran), England, Algeria, and France (Barth 2002; Anon 2022c). Although planning to journey to South America, the meeting of his future wife in Switzerland caused him to change path, and he instead acquired land in Silesia and took up agriculture (Barth 2002). In Silesia, with more free time, he took up the study of spiders, his collection eventually amassing to more than 10,000 species. This led to his relatives referring to him as 'spider-Keyserling' (Barth 2002). Despite the immense size of his collection there is relatively little by way of material or correspondence in the OPC collection; the bulk of the Keyserling collection is at the Natural History Museum, London, with both the Wien Museum and the Smithsonian National Collection holding small sub-collections.

*Henry Houghton Burton Bradley (1845–1918)*

Described by Gerard Krefft (1830–1881) (Krefft 1873 to Charles Darwin 1809–1882: 1) as a "keen observer with regards spiders in particular", Bradley, although a lawyer by profession, sent collections and correspondence from Australia where he lived, to arachnid specialists in Europe (Anon 2013) including OPC. Correspondence shows he was keen to develop an interest in Australian spiders amongst researchers and increase the holdings of the Australian museums (Z. Simmons pers. obs.).

*Reginald Innes Pocock (1863–1947)*

During his 18-year assistantship within the zoological department of the British Museum, Pocock worked on collections of Arachnida and Myriapoda, and produced more than 200 papers (Hindle 1948). The result of the realization that his true interest lay with mammals, Pocock changed career to become superintendent of the Zoological Gardens at Regent's Park (1904–1923). Although he would return to the museum as a temporary scientific worker after leaving

this post (Hindle 1948). Frederick Octavius Pickard-Cambridge (1860–1905) was due to take on the post at the British Museum upon Pocock's retirement, had it not been for his sudden death (Anon 2022b).

#### *Arthur Randell Jackson (1877–1944)*

Sometimes known as the Father of British Arachnology, Jackson added 47 species to the British list, of which, nine were new to science (Tonge 1983; Whitworth 2017). He sent samples back from the trenches of World War I, corresponded with arachnid authorities in Iceland, Greenland, and the Arctic regions, and re-examined “actual types of a number of little-known British spiders” from OPC's collection (Jackson 1916: 163; Tonge 1983).

#### *Rose Monterio (née Bassett) (1840–1898)*

Along with her husband, Joachim John Monterio (1833–1878), Rose Monterio collected natural history specimens in Angola, Maputo, and Lourenço Marques (now Mozambique) (Plug 2020). Gaining an income from collecting and selling zoological and botanical specimens, Monterio discovered *Stapelia longidens* (now *Orbea l.*) and *Aloe monteriroae* is named after her (Plug 2020). The OPC exotic Araneae collection contains 12 bottles of material labelled ‘Delagoa Bay [now Maputo Bay], Mozambique’ from Monterio.

#### *Thomas de Grey, 6th Baron of Walsingham (1843–1919)*

A first-class cricketer and scientist, Walsingham had a special interest in ornithology and Lepidoptera. De Grey donated 206,000 specimens of lepidoptera and numerous hummingbirds (which he himself had shot) to the British Museum (now Natural History Museum London) (Durrant 1920; Salmon 2000; Anon 2019). A trustee of both the British Museum and the Hunterian Museum, he was distinguished in the study of microlepidoptera (Durrant 1920; Anon 2019). There are around 150 specimens in the collection labelled as having been donated by Lord Walsingham (or, alternatively, Lord W. or Lord Wal.). It is likely that he and OPC knew each other through their shared love of Microlepidoptera.

#### *Roger de Lessert (1878–1945)*

One of the most prominent authorities on African spiders, de Lessert published 21 papers (1915–1946) devoted to Araneae (Wesołowska 2012). He worked at the Muséum d'histoire naturelle, Geneva, until his retirement (1908–1918), after which he devoted all his time to spiders (Anon 2022a). There is a small collection of Swiss material in the OPC collection from Lessert, and 22 letters in the archive, received between 1907 and 1912.

#### *James Henry Emerton (1847–1931)*

Emerton's primary interest was on the taxonomy and distribution of spiders in New England and Canada, travelling extensively across the former (Banks 1931). With a natural aptitude for drawing, OPC described Emerton's plates in Hentz's Spiders of the United States (O. Pickard-Cambridge 1876b: 283) as the following “in point of accurate detail and artistic finish, these figures are immeasurably in advance of those engraved from Hentz's drawings” (Banks 1931).

#### *George William Peckham (1845–1914) and Elizabeth Maria Peckham (née Gifford) (1854–1940)*

Married in 1880, the Peckhams are acknowledged as the pioneering experts on Salticidae (Muttikowski 1914; Richman 1977; Jass 2009). The Peckham Society (<https://peckhamia.com/>), with its international scientific journal *Peckhamia*, were founded in 1977 in their honour and are devoted to the knowledge of Salticidae (Hill 2022). There are 55 letters from G. W. Peckham to OPC in the archives at OUMNH (from 1876 to 1912) and 11 records for material in the specimen collection. Much of the correspondence centres around identification of Salticidae from Central America (Z. Simmons pers. obs.).

#### **Further notes**

Octavius, and this branch of Pickard-Cambridge family, had strong ties to Oxford and the Oxford University Museum, as it was then known. Professor John Obadiah Westwood (1805–1893), first Curator of Zoology, was a friend and colleague. Visits by Octavius to Oxford and the museum itself (once it opened in 1860) to meet with Westwood are represented by scattered records in the archive and literature (A. W. Pickard-Cambridge 1918).

In 1866 Octavius married Rose Wallace (1840–1910) of Headington, Oxford, whom he had first met in Venice in 1864. They had six sons, though the second born child, John Trenchard (1869–1869) died at less than two weeks of age. Robert-Jocelyn (1867–1942) and Charles Owen (1874–1955) both studied at Oxford before following their father into the clergy. The youngest son William Adair (1879–1957) was a tutor of Classics and Philosophy at Worcester College, Oxford, and Arthur Wallace (1873–1952) was a tutor and fellow at Balliol College, Oxford. Of their fifth son, Alfred Edward Lloyd (1876–1919), little is known.

Interestingly, and although it might have been expected, there is little information of Frederick Octavius Pickard-Cambridge (hereafter FOPC), nephew of Octavius and fellow arachnologist, in either the archive or memoir by AWPC. It is known that OPC and FOPC worked together on the arachnid volumes of *Biologia Centrali-Americana* but “the extreme political and moral ideas which he [FOPC] felt it his duty to preach somewhat indiscriminately in the later years of his life ultimately brought about a partial severance

between him and my father [OPC]" (A. W. Pickard-Cambridge 1918: 66–67). FOPC remains an enigmatic researcher, with little by way of archival materials left after his sudden death in 1905 at the age of 44 (Anon 2022b). Of the 12 leaves in the OUMNH archive that be credited to FOPC, nine are drawings, the remaining three being collection lists.

It is also worth noting here, that there has been some confusion over the family name, with specimen labels being completed with the name 'Cambridge' and not 'Pickard-Cambridge'. The original family name at the time when Octavius was born was Pickard, the Cambridge being a later addition in 1848 as a condition of bequest on an estate left for Octavius's father, George Pickard. Hereafter the family used the double-barrelled and hyphenated Pickard-Cambridge. Octavius was around 20 when this came into effect. All his publications, scientific or otherwise give his name as Octavius Pickard-Cambridge and it should be this name that is included in all catalogues and publications. On specimen and bottle labels he often shortened his name to 'Camb.' though it would be misleading to assume that this is for any other reason than that of ease, saving on both time and paper (the second being of pre-eminent importance to a man of little monetary means) (A. W. Pickard-Cambridge 1918), though it may account for the error from subsequent authors.

## Conclusion

The British collection materials have undergone much work in the last decade. The OPC materials now form the base for an arranged collection of British reference materials and have been amalgamated with other holdings. It has also been rearranged to modern checklist standards and around half catalogued to tube level, giving a detailed inventory of contents. It is hoped that this work will be completed by 2024.

Though there is still work to be done to clean and collate the data from the Exotic Araneae specimen collection, from the information available it can be reported that there are 12,914 specimens with a locality of country level or below given, coming from 116 countries. Whilst it is hard to accurately summarize the collection in such a way, due to the changes in country borders since the late 19th century and the vagaries behind such place names as 'Amazons' (it was assumed to be Brazil in this instance) this collation at least gives an idea of the scope of the collection.

When data is aggregated to a higher level of biogeographic regions it can be seen that the two major regions from which holdings have been gathered are the Palaearctic (37%) and Indo-Malay (31%). All regions are represented, including Antarctica thanks to a small sample of six specimens from the Kerguelen Islands. The Neotropics has a low representation in the collection (11%), largely, it is assumed, thanks to the deposition of material used for *Biologia Centrali-Americana* to the Natural History Museum, London (then British Museum).

It should be noted that the collection is rich in samples from islands, including 10 Caribbean countries, Madagascar, Mauritius, Seychelles, St Helena, Cape Verde, Bermuda, and six of the larger Pacific Ocean islands. Whether this was because of a particular interest on the part of OPC or merely happenstance, dependent on the travels of particular correspondents, is unknown. It will remain as one of the many intriguing mysteries of the collection until such time as further research can be undertaken. Work continues with this collection, both physically so as to ensure its preservation and accessibility, as well as digitally so that records can be enriched to their fullest extent. With time, this will allow for the collection to be placed in context against those of other contemporary workers and within the wider scope of natural history.

## Acknowledgements

The authors would like to thank the British Arachnological Society, especially the organizing committee for the John Murphy and Mike Roberts Memorial Symposium for the invitation to speak at the event. We thank Danielle Czerkaszyn, librarian at OUMNH for her support in using the OPC archive and for the many discussions that aided the development of this paper. Particular thanks from ZS go to Dmitri Logunov for his unwavering support and to Mollie Davies (co-author) for her infinite patience. Thanks from MD go to Zoë Simmons (co-author) for her kindness and trust.

## References

- ANON 1899: Richard Henry Meade, F.R.C.S., J.P. *British Medical Journal* **2**: 1817–1818.
- ANON 2013: Bradley, Henry Houghton Burton (1845–1918). *Encyclopedia of Australian Science Online*, and Linley & Jim Hooper's online family history (2011). Australian National Herbarium; online at <https://www.anbg.gov.au/biography/bradley-henry-houghton-burton.html>
- ANON 2019: *The life and times of Tommy De Grey. The Vintage Gun Journal*, online at: <https://www.vintageguns.co.uk/magazine/thomas-de-grey-6th-baron-walsingham>
- ANON 2020: *Collections. Muzeum Tatrzańskie*, online at: <https://muzeum-tatrzańskie.pl/en/collections>
- ANON 2022a: *Biografías: Roger de Lessert. Grupo ibérico de arachnología*, online at: [http://sea-entomologia.org/gia/biografia\\_lessert.html](http://sea-entomologia.org/gia/biografia_lessert.html)
- ANON 2022b: *Frederick Octavius Pickard-Cambridge FZS (1860–1905). The Old Shirburnian Society*, online at: <https://oldshirburnian.org.uk/frederick-octavius-pickard-cambridge-fzs-1860-1905>
- ANON 2022c: *Keyserling, Eugen Wilhelm Theodor Gf. V. (1832–1889). Baltische Historische Kommission*, online at: <https://bbld.de/0000000367718458>
- ANON 2022d: Prof. dr hab. Władysław Kulczyński (1854–1919). *Institute of Systematic and Evolution of Animals, Polish Academy of Sciences*, online at: <http://www.isez.pan.krakow.pl/en/emeriit/wkulczynski.html>
- BANKS, N. 1931: J. H. Emerton. *The Canadian Entomologist* **63**: 23–24.
- BARTH, F. G. 2002: *A spider's world*. Berlin: Springer.
- CARDWELL, D. 2020: *Blackwall, John (1790–1881). Oxford Dictionary of National Biography*, online at: <https://doi.org/10.1093/ref:odnb/2538>
- COLLOMS, B. 1977: *Victorian country parsons*. Edinburgh: Constable.

- CLOUSE, R. & GIRIBET, G. 2012: On the Cyphophthalmi (Arachnida, Opiliones) types from the Museo Civico Di Storia Naturale "Giacomo Doria". *Bulletin of the Museum of Comparative Zoology* **160**: 241–257.
- DOLAN, J. R. 2021: Tuffen West FLS, FRMS (1823–1891): artist of the microscopic, naturalist, and populariser of microscopy. *Art and Science* **5**: 1–19.
- D. P., 1920: James William Helenus Trail 1851–1919. *Proceedings of the Royal Society of London. Series B* **91**: vii–xi.
- DURRANT, J. H. 1920: Lord Walsingham 1843–1919. *Entomologist's Monthly Magazine* **56**: 25–28.
- GIBBNEY, H. J. 2021: *Forbes, Henry Ogg (1851–1932). Australian Dictionary of Biography. National Centre of Biography, Australian National University*, online at: <https://adb.anu.edu.au/biography/forbes-henry-ogg-3548>
- HILL, D. E. 2022: The Peckham Society. *Peckhamia*, online at: <https://peckhamia.com>
- HIRNA, A., GNELISTA, V. & ZHUKOVETS, E. 2016: A checklist of the spiders (Araneae) of the Chornohora Mountain massif (Ukrainian Carpathians). *Arachnologische Mitteilungen* **51**: 16–38.
- HESSEL, B. 2000: Dr. Karl Ludwig Christian Koch (8.11.1825–1.11.1908). Eine kurze Übersicht über das Leben und Wirken eines großen Nürnberger Naturforschers. *Natur und Mensch* **1999**: 39–46.
- HOFBERG, H. 1906: Thorell, Tord Tamerlan Teodor. In *Swedish Biographical Trade Dictionary*. Stockholm: Alb. Bonniers: 613.
- JACKSON, A. R. 1916: On the nomenclature and identity of some little-known British spiders. *Annals and Magazine of Natural History, decade 8* **17**: 163–171.
- JASS, J. P. 2009: George and Elizabeth Peckham's historic observations on Wisconsin spiders. *Peckhamia* **77**: 1–9.
- KREFFT, G. 1873: From Gerard Krefft 3 November 1873. *Darwin Correspondence Project, University of Cambridge*, online at: <https://www.darwinproject.ac.uk/about/publications/correspondence-charles-darwin>
- LOCKET, G. H. 1964: Type material of British spiders in the O. Pickard-Cambridge collection at Oxford. *Annals and Magazine of Natural History, decade 13* **7**: 257–278.
- MAMMOLA, S., MICHALIK, P., HEBETS, E. A. & ISAIA, M. 2017: Record breaking achievements by spiders and the scientists who study them. *PeerJ* **5**(e3972).
- MACLACHLAN, R. 1900: Obituary: Richard Henry Meade, F.R.S.C. *Entomologist's Monthly Magazine* **36**: 46–47.
- MEADE, R. H. 1852: On the method of preserving spiders &c. *The Zoologist* **10**: 3676–3678.
- M. S., 1920: Obituary: James William Helenus Trail. *New Phytologist* **19**: 46–48.
- MUTTKOWSKI, R. A. 1914: George Williams Peckham, M.D., LL.D. *Entomological News and Proceedings of the Entomological Section. Academy of Natural Sciences, Philadelphia* **25**: 145–148.
- PICKARD-CAMBRIDGE, A. W. 1918: *Memoir of the Reverend Octavius Pickard-Cambridge by his son Arthur Wallace Pickard-Cambridge*. Oxford: Privately published.
- PICKARD-CAMBRIDGE, O. 1872: General list of the spiders of Palestine and Syria, with descriptions of numerous new species, and characters of two new genera. *Proceedings of the Zoological Society of London* **40**: 212–354.
- PICKARD-CAMBRIDGE, O. 1876a: Catalogue of a collection of spiders made in Egypt, with descriptions of new species and characters of a new genus. *Proceedings of the Zoological Society of London* **44**: 541–630.
- PICKARD-CAMBRIDGE, O. 1876b: Descriptions of several European and north-African spiders and a collection of the arachnological writings of Nicolas Marcellus Hentz M. D. *Nature* **13**: 281–283.
- PICKARD-CAMBRIDGE, O. 1880: On some new and rare spiders from New Zealand, with characters of four new genera. *Proceedings of the Zoological Society of London* **47**: 681–703.
- PICKARD-CAMBRIDGE, O. 1881: John Blackwall, F.L.S. *Entomologist* **14**: 145–150.
- PLATNICK, N. I. & RAVEN, R. J. 2013: Spider systematics: past and future. *Zootaxa* **3683**: 595–600.
- PLUG, C. 2020: Monteiro, Mrs Rose. *Biographical Database of Southern African Science*, online at: [https://www.s2a3.org.za/bio/Biography\\_final.php?serial=3328](https://www.s2a3.org.za/bio/Biography_final.php?serial=3328)
- POPPE, G. T. & POPPE, P. 2021: Forbes, Henry Ogg. Shellers from the past and the present; online at: <https://www.conchology.be/?t=9001&id=18511> (accessed 17 April 2022).
- RAZOWSKI, J. 2000: The institute of systematics and evolution of animals, of the Polish Academy of Sciences, in Kraków, Poland. *Holarctic Lepidoptera* **7**: 1–4.
- RICHMAN, D. 1977: George and Elisabeth Peckham. *Peckhamia* **1**: 3–5.
- R. LI. P., A. W. S., & JACKSON, A. 1942: Denis Robert Pack-Beresford, O.B.E., D.L., M.R.I.A. *Irish Naturalists' Journal* **8**: 38–40.
- SALMON, M. A. 2000: *The Aurelian legacy*. Colchester: Harley Books.
- SMITH, A. 1986: *A history of the Hope Entomological Collections in the University Museum Oxford with lists of archives and collections*. Oxford: Clarendon Press.
- TONGE, V. 1983: Arthur Randell Jackson: 1877–1944. *British Medical Journal* **287**: 97–98.
- VAN DER KREEK, F. W. 2000: Alexander Willem Michiel van Hasselt, 1814–1902: de eerste docent toxicologie in Nederland. PhD thesis, Utrecht University.
- WAWER, W. 2021: A type catalogue of the Władysław Kulczyński's spider collection deposited in the Museum and Institute of Zoology, Warsaw, Poland. I. Linyphiidae. *Annales Zoologici* **71**: 817–836.
- WESOŁOWSKA, W. 2012: Redescriptions of some jumping spiders described by R. Lessert from Central Africa (Araneae: Salticidae). *Genus* **23**: 201–221.
- WHITWORTH, M. 2017: *People of the museum: Dr Arthur Randall Jackson*; online at: <https://storiesfromthemuseumfloor.wordpress.com/2017/11/10/people-of-the-museum-dr-arthur-randall-jackson>
- WILSON, J. J. 2021: *In focus: Anna Forbes, naturalist*; online at: <https://www.liverpoolmuseums.org.uk/stories/focus-anna-forbes-naturalist>