John Alan Murphy (1922–2021) and his contribution to arachnology

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Abstract

The paper is the first attempt to summarize and analyse the scientific legacy of the notable British arachnologist John Alan Murphy (1922–2021) based on his publications and archival materials available at the Manchester Museum, UK. It presents a brief biography of J. Murphy, a critical analysis of his publications, particularly of his three substantial books, details of field trips undertaken with his wife Frances Murphy (1926–1995) in over 45 years and a short description of the rich, worldwide spider collection assembled by John and Frances. The paper is richly illustrated by photos obtained from colleagues who personally knew John Murphy and copies of archival items from the Manchester Museum.

Keywords: Araneae • British Arachnological Society • collection • history • Manchester Museum • spiders

Introduction

John Alan Murphy (1922–2021) (Fig. 1) belonged to the post-World War II generation of British arachnologists, whose academic arachnological interests and activity were likely to have been ignited by the publications of Bristowe's *Comity of Spiders* and *British Spiders* by Locket and Millidge. He and his wife Frances were two of many new enthusiasts, as Savory (1961) called them, whose activity led to the formation of the modern British Arachnological Society (see Merrett 2009a,b).

The present paper is the first attempt to summarize and analyse the scientific legacy of this notable British arachnologist based on his publications, archival materials retained at the Manchester Museum, UK, and the spider collection assembled by him and his wife Frances Murphy (1926–1995; see O'Neill 1995; Smith 1996). The author's hope is that the present paper will contribute towards the history of the British Arachnological Society during the second half of the 20th century and the beginning of the 21st century.

In the following text, two main abbreviatons are used: BAS = British Arachnological Society, UK; JMA = John Murphy archive in the Entomology Department of the Manchester Museum, UK.

Biography

The brief biographical information on John Murphy presented below is largely based on the obituary by Snazell (2021) and the unpublished tribute given by Catherine Wrangham-Briggs (Frances's half-sister) at John Murphy's funeral on 5 March 2021, which in the following text is referred to as 'JMA, item 389'. Further biographical information has been found in John's publications and his archive that is kept at the Manchester Museum, and also obtained from memories of his colleagues and friends.

John Murphy was born on 9th February 1922. His father, Alan Murphy, was an estate gardener near Trowbridge (Wiltshire); his mother a housewife and woman of high intelligence but without the benefit of an academic education (JMA, item 389). John spent his childhood in the town of Trowbridge, where his interest in the natural world would have been aroused. Not much is known about his schooldays, except that he loved to play cricket, the game to which he dedicated almost 45 years of his life (Snazell 2021), and was a high flier at school in Trowbridge, and was also a choirboy at the local church which he and his family attended.

John started taking a mathematics degree at Bristol University, but was interrupted by WW2 when he had to do National Service. During the war, as a gifted mathematician, John worked at Bentley Priory, near Harrow, the RAF's headquarters of Fighter Command. His job included producing mathematical calculations of bombing raids over Germany and reporting his results directly to Fighter Commander (JMA, item 389). He seemed to be rather critical of how this task was undertaken. In a letter to N. Philip Ashmole of 21 January 1994 (JMA, item 150), while explaining the value of experimentation at home in order to choose the best preserving fluid for pitfall traps, John wrote: "By the way of analogy, during the last war I was involved with radar and blind bombing methods. The bombing accuracy, particularly against the V1/V2 concrete emplacements was, all things considered, pretty good. Subsequently it appeared, however, that much efforts and many lives were wasted because of a lack of experimentation AT HOME to find the optimum fuse time suitable for the bombs against concrete, which behaves quite differently when in tension than when in compression".

One of his memories from the war period included collecting nuts in the local woods or "going nutting" as he called it (JMA, item 389). John Murphy had always been a man with a good sense of humour, who always saw the funny or the bizarre side of things (R. Snazell pers. comm., 3 December 2021), with a roar of a laugh and always ready with a repartee. His jokes were often at his own expense-a very British form of humour! (A. Russell-Smith pers. comm., 25 November 2021). For instance, in his letter to Norman Platnick (1951–2020; see Prendini 2021) of 29 March 1982 (JMA, item 111), John wrote "It was good to hear you on the phone on Saturday. We are gradually becoming used to getting calls from vast distances, although with our insular upbringing it still does not occur to us to ring up people in far off places!" Until his last days he "remained in remarkably good spirits and was usually up for a joke" (Snazell 2021: 803).

After the war, John obtained his degree and started to work as an industrial mathematician at the Fairey Aviation Company based in Middlesex. There he was involved in the



Fig. 1: John Murphy in his home, 2019. © Catherine Wrangham-Briggs (Wrestlingworth, UK).

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design and development of aircraft, including jet engines. More importantly, in that company, John met a young woman, a systems analyst working on wire-guided missiles, Frances Mary Wrangham. According to Snazell (2021: 803), John said to himself "this is the woman for me", and it was not long before they married in October 1949. Frances (Fig. 2) was already an established naturalist who, in her spare time, was very passionate about spiders, but was also a "competent amateur astronomer, botanist and ornithologist" (Johnson 1995). John was always interested in natural history, but it was Frances's passion for arachnology that fired his interest in spiders, so that he also became every happily married man" (Johnson 1995). Later, in the Preface to Spiders of South-East Asia (2000: vi), he wrote: "As many of our arachnological friends and acquaintances know all too well, Frances was the arachnologist and that I simply became an arachnologist by marriage." Yet, few know that John Murphy was also interested in birds. For instance, he observed and recorded birds in a trip to east Africa in 1974, and produced a list of 178 species recorded, which is available in his archive (JMA, items 32, 34). Whether or not this list was published remains unknown.

In 1960, when the aircraft manufacturing arm of the Fairey Aviation was taken over by Westland Aircraft (Taylor 1974), John moved to Brunel University (London, Hamp-



Fig. 2: A party of British arachnologists at Thursley Common, Surrey, August 1968; front row: Clifford Smith, John Murphy, Frances Murphy; back row: Ted Locket, David R. Nellist, David W. Mackie, J. Grey, Rod Allison, Philip Swann, Barbara Rouse, Marcene Crocker, Gertrude Mackie. From the Locket archive at the Manchester Museum, courtesy of David Nellist.

ton), taking a post of a mathematics lecturer. As a lecturer, he preferred to spend his working time with bright students instead of dealing with management duties (JMA, item 389). Much of his spare time in this period was dedicated to playing cricket, a sport that he loved since schooldays. In the early 1970s, thanks to a shared interest in spiders, Frances and John began worldwide travels to collect spiders (Table 1). In total, their immense collection accounted for over 45,000 specimens originating from 72 countries in eight biogeographic regions (Fig. 21; Arzuza Buelvas 2018); see below for further details. Some of their overseas trips were described in reports published in BAS Newsletters (e.g. Murphy & Murphy 1976, 1980; Murphy 1994).

Having started to work in Brunel University, John and Frances moved from their place in Cornwall Gardens in London to Hampton (London), and settled at the address: 323 Hanworth Road, which is familiar to many of their contemporary arachnological colleagues who visited or corresponded with them. As witnessed by some (O'Neill 1995: 3), to enter their house "was to enter a world of spiders", for Frances kept many live specimens. Some, like large tarantulas, were kept as pets, others were being reared to maturity in order to identify and/or photograph them. For instance, in the letter to N. Philip Ashmole of 21 January 1994 (JMA, item 150), John Murphy was discussing the identification problems of Prodidomidae and wrote: "Over occasionally, some have concealed their identity right up to the last moult".

The Murphy home was also famous for its hospitality, it "remained a friendly port of call close to Heathrow airport for many visiting arachnologists where you could rely on an interesting debate, a glass of good wine and a good laugh" (Snazell 2021: 803). In the letter of 16 June 1985 (JMA, item 273), Christa Deleeman-Reinhold (Ossendrecht, The Netherlands; see van Dorp 2020) wrote: "Dear John and Frances, Here I am back home again with a lot of excellent memories of my London visit. You have contributed to a great part of these! Thank you very much for the delightful and most inspiring evening. I hope it can be repeated sometimes. I am intrigued by your slide collection". Robert Raven (South Brisbane, Australia) in his unpublished address to the memory of Frances Murphy (1995) mentioned that "listening to Frances and John banter was great -endless tales of spiders, people and events".

For about 10 years (1976–1984), John Murphy had had a fruitful collaboration with Fred Wanless (1940–2017), a notable salticidologist from the Natural History Museum (NHM) in London; see Russell-Smith (2018). Wanless not only studied some of the salticid materials collected by the Murphys (e.g. *Myrmarachne* species; Wanless 1978), but also regularly helped John to obtain spider materials for his own research from overseas museums, which were posted and returned back via the NHM: e.g. from/to the National Museum in Bloemfontein, South Africa (JMA, items 19–25, 38), the Plant Protection Research Institute in Pretoria, South Africa (JMA, items 42–45, 48), etc. Types of 12



Fig. 3: Number of specimens and species in the Murphy spider collection acquired per year (94 specimens acquired before 1960 are not shown). Modified from Arzuza Buelvas (2018: fig. 4).



Fig. 4: A party of British and Belgian arachnologists at the Mas Forge Field Centre in the Basses Pyrénées, France, 5–12 June 1982 (see Parker 1982). Foreground: Frances and John Murphy, from left to right: Cynthia Merrett, Rita Duffey, Divine Crappé (student), Robert Bosmans, Herman Höfte (student), Eric Duffey, Dick Jones, Rudy Jocqué, and Eric Broadbent. From the Duffey archive at the Manchester Museum.



Fig. 5: Pencil drawings of *Siwa dufouri* (Simon, 1874) from Corsica, based on the specimens borrowed by John Murphy from Paris in order to compare with the specimens of *Larinia bonneti* Spassky, 1939, collected from Brittany in 1992, and a copy of the letter to the famous German arachnologist Manfred Grasshoff who was consulted regarding the matter and doubted the occurrence of a totally new species to France. JMA, items 227, 234, the Manchester Museum.

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spider species were deposited in the NHM during that period (Table 2), including the type series of two *Acusilas* species (Araneidae) described by John and Frances (Murphy & Murphy 1983). It seems that John's relationships with the NHM were broken, when Wanless was forced to stop his arachnological research in the early 1990s (Fortey 2008; Russell-Smith 2018).

In the JMA, there are multiple correspondences related to the Pyrénées, Brittany and other French localities (JMA, items 214-239). In one of the letters to Alain Canard (Rennes, France; 13 October 1990; JMA, item 236), John mentioned that "a party of British and Belgians held such a meeting in the Pyrénées and it turned out to be a very cheerful party. I remember spending several evenings arguing about and identifying Pyrénées flowers with Rudy Jocqué. On the spider side of the business, this meeting led to Robert Bosmans collecting up all the spider records for the week together with his own records and publishing a largish paper updating the Spider List for the Pyrénées!" The meeting in the French Pyrénées took place in mid-June 1982 (Fig. 4; see Parker 1982), and the publication mentioned by John is that by Bosmans, Maelfait & De Kimpe (1986: 69), in which these authors wrote: "we first made acquaintance with the spider fauna of the Pyrénées in 1982, during a field trip organised by the British Arachnological Society"; see also Bosmans & De Keer (1987: 7).

Building on the success of the aforementioned trip to the Pyrénées, in the early 1990s, John Murphy initiated a new tradition for the BAS: viz. joint overseas field trips for several society members to collect spiders. In the same letter to A. Canard (see above), John wrote: "While I am writing may I consult you on a slightly different matter? As you may know, in the UK we have a number of 'Field Centres' (usually large old houses) dotted about the country where groups of people can stay for a week or even a few days and attend courses on a wide range of natural history subjects. Do you have anything like this in France? I ask this because a number of members of BAS have shown interest in such an idea and to spending a week or so in France collecting spiders". In 1992, with the assistance of A. Canard, the first such trip was organized to Brittany; see reports by Dobson (1992) and Murphy (1994). During the trip, 34 spider species new to Brittany were collected and one, Larinia bonneti Spassky, 1939, new to France. The identification of the latter species required a lengthy correspondence between John and various colleagues (e.g. Fig. 5), and also a comparison with specimens of Siwa dufouri (Simon, 1874) which was illustrated by John. Eventually, all new findings of L. bonneti were published (Murphy, Villepoux & Cruveillier 2008). The tradition of joint overseas field trips started by John Murphy is still alive: for instance, several were undertaken to the Greek Islands and Cyprus (Russell-Smith & Askins 2007; Snazell 2007).

Following the death of Frances in 1995, John continued to travel, although less intensively. Surprisingly enough, he never learnt to drive and, without Frances, had to quickly master public transport. Apart from attending various British, European, and international arachnological confer-



Fig. 6: John Murphy collecting spiders on the border of the Oosterschelde, The Netherlands in 2004. © Christa Deleeman-Reinhold (Ossendrecht, The Netherlands).

ences, he also undertook collecting trips to Australia and Bali with his old friend Christa Deeleman-Reinhold in 1997, and to Malaysia with Martin Askins (Swindon, UK). As witnessed by C. Deeleman-Reinhold (pers. comm., 19 March 2021), in his later trips, due to problems with rheumatism, John did not like to kneel on the ground and usually collected spiders by shaking or sweeping foliage (Fig. 6).

During his life, John Murphy wrote or co-authored 30 papers and three books, mostly on the spider taxonomy, especially the Gnaphosidae (13 papers) in which he was an acknowledged expert (Russell-Smith 2008), but also published reports on his and Frances's travels (e.g. Murphy 1991), an obituary (Murphy 1998), and a few book reviews (Murphy 2000, 2001). Obviously, the most significant arachnological works by John Murphy are three substantial books prepared and published in the later period of his research: An Introduction to the Spiders of South-East Asia (Murphy & Murphy 2000), the two-volume Gnaphosid Genera of the World (Murphy 2007), and the two-volume Spider Families of the World and their Spinnerets (Murphy & Roberts 2015). In 2013, the book on gnaphosid genera was awarded the prestigious Brignoli Award from the International Society of Arachnology to highlight a taxonomic work of exceptional value (Dunlop 2013). A review of his main publications is given below.

Although the main taxonomic works (books) of John Murphy were illustrated by Michael Roberts (1945–2020), the famous British arachnologist and natural history illustrator (see Davidson 2021; Beccaloni 2022), it does not mean



Fig. 7: Pencil drawings of *Habrocestum egaeum* Metzner, 1999 from Crete, made by John Murphy in 1972; JMA, item 123, the Manchester Museum.

that he was unable to produce taxonomic drawings himself. Quite the opposite; indeed, John was an accomplished illustrator who produced many excellent drawings, some of which he used in his earlier publications (e.g. Murphy & Murphy 1978, 1979, 1983a,b). Yet most of his original drawings remain unpublished. The JMA contains hundreds of original ink drawings and pencil sketches of spiders from various families, some of which were outside of his direct taxonomic interest, such as Enoplognatha species, Zodariidae, and Salticidae. For instance, the archive contains pencil sketches of four Synageles species (JMA, item 118), including the rather poorly known S. albotrimaculatus (Lucas, 1846), 37 Heliophanus species (JMA, item 122), and many other salticid taxa, predominantly from the Mediterranean. Except for a single paper on Portia Karsch, 1878 (Murphy & Murphy 1983a), John never published on the Salticidae, so it is obvious that these and similar pencil drawings were made mostly for identification purposes, although sometimes following requests from colleagues: e.g. a set of nice drawings of *Salticus* species initiated by the request from the French arachnologist Jean-Claude Ledoux (1943–2013; see Canard 2014) in March 1994 (JMA, items 127–128). It is worth noting that, however sketchy such drawings were, all of them allow a spectator to recognize easily the species depicted. For instance, although in 1972 John could not name *Habrocestum egaeum* Metzner, 1999 and illustrated it under the name '*Saitis* more like' (Fig. 7), his figures are appropriate for any modern taxonomic paper on *Habrocestum (cf.* the figures assembled by Metzner 2022).

The archive is full of notes with field observations made by John and, apparently, Frances during their trips. For instance, on Fig. 8 there is an excerpt from John's notes on African Asemonea collected in Kenya made in a characteristic small and neat handwriting (JMA, item 10). The species from tubes 1549 and 3661 indeed turned to be the same species that was described by Fred Wanless as A. murphyae Wanless, 1980. In the Etymology section Wanless (1980: 233) wrote: "This species (A. murphyae) is named after Mrs F. Murphy, London, who has helped me in various ways by providing photographs, rearing juvenile tropical salticids through to adulthood and allowing me to use her unpublished observations". It is well known that many such observations, particularly on spiders from South-East Asia, were included in the book written together by Frances and John Murphy (Murphy & Murphy 2000); see below for further details.

Dr N. Philip Ashmole from the Edinburgh University (UK), whom John was helping to identify spiders from the Canaries (e.g. Ashmole *et al.* 1992; Ashmole & Ashmole 1997) and St Helena Island (e.g. Mendel, Ashmole & Ashmole 2008), in his letter of 8 January 1986, characterized

Tube	AFRICAN ASEMONEA AL from Kenya.						
1549	4.8.72 KITALE FOREST 35°01'E, 1°01'N ALL 6200'						
	kept alive until end of 1972, photographed. (about 235 miles N.W. & Nairobi)						
3661	<i>q</i> 22.7.74 " " " "						
	kept dive; died 1.2.75						
	I think the above two specimens are from the same species.						
	The first was beaken from low shrubs, at the edge of a grassy track in automaniged by Ite Kitale Forest. This forest belongs Toy the Kenyan Forestry Commission. It is an						
	open forest vatue than rain forest or reverine forest. Only one speciment taken on the Even another first holiday, despire severe visits to the same locality. Be visit to this spor 2 years late did hor produce another precime						
	The second specimen was taken in a Similar Situation about a mile from the former site. A Whole afternoon was set aside to work the area, but a						
	Funders war made Alto impossible. \$ 1549 was seen by Fred on 9.7.74 and Solemnly prohounced Sp. nov.						



John's taxonomic illustrations as superb (JMA, item 146), with which one cannot but agree. He also had high praise for his working style, saying that "you are really getting to grips with the problems, and not merely sweeping them under the rug or compounding them" (letter of 1 September, 1985; JMA, item 145). It is hardly surprising, for John was always ready to give assistance to anyone who turned to him for help, whether someone needed his help with spider identification, wanted to discuss a taxonomic problem or to borrow specimens from his rich spider collection. Anyone, child or adult, who showed an interest in natural history, including younger members of the family, would immediately have his attention and encouragement (JMA, item 389).

In his later years, John "expressed the feeling that he would become an observer of the world rather than part of it" (JMA, item 389). His health started to fail when he was finishing off the book on *Spider Families of the World* and diagnosed with early stage dementia. Apparently, in order to slow down the disease progression, while in his nineties, for a number of years John would rise early and work on mathematical problems before breakfast (JMA, item 389). Unfortunately, the illness progressed. John Murphy died on the 28th of January 2021, just a few days short of his 99th birthday (Snazell 2021). He had a younger sister Maud, who had died a few years earlier.

Relatives and friends remember John for his formidable memory, though he always credited Frances with a better one (JMA, item 389), also as a delightful and insightful man with a unique, infectious laugh. For the scientific community, John Murphy will always be remembered and acknowledged as the author of monumental taxonomic works that will continue to be used and referred to for many years to come. The immense spider collection assembled by John and Frances, which is now deposited in the Manchester Museum (UK), will continue to serve as a source of valuable taxonomic materials for the following generations of arachnologists.

In gratitude to Frances and John and their life-long dedication to spiders, three new genera and 30 new species of spiders and one new false scorpion have been described and named in their honour; see Appendix for a full list and a short statistical analysis of the presented patronyms and combined honorifics.

Trips

As already mentioned, the Murphys' spider collection contained over 45,500 specimens, of which the majority were collected by John and Frances during 52 overseas trips (Table 1), mostly in the 20-year period (1971–1992; Fig. 3). The score of 52 trips seems to be a slight underestimate, as, for instance, I failed to find itineraries for some of the field trips undertaken by John after 1995: e.g. John's trip to Australia and Bali with Christa Deeleman-Reinhold in 1997, or to Malaysia with Martin Askins. Nevertheless, Table 1 seems to be complete regarding joint overseas trips made by John and Frances.

Country/Region	Dates	JMA Item
Austria		
Tyrol	25 July-01 September 1971	328
Australia		
Queensland	08 July-14 August 1992	166
China (Hong Kong)		
various localities	27 February-04 March 1988	194
Costa Rica		
six localities	15 August–06 September 1983	137
Croatia		
Dubrovnik	09–23 April 1976	374
Finland		
Turku & Lapland	06–16 August 1989	240
France	14 00 14 1000	
Corsica	14–28 May 1989	221
Pyrenees	04–13 June 1982	221
various localities	06–14 August 1985	221
various localities	30–31 August 1986	221
various localities	20 May–10 June 1991	221
various localities	23 May–04 June 1992	221
various localities	18–26 May 1993	221
Greece	20.14 1.12 4 111002	202
Cortu	30 March–12 April 1983	383
Crete	31 March–12 April 1972	347
Crete	06–19 April 1979	348
Crete	07–19 April 1981	349
Gerakina	06–20 April 1978	381
Kefallinia	18–31 May 1987	384
Kenya	14.1.1.04.4	2
eight localities	14 July–24 August 1974	2
Kilifi	29 August–26 September 19//	14
several localities	1 / July–30 August 1972	1
several localities	16 August–23 September 1980	17
six localities	08 August–13 September 1980	15
New Zealand	24 January 21 Marsh 1086	1(7
North & South Islands	24 January – 21 March 1986	10/
Damaa	21 July 22 America 1070	100
Borneo West Debong	21 July-22 August 1979	190
West Panang	01–15 February 1988	194
Rename	25 November–09 December 1990	195
r anama seven localities	31 July 11 August 1983	137
Portugal	51 July – 11 August 1985	137
Algarve	10_24 September 1982	342
Monte Gordo	03–17 April 1982	342
Singanore	05 17 April 1902	542
various localities	17–25 February 1988	194
various localities	26 January–01 February 1991	195
various localities	02–08 July 14–18 August 1992	195
Singapore & Malava		
various localities	18-23 January, 21-27 March 1986	195
Spain	•	
no details	06-20 April 1974	360
Almeria	21 March-11 April 1990	363
Madeira	15–28 March 1973	80
Tenerife	05-18 March 1996	159
Gran Canaria	16-29 March 1997	159
La Gomera	13-25 March 1999	159
Costa del Sol, Maro	22 March-12 April 1987	362
Huesca Pyrenees Jaca	05–10 September 1986	361
Ibiza	03 September–01 October 1976	376
Ibiza	29 March–17 April 1980	377
Ibiza	20 December 1981–06 January 1982	378
Mallorca	08–19 April 1975	367
Mallorca	30 March-13 April 1985	368
USA	*	
Arizona	17 July–06 August 1973	311
various localities	21 June-01 August 1975	312
various localities	21 June-22 July 1978	313
various localities	24 July-08 September 1981	315

Table 1: Spider field trips undertaken by John and Frances Murphy based on handwritten itineraries from the JMA, the Manchester Museum.



Fig. 9: Handwritten itinerary of the field trip to Queensland, Australia, undertaken by John and Frances Murphy in 1992 (JMA, item 166) and description of collecting localities and habitats on Maderia during the trip in April 1973; JMA, item 180, the Manchester Museum.

NZ.(1)

NEW ZEALAND 24 JAN - 21 MARCH 1986

NORTH ISLAND
TAN SAT. 25 Rain AUCKLAND
SAN 26 E. Coast KAWAKAWA SHI
BON 27 OTOROHANGA - WAITOMO CAVES
TUES 28 INGLEWOOD - MT. EGMONT / TARANARI
WED. 29 MT. EGNONT RESERVE - ALFRED TRACK.
THUR. 30 Dunes near WAITARA
FRI. 31 WAITOMO bush.
SOUTHISLAND SAT. 1 DUNEDIN
SUN. 2 WAIKALA FOREST
MON 3 HOLLYFORD VALLEY - GUNN'S CAMP
TUES & CASCADE CREEK / THE DIVIDE A.M.
HOMER TUNNEL /P.M. FALLS CREEK Teatime
WED S. HOLLYFORD VALLEY A.M. beyond road and.
GUNN'S CAMP P.M.
THUR. 6 HOLLYFOR VALLEY by Swingbridge A.H.
MILFORD SOUND P.H. Yain.
FOL 7 GUNN'S CAMP A.M.
HOLLY FORD VALLEY Swing bridge P.H. by word fork
SAT. 8. TEANAU - WOLK to Bind Park.
SUN 9. TE ANAU bush on opposite side of Lane.
MONIO WAIKAIA FOREST.
TUES II ST CLAIR beach
WED 12 DUNEDIN Shopping. M. WET (11.
THUR 13 " Rain all day.
FRI 14 Ross CREEK RESERVOIR A.M. BETHUNES QUILE

Fig. 10: Part of the handwritten itinerary of the field trip to New Zealand undertaken by John and Frances Murphy in 1986; JMA, item 167, the Manchester Museum.

Regrettably, only few of their trips were described in short published reports (Murphy & Murphy 1976, 1980; Murphy 1994), and for even fewer of their trips are there photographs (e.g. Fig. 11). However, all field trips were always provided with either a detailed handwritten description of collecting localities and habitats: e.g. a trip to Madeira in 1973 (Fig. 9), or detailed itineraries: e.g. a trip to Australia in 1992 (Fig. 9), or to New Zealand in 1986 (Fig. 10). When each new collection was sorted out to species, all information from itineraries was transcribed and incorporated (with a mathematical precision) in an electronic catalogue (Microsoft Excel table) and repeated on handwritten/ printed data labels. Unfortunately, not all data labels that were enclosed in sampling tubes, especially from the later period of John's research, are detailed enough, and consulting the electronic catalogue is always required.

Based on the available archival materials (Table 1), John and Frances visited 16 countries during 52 overseas trips. A few of these trips were related to arachnological meetings, such as a trip to Finland (Turku) in 7–12 August 1989 when the XI International Congress of Arachnology took place. The overwhelming majority of their overseas trips were organized specifically to collect spiders. The most visited countries were: Spain (13 trips), France (7), Greece (6), Kenya (5), Malaysia (4), Singapore (4), USA (4), and Portugal (2). The list of the most visited countries (Table 1) nicely corresponds to the highest numbers of collected spiders per country (see Fig. 22), which means that the majority of specimens in the collection were indeed collected by John and Frances rather than acquired by other ways. Single trips were made to Austria, Australia, Costa Rica, Croatia, Fin-



Fig. 11: John and Frances Murphy during the field trip to Singapore, 1981. © Joseph K. H. Koh (National Biodiversity Centre, Singapore).

land, Hong Kong, New Zealand, and Panama (Fig. 22). While John was working at Brunel University, many of their trips were undertaken in the periods of March–April or August–September, the standard periods of vacation for university academic staff. When necessary, collecting permits were arranged, with some of them being available in the JMA (e.g. Fig. 12).

The first collecting trip was organised to Tyrol (Austria) in July–September 1971 (Table 1). During this trip they collected 360 samples of 169 spider species, of which many represented new records for Tyrol. Based on the results, John and Frances published a paper entitled *An English collection of Tyrolean spiders* (Fig. 13) (Murphy & Murphy 1984). The last joint overseas trip was to France in May 1993, shortly before Frances got seriously ill. Three trips to the Canary Islands (1996, 1997 and 1999) were made by John after the death of Frances in 1995. At least the first one (1996) was undertaken together with Martin Askin, as evidenced from two of his letters to John of 23 April 1996 (JMA, item 156). In total, the Murphy collection contains 459 spider samples from the Canaries, all are identified to species.

Publications

Altogether, John Murphy wrote or co-authored 30 papers and three books, in which he described six new genera and

TAMAN NEGARA SABAH	191
SABAH NATIONAL PARKS BOX 626 KOTA KINABALU SABAH MALAYSIA	TEL 54452
Your Ref:	
Our Ref:5/4/	27th July, 1979
Mr. & Mrs. J. Murphy,	
Permission Under the Na Enactment	ational Parks
Permission is hereby granted spiders within the K.N.P. for the peri to 4th August, 1979.	to you to collect iod from 30th July
2. We shall be grateful if you a duplicate of your collection (imdent if possible) with the Assistant Park W Headquarters before wou leave. We woul copy of your report for our reference.	will please leave fified specimens arden at Park d also welcome a
	V. Light
Sal	(FRANCIS LIEW) for Director, pah National Parks.
FL/mh	
c.c. Asst. Fark Warden, Park HQ.	

Fig. 12: An official permission to collect spiders in the Sabah National Parks, Malaysia during the trip by John and Frances Murphy in 1979; JMA, item 191, the Manchester Museum. 76 new species (see Appendix). It is rather surprising that there are only few faunistic and alpha-taxonomy works published by him (e.g. Murphy & Murphy 1978, 1979, 1983a, 1984), given the sheer number of species identifications John made: 28,937 specimens belonging to 3063 species (Arzuza Buelvas 2018).

One of the rare examples of the faunistic works published by John Murphy is the paper on Tyrolean spiders (Murphy & Murphy 1984). These spiders were collected during the first overseas trip by the Murphys to Austria (see above). The draft (JMA, items 326, 327; Fig. 13) was shown to the famous Austrian arachnologist Konrad Thaler (1940-2005; see Buchar & Merrett 2008) who accepted it quite positively saying in his letter of 16 October 1983 that "there are quite a lot of records which are important for some comprehensive report on Tyrolean spiders to be written sometime in the future". Konrad also verified some of the identifications and also wrote that he "was impressed that your species list is representing a fine addition to Tyrolean spiders" (letter of 20 March 1983; JMA, item 331). Eventually, the paper was published in Berichte des naturwissenschaftlich-medizinischen Vereins in Innsbruck, which was suggested by Konrad (letter of 30 December 1982, JMA, Item 331).

The Murphy collection contains hundreds of spider samples collected from continental Europe and the Mediterranean, with almost all of them identified to species. Except for a few reports on some of the field trips (e.g. Murphy

An English Collection of Tirolean Spiders John & Frank Murphy.

Summary

During the summer of 1969 and 1971 we spent two short holidays in the Austrian Tivel. The first of these, from 22 July to 7 August, 1969, was spent in Pitztal, some 10km to the woor of Ötztal and the second, from 20 August to 2 September, 1971, was spent at Seefeed.

Our hobby is general natural history but for some years, prior to our visits to Anstria, spiders had become a particular, of ours. By observing and Collecting spiders in the Tirol we were not only hoping to extend of knowledge of Certain British spider species which occur in the region, but we were also hoping to see some of local specialities. We were not the disappointed. The following account gives the names of the places visited, the habituts in which spiders were collected and a list of the species taken. Short nores are given for certain species which are of wireset form either a British or an Anstran point of view, cuttures.

Some species such as <u>Clubiona subsultans</u>, <u>Arctora alfigena</u> and <u>Hoplodinsus</u> <u>in Britan</u> <u>in Britan</u> <u>sevensini</u> have been recorded forly from a few isolated docalities in The Statisch highlands, Whilsr <u>Micaria alfina</u> is known from only 3 sites in The Welch Mountains. On the other hand <u>Cellilepis noctuma</u>, Trichoneus hackmani. <u>Philegra fasciara</u> and <u>Sitticus rupicola</u> are, in Britain, recorricted to a tew places on Coastal Sand or Shires.

Some Especies Such as <u>Apostenus fuscus</u> and <u>Pityshyphanes phrygianus</u> have, only in recent years, been found in Britain. Records for <u>P. phrygianus</u> vidicare that a rapid colonisation is taking place.

For certain Anstrian Species which are either rave or which have only been recorded from the Tiver since the early 1960's, additional locations and habitat notes are given. (The list also includes a record of <u>Clubiona Vegeta</u>, a species close to and often mistaken for <u>C. genereussis</u>.)

John Murphy and his contribution to arachnology

1994), John very rarely published faunistic papers (e.g. Murphy & Murphy 1984), instead he shared his data with other colleagues. Numerous examples can be given. For instance, in May 1989, Frances, John, and Peter Merrett undertook a spider collecting trip to Corsica and together collected 835 samples. All samples were then identified by John, and the results were provided to Alain Canard (France, Rennes) for preparing a "catalogue and cartography of spiders in Corsica" (JMA, item 237). Yet, with his usual modesty John also wrote to Alain (letter of 13 October 1990; JMA, item 236): "All the identifications are to some extend suspect and I am hoping that you will be able to point out to me, from your experience, any that seem quite improbable. These I will check or get checked independently—probably by you!"

The same happened to about 1000 spider records from Singapore, which Frances and John visited many times (1982, 1986, 1988, 1991, etc.; Table 1). Although, in July 1992, they prepared a manuscript entitled *Rare & endangered spiders in Singapore* (JAM, item 209), this paper has never been published, whereas all their records were given to Daiqin Li from the National University of Singapore who then co-authored a catalogue of Singapore spiders (Song, Zhang & Li 2002). The shared records included not only those based on their own field-collected samples (787 in total), but also those resulting from John's identifications of a spider collection borrowed from the Zoological Reference Collection of Singapore in 1992 (see Yang 1990: appendix

An English Collection of Tirolean Spiders

Frances & John Murphy.

Summary

ACN

During the summers of 1969 and 1971 we spent two short holidays in the Austian Tirol. The first of these, from 22 July to 7 August, 1969, was spent in Pitgal, some 10 km to the west of otgal and the second, from 20 August to 2 September, 1971, was spent at Seefeld.

Our hobby is general natural history but for some years, prior to our visits to Austria, spiders had become a particular interest of ours. By observing and collecting spiders in the Tirol we were not only hoping to extend our knowledge of certain British spider species which occur in the region, but we were also hoping to see some of the local specialities. We were not disappointed. The following account gives the names of the places visited, the habitats in which spiders were collected and a list of the species taken. Short notes are given for certain species which are of interest from either a British or an Austrian point of view. A number of species common both to the Tirol and Britain are compared. Some of the species collected, such as Clubiona subsultans, Arctosa alvigena and Haplodrassus soerenseni have been recorded in Britian, only from a few isolated localities in the Scottish highlands, whilst Micaria alpina is known from only three sites in the Welsh mountains. On the other hand Callilevis nocturna, Trichoncus hackmani, Phlegra fasciata and Sitticus rupicole are, in Britain, restricted to a few places on coastal sand or shingle.

Some other species which we collected, such as <u>Apostenus fuscus</u> and <u>Pitvohymhentes phrycianus</u> have, only in recent years, been found in Britain. Records for <u>P.S.phrycianus</u> indicate that a rapid colonisation is taking place. For certain Austrian species which are either rare or which have only been recorded from the Tirol since the early 1960's, additional locations and habitat notes are given.

Altogether, during these two holidays, 169 species of spiders were taken and included some rare and important species such as <u>Clubiona vegeta</u> (a species close to and often mistaken for <u>C. generensis</u>), <u>C. kulczynskii</u>, <u>Onaposa montana</u>, <u>Arctosa renidens</u>, <u>Janetschekia monodon</u>, <u>Muophrys alpicola</u>, <u>Salticus cingulatus</u>, <u>Haplodrassus scerenseni</u>.

<u>Rhaebothorax (?) foventus</u> (Dahl) is found to be close to and possibly identical to <u>Brigonoplus simplex</u> Millidge and its generic combination should be reconsidered.

Fig. 13: Manuscript on the Tirolean spiders; JMA, items 326, 327, the Manchester Museum.

II; JMA, item 208); some duplicates from the latter collection were allowed to retain in his own spider collection (JMA, item 204; Fig. 14).

As an example of a potentially interesting alpha-taxonomic paper which John could have produced, it is worth mentioning handwritten notes on and drawings of Philodromus insulanus Kulczyński, 1905 and P. simillimus Denis, 1962 (JMA, item 79). Both species are from Madeira and remain quite poorly understood, being described from females alone (Kulczyński 1905; Denis 1962). Denis (1962) described what he thought could be the male of P. insulanus but, according to John (Fig. 15), his identification was mistaken. Alas, the result of this enquiry (as with tens of others) was never published, and the insulanus/simillimus problem remained unresolved till now. In the JMA, there are interesting documents (JMA, items 58-62) containing the original ink drawings and handwritten descriptions of several species of Oonopidae from Madeira: *Oonops* sp. (\bigcirc) , *Orch*estina sp. (\bigcirc) , Gamasomorpha sp. $(\bigcirc) \oplus$ (Fig. 16), all made in April 1973. It seems that Murphy wanted to describe these species as new, and sent copies of his descriptions and illustrations to the famous Italian arachnologist Paolo Brignoli (1942-1986; see Osella 1987 and Alicata 1999). Brignoli replied to John with a detailed letter of 10 October 1976

Department of Zoology, National University of Singapore	2011	1
10 Kent Kidge Crescent, Singapore 0511 Tel: 7722876 Fax: 65-7792486	204	Des

13 April 1993

Dr. John Murphy 323 Hanworth Road Hampton, Middlesex TW12 3EJ ENGLAND

Dear Dr. Murphy,

Many thanks for your letter of 30.1.1993. I am sorry for the late reply as your letter was stranded somewhere for 2 months before I received it.

Thank you for your identification of those tiny spider material. We would be very pleased to let you have the duplicate specimens for your collection. Enclosed please find a list of spiders in our collection. We are most delighted to be informed that you will be sending us your material.

Regarding the locality of <u>Desis</u> specimen, it must be wrongly labelled. Dr. Peter Ng said he had collected <u>Desis</u> from corals of Labrador Beach although he could not recall whether he had field work at Labrador Beach on 15.10.1990. He is sure that no pitfall samples were collected by him. For your information, the pitfall samples were collected at the site near a very slow flowing stream leading to the Lower Peirce (Not Pierce) Reservoir. The stream is about 50 metres from the reservoir.

With best regards. Yours sincerely

im Mrs Yang Chang Man Scientific Officer

encl.



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Fig. 15: Handwritten notes and ink drawings of *Philodromus insulanus* Kulczyński, 1905 from Madeira, made by John Murphy in April 1973; JMA, item 79, the Manchester Museum.

(JMA, item 63), advising him to describe at least the *Gamasomorpha* species because "it is better, for future research, to give a name". Why John Murphy did not follow the advice and did not describe any of these Oonopidae species, remain unknown. The *Gamasomorpha* species from Madeira (Funchal) is still undetermined in the Murphy spider collection, as is *Orchestina* sp. from Britain (see Merrett & Murphy 2000: 346; Merrett, Russell-Smith & Harvey 2014); the latter species has recently been tagged as "possibly extinct" (Bee, Oxford & Smith 2017: 425).

It remains only to regret that John Murphy did not produce any paper resolving the aforementioned and other alpha-taxonomic problems. He had both knowledge and skills to do so, but apparently had different personal aims as an acting spider expert.

An Introduction to the Spiders of South-East Asia (2000)

This book is the first in the line of substantial publications produced by Frances and John Murphy (Fig. 17). It was published in 2000 and consists of 624 pages and 32 plates with 257 colour photographs. The book received a couple of very positive reviews (Platnick 2001; Snazell 2001). According to Google Scholar, it is the most cited book of those produced by Murphy, having been cited at least 194 times.

Based on the 'Publisher's Note' (Murphy & Murphy 2000: v), Henry Barlow (the publisher) discussed the idea of producing this book with Frances and John Murphy in the 1980s, during their two visits to the Genting Tea Estate, an experimental tea plantation in the highlands of Malay. Frances agreed to write up a book and started to work on it at least from 1988, as evidenced from the letter by P. R. Deeleman to the Murphys (JMA, item 275) who wrote

Rep. 22.4.93

Fig. 14: A letter from the Zoological Reference Collection of Singapore allowing John Murphy to retain duplicates for his spider collection; JMA, item 204, the Manchester Museum.

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"From Christa I heard about your great plans (congratulations) to publish a book on Malay spiders". Unfortunately, due to kidney problems Frances health deteriorated and she died in 1995; the book was unfinished, "with only an outline of the text prepared" (Snazell 2001). John took on the mammoth task of completing it, which he achieved in just 12 months. He also commissioned M. Roberts to prepare many (312) drawings. Roberts and Murphy had known each other and collaborated at least from 1978, when Roberts borrowed 14 theridiid species from the Seychelles spider collection in John's care (collected by Adrian Rundall, 112 species in total) for comparison (see Roberts 1978); he also consulted John regarding the identification of Mysmenidae (Fig. 18).

The main aim of the *Spiders of South-East Asia* was to "interest and encourage naturalists and biologists living in this region [South-East Asia] to study their extremely rich arachnological fauna" (Murphy & Murphy 2000: vi). This purpose was largely achieved, as even twenty years later the

book still remains "a comprehensive source of basic information for any student interested in the families and genera of the spiders" of the studied area (Koh & Ming 2014: 2).

An introductory chapter (Part I; pp. 2-46) provided a brief general account on spiders and 10 other arachnid orders occurring in SE Asia, followed by a traditional description of external morphology and life styles of spiders (pp. 15-30), a historical chapter (pp. 31-35), and methods of collecting and identifying spiders (pp. 36-46); all subsections are richly illustrated by M. Roberts. The chapter on the exploration of spiders in SE Asia (pp. 31-35) contains interesting details about arachnologists who were involved in producing inventories of the Oriental spider fauna, including the names of lesser known arachnologists such as Thomas Workmann (1843-1900), H. C. Abraham, and Walter C. Sedgwick. The histogram presented on p. 32 visualized the dynamics of description of new spider species from SE Asia per decades, with the first peak representing the period of 1870-1910, when such outstanding arachnolo-

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\smile	Madeira	April 1973		ы	4 lube Nº 906		
	Gamasomorpha	sp or					
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	distances and height of clypens (based on diameter of anterior eyes).						
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Fig. 16: Part of the handwritten description and ink drawings of an unknown *Gamasomorpha* species from Madeira, made by John Murphy in April 1973; JMA, item 61, the Manchester Museum.

D. V. Logunov

gists as Eugène Simon (1848–1924) and Octavius Pickard-Cambridge (1828–1917) worked, and the second peak of 1980–2000, representing the modern period of research.

A very useful map of the study area of SE Asia was provided on p. 50 (repeated on p. 482), with details of its subdivision to smaller regions and their abbreviations used in the Checklist (pp. 483–567). It is noteworthy that twelve provinces of south-eastern China and the corresponding spider records were also included in Spiders of South-East Asia, based on the book of Song, Zhu & Chen (1999), which was reviewed by John (Murphy 2000). Later, he pointed out (Murphy 2003: 17) that the information from the Chinese book "had arrived in the nick of time", when he was about to complete Spiders of South-East Asia. In his review, Platnick (2001) emphasized that, in retrospect, Murphy admitted that some of the Chinese provinces covered did not fit well, having "faunas with more northern affinities". It is hardly surprising, as these regions actually belong to the socalled East Asian (=Himalayan-Chinese) zoogeographic region (Kryzhanovsky 2002), i.e. the region of the ancient Palaearctic fauna of a transitional nature between the Palaearctic and Oriental (= Indo-Malayan) Regions.

All the spider families (69 in total) and genera (723) which had been recorded from South-East Asia up to 1995 were thoroughly considered in Part II. The arrangement of this section was traditional (cf. Jocqué & Dippenaar-Schoeman 2006), with families being grouped in three suborders (Mesothelae, Mygalomorphae, and Araneomorphae) and then presented alphabetically within each suborder. Each genus was briefly characterized morphologically and biologically, if any relevant information existed, and also provided with a description of its general distribution within the study region and beyond. Yet, since the aim of the book was to provide a practical tool for field naturalists, "most of characters mentioned should either be directly visible to the eye or visible when using a $8 \times -10 \times$ hand lens" (p. 55), with the hope that a field observer will be able to place a spider in one of the more likely families or genera. For those who wished to undertake a more serious study, the author provided a Checklist of all species recorded from South-East Asia up to the end of 1995, accounting for 3815 species in 723 genera (pp. 483–567), and References (a total of 1121 sources, my count; pp. 567-602). Indeed, the checklist represented the first comprehensive faunistic account of the Oriental spiders, which is still regularly used for a comparison with the recent progress in studying regional spider faunas (e.g. Song, Zhang & Li 2002; Norma-Rashid & Li 2009; Nasir et al. 2014). The Glossary, given on pp. 604-610, is a useful synopsis of the essential terminology of spider morphology. Presenting all the available information in such detail and diversity was a mammoth task suited only to most gifted and knowledgeable arachnologists, to whom Frances and John Murphy definitely belonged.

While compiling a practical tool for beginners, the authors shared some "field hints for families" (pp. 53–54), hoping that this "may help to short list possible candidates when trying to determine the family to which a particular spider belong". Spider families were groups in 19 ecologi-



Fig. 17: John Murphy with the book An Introduction to the Spiders of South-East Asia (2000), 18 January 2001. © Rowley Snazell (Swanage, UK).

cal guilds: "sheet webs on low vegetation" (with four families), "found in leaf litter" (16 families), etc. Obviously, this section was largely based on extensive personal field observations by the Murphys. A similar ecological approach was also adopted for presenting information within some large families: e.g. the Theridiidae (pp. 390–420), in which genera were presented in seven habitat groups: e.g. "found on shrubs and buildings", "found in dry habitats", etc. Such novel, habitat-related presentation of spiders in a general account of a large spider fauna is indeed useful but yet not common in modern field guides. Indeed, only one recent



Fig. 18: Pencil drawings of *Mysmena elsae* Saaristo, 1978 from the Seychelles made by John Murphy in April 1978 "simply for identification purposes" (JMA, item 53); hundreds of such sketches are available in the JMA at the Manchester Museum.

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Fig. 19: Gnaphosid Genera of the World (2007).

field guide comes to mind: *Spiders of Central Russia* by Seyfulina & Kartzev (2011). Of course, habitat preferences for individual species are now included in most/all modern photographic field guides, of which the best recent examples seem to be *Britain's Spiders* by Bee, Oxford & Smith (2017, second edition 2020) and *Borneo Spiders* by Koh & Bay (2019).

Lots of natural history data based on the authors' original field observations can be found throughout the book, and these data continue to be used by contemporary authors: e.g. observations on *Nephilengys malabarensis* (Walckenaer, 1842) from Malaysia (Tetragnathidae; Kuntner 2007), comments on the mimicry of *Marengo* species (Salticidae; Benjamin 2004), a rare photo of a female of *Calamnita* sp. with eggs (Pholcidae; referred to by Huber 2009; see also Huber 2011), etc.

The book is richly illustrated. There are 759 individual B/W figures in total (my count), of which 312 (41%) were made by M. Roberts: all 48 illustrations in Part I and 264 in Part II. A distinguishing feature of *Spiders of South-East Asia* is the plethora of habitus drawings, with many spider groups being illustrated for the first time: e.g. the family Cithaeronidae (see Platnick 2001). The book is complemented by 32 plates of colour photographs containing 257 individual photos (my count), of which the majority (198, 77%) were taken by France Murphy during the trips to Malaysia (e.g. Murphy & Murphy 1980).

John Murphy and his contribution to arachnology

This impressive book is a real tribute and memorial to our late colleagues, Frances and John Murphy, whose lifelong interest in spiders made possible its publication. The book beyond doubts constitutes a real scholarship source of taxonomic and faunistic information on and a synopsis of the Oriental spiders up to 1995. It is "a superb introduction to the spiders of a significant chunk of the world" (Platnick 2001: 281) which will remain as such for many years to come.

Gnaphosid Genera of the World (2007)

The second book in the series produced by John Murphy, published by the BAS, was devoted to the Gnaphosidae (Fig. 19), the spider group in which John was an acknowledged world expert (Russell-Smith 2008) and had already published 13 papers, particularly on the Zelotinae (Platnick & Murphy 1987, 1996; Platnick, Otsharenko & Murphy 2001; Russell-Smith & Murphy 2005; Snazell & Murphy 1997; etc.). The two-volume work is quite sizeable, accounting for 605 pages and 513 figure plates. All illustrations were produced by Michael Roberts and John funded his work from his own finances. In order to do this, he regularly identified spiders for money. For instance, in the letter to N. Philip Ashmole of 16 March 2004 (JMA, item 73), John wrote: "At present I am working on a gnaphosid project and funding Mike Roberts for illustrations". Because Philip was going to pay him for his identifications of spiders from Ascension and St Helena, John added that "about five years ago when I was involved with the SE Asian book, I visited the NHM occasionally. At that time, I believed Paul Hillyard said that the going rate for an identification was £50!! (presumably for commercial firms)"; P. Hillyard was the former Curator at the Natural History Museum in London, UK. Interestingly, Roberts did not just produce illustrations but also suggested some taxonomic decisions accepted by John Murphy: e.g. the generic name Tuvadrassus Marusik & Logunov 2015 was synonymized with Haplodrassus Chamberlin, 1922 (p. 9).

The main aim of the book was to provide an identification tool and to serve as an illustrated atlas for the Gnaphosidae (p. vii): "this atlas stands on the illustrations provided. These will always be of use for identification purposes". Later (p. 9), John added that the generic groupings provided in the book "may or may not indicate a close relationship between members of a particular group but are merely devices for speeding up identification"; a total of 14 such genus groups were proposed. The atlas illustrated 100 out of 116 known genera of Gnaphosidae and, indeed, became a world generic revision of the family. Examples of arachnological works of such wide scope are still rare, with just three examples occurring to me: the world genera of Theriididae by Levi & Levi (1962), the world generic revision of Zodariidae by Jocqué (1991), and the genera of Theridiosomatidae by Coddington (1986); the last work was of an incomparable scope as it dealt with nine genera only.



Fig. 21: John Murphy in his home, 9 December 2009. © Rowley Snazell (Swanage, UK).

As a world generic revision of the Gnaphosidae, the book received a couple of positive reviews (Marusik 2008; Russell-Smith 2008) and, more importantly, became a recipient of a prestigious Paolo Brignoli Award from the International Society of Arachnology in 2013 (Dunlop 2013). Regrettably, the book contains a number of notable flaws. For example, there are numerous mistakes in distributional maps and the absence of detailed information about the copulatory organs (see Marusik 2008 for further details). According to Google Scholar, Gnaphosid Genera of the World has been cited 95 times, including by authors of the latest phylogenetic tests of the family (e.g. Azevedo, Griswold & Santos 2018) or some essential morphological studies (e.g. Zakharov & Ovtsharenko 2015). As was stated by the editor, Paul Selden, in the Foreword (p. v), "a particular strength of the book is that John Murphy repeatedly emphasizes where the knowledge is lacking and future research should be directed". Hence, there is no doubt that the book will serve as a source of reliable taxonomic information and "essential reading for all those with a serious interest in spiders" (Russell-Smith 2008: 9) for many years to come.

Spider Families of the World and their Spinnerets (2015)

This two-volume book was the third and last prepared by John Murphy, and this time co-authored by Michael Roberts (Fig. 20). It was published by the BAS in 2015 and consists of 553 pages, including 383 figure plates of over 6,000 individual drawings made by M. Roberts. The authors presented a richly illustrated taxonomic account for 115 spider families, compared to 129 that are known now (World Spider Catalog 2021); of course, the scope of many families today was different from those proposed by Murphy & Roberts (2015). The format of the book is similar to that of Jocqué & Dippenaar-Schoeman (2006): each family is given a page and described in a standard, concise way to include the subsections on Type, Genera Included, Species Illustrated, Family Definition, Other Characters, Taxonomic Affinities, Ethology, Distribution and References.

Like both of other Murphy's books, *Spider Families of the World* was meant to be a practical tool for identification and, as such, included an Identification Key to all families (pp. 29–40) based on a pragmatic subdivision of the order rather than reflecting its phylogeny. Perhaps, this is why the authors, *contra* Lehtinen (1967), reinstalled Cribellatae and divided the Araneomorphae into cribellates and colulates (Murphy & Roberts 2015: 3, 9, 29), thereby (in their words) "returning spider taxonomy to its previous state, using closely reasoned arguments and illustrations" (*Ibid.*: v).

Murphy & Roberts (2015: 13–15) also provided an original classification of body/leg setae and trichobothria in spiders. It is a pity that they did not pay attention to the already existing and much more sophisticated classification of body setae, for instance, for Oribatida (Mahunka & Zombori 1985). In this case, some of their taxon-bearing names (e.g. *Liphistius* type of trichobothria, p. 15) could be more generally called 'capitate trichobothria'. For unknown reasons, while discussing trichobothria, the authors did not mention a number of existing works exploring the taxonomic value



Fig. 20: Spider Families of the World and their Spinnerets (2015).

of trichobothria with regards to their structure, number and position in spiders (e.g. Lehtinen 1975; Haupt 1986; etc.).

In the Foreword, R. G. Snazell compared Spider Families of the World to the famous work by Pekka Lehtinen on Classification of the cribellate spiders and some allied families published in 1967 and which, at one time, generated lots of "highly diverse opinions" amongst distinguished arachnologists. Such a comparison was provided in the anticipation of "the coming debate" that could have been generated by Spider Families of the World. Unfortunately, the book by Murphy & Roberts seems to have generated almost no debate in the subsequent arachno-publications devoted to the higher spider classification. Only two official reviews have been published (Bosselaers & Jocqué 2016; Penney 2015) and, according to Google Scholar, to date Spider Families of the World has been cited just 45 times. More importantly, the book had spent almost a year in the upcoming list of World Spider Catalog, until October 2016, when the Editorial Board decided not to accept the proposed taxonomic changes because no compelling evidence was presented in their favour (Theo Blick pers. comm., 13 November 2021).

This conclusion seems to be mostly correct, but not entirely. Indeed, despite the majority of generic transfers being based on original authors' observations, no written justification based on the studied characters was provided. However, the situation with nomenclatural changes at the family level proposed by Murphy & Roberts (2015) is less clear. If some of the proposed changes have been properly discussed and argumentatively refuted (e.g. the re-establishment of the family name Thaididae Karsch, 1880; see Michalik & Wunderlich 2017), others remain unresolved. For instance, the erection of a new monotypic family Cambridgeidae Murphy & Roberts, 2015 (the type genus Cambridgea L. Koch, 1872), endemic to New Zealand. Having erected this family, Murphy & Roberts (2015: 91, pl. 127) provided its definition, a clear reference to the type genus and affinities, distribution, illustrations and other information, which indeed is sufficient to consider this family-group name available (sensu ICZN 1999: articles 13.1-2, 16.2) and valid (Ibid.: articles 23, 29). Yet, the genus Cambridgea is currently placed in the Desidae Pocock, 1895, the subfamily Porteriinae Lehtinen, 1967, following Wheeler et al. (2017), who did not even mention the name Cambridgeidae or any taxonomic-morphological information presented by Murphy & Roberts (2015). At the same time, Wheeler et al. (2017: 600, 606-607) stated that their conception of an enlarged Desidae is polythetic and "evidence for combining the subfamilies and main groups of Desidae is weak and unstable across analyses". Hence, even if the Cambridgeidae is not valid, its status is yet to be decided officially, rather than to just be consigned to oblivion.

It is worth mentioning that all the 17 species that were illustrated in the book and identified to species have been included in World Spider Catalog (2021). Since the publication of *Spider Families of the World* some of the undetermined but illustrated species have been named on the basis of the voucher specimens retained in the Murphy collection. For instance, *Selenops* sp. from Kenya (Murphy & Roberts 2015: pl. 277, appendix fig. 51) is actually *S. lumbo* Corronca, 2001 (identified by Sarah Crews in 2018; *cf.* Corronca 2002).

A summary of all 73 nomenclatural changes suggested by Murphy & Roberts in the Spider Families of the World was given on p. viii. These included the corrections of spelling of some family names (e.g. Actinopidae instead of Actinopodidae Simon, 1892), transfers of many genera to different families (not justified in most cases), splitting/reinstating several family names (e.g. Loxoscelidae Simon, 1893 was removed from Sicariidae Keyserling, 1880, and Borboropactidae Wunderlich, 2004 from Thomisidae Sundevall, 1833, etc.), some family names were synonymized (e.g. Nephilidae Simon, 1894 with Araneidae Clerck, 1757), three subfamilies were raised to familiar status: Cicurinidae Kishida, 1955, Matachiidae Dalmas, 1917, and Sicariidae Keyserling, 1880 (the names Cicurinidae and Matachiidae were mistakenly presented as 'new families', although such names already existed), etc. Although none of these taxonomic novelties was accepted by the World Spider Catalog, some were later proposed by other authors and taken in by the Catalog. For instance, based primarily on molecular data, Wheeler et al. (2017) reinstated the families Cybaeidae Banks, 1892 and Cycloctenidae Simon, 1898. Both families currently include more genera than were suggested by Murphy & Roberts (2015), but all/most of the genera included in these families by Murphy & Roberts are still



Fig. 22: Global distribution and number of species per country in the Murphy spider collection, Manchester Museum. Modified from Arzuza Buelvas (2018: fig. 5).

there (World Spider Catalog 2021). A synonymy of the family Nephilidae with Araneidae was re-instated by Murphy & Roberts (2015), and the same conclusion was later justified by Dimitrov *et al.* (2017). In addition, based largely on molecular data, the last authors also re-established the family Megadictynidae Lehtinen, 1967 in exactly the same way as it was interpreted by Murphy & Roberts (2015) based on morphological characters (World Spider Catalog 2021). Surprisingly enough, neither Wheeler *et al.* (2017), nor Dimitrov *et al.* (2017) referred to the Murphy & Roberts book, totally disregarding its rich range of somatic characters provided, including spinnerets and cribellum/ calamistrum, which partly served as the basis for some of their own taxonomic conclusions.

Despite the taxonomic novelties of Spider Families of the World being neglected by World Spider Catalog (2021), its morphological content, particularly on spinnerets and cuticular structures, is regularly used/discussed in modern taxonomic and comparative-morphological arachnological literature: e.g. on Trichonephila clavipes (Linnaeus, 1767) (Correa-Garhwa et al. 2021), Gnaphosidae (Wolff et al. 2017), tarantulas (Guadanucci, Galetti & Indicatti 2020), etc. The term 'cicatrix' v. 'tartipore' and the role of the spinning field pores on anterior lateral spinnerets were discussed by Towney & Harms (2017, 2020) in comparison to what was suggested by Murphy & Roberts (2015). The taxonomic positions of Cicurina, Argyroneta, and Cybaeus (sensu Murphy & Roberts 2015) were accepted by Řezáč et al. (2017). Comparative data from Murphy & Roberts (2015) are regularly used in arachno-palaeontological studies: e.g. the nomenclature and terminology of body setae (Selden, Ren & Shih 2016), homology of the cheliceral teeth (Guo *et al.* 2020), the somatic morphology of *Nephila* Leach, 1815 (Patel, Ran & Selden 2019), the structure of calamistrum in several spider families (Park, Kye-Soo & Selden 2019), etc.

It is not entirely clear why the book by Murphy & Roberts (2015) tends to be neglected by contemporary workers on spider phylogeny and higher classification. Perhaps, the following five reasons could be considered:

1) The aim of the book was to provide a practical tool for the identification of spider families. Therefore, it is prepared as an atlas, in a strict and concise format, relying on the illustrations provided, with little or no written justification for suggested taxonomic changes—it is especially evident for all generic transfers for which no justification was given at all apart from listing them on pp. viii–ix. This is in a clear contrast to the previous book by Murphy (2007) in which detailed justification was given to every case of a taxonomic novelty.

2) The authors tended to present only their own results without serious considering others' viewpoints, except for a general critique of Lehtinen (1967) and few other authors.

3) Their own results, based on light microscopy of spinnerets and cuticular structures, were contrasted with those based on SEM rather than combined with them. For instance, they argued (p. 8) that "SEMs, as with cladistics, are an attempt at a 'quick fix' which simply does not work", but why? Actually, both methods have own benefits. Despite promising to explain how "woefully inadequate" SEMs are in that they "represent only a surface view with no distinction between sclerotized and membranous structures" (p. 17), this topic completely disappeared from the following content of the book.

Museum/	Holotypes Holotype + Paratype(s)		No.	No.	
Family	only	paratype(s)	only	species	specimens
AMNH					
Gnaphosidae	1	4		5	15
Oonopidae	2	5		7	13
Salticidae	3	1		4	
Total	6	10		16	33
MMUE					
Dysderidae	2		5	7	18
Linyphiidae	1	1		2	6
Palpimanidae	1			1	1
Salticidae	1	1		2	7
Uloboridae	2			2	2
Trachelidae	2			2	2
Zodariidae	2		9	11	25
Total	11	2	14	27	61
MRAC					
Gnaphosidae	2			2	2
Linyphiidae	1	1	1	3	16
Mysmenidae			1	1	2
Zodariidae	1			1	1
Total	4	1	2	7	21
NHM					
Araneidae	1	1		2	3
Mysmenidae		1		1	5
Salticidae	5	2	1	8	10
Total	6	4	1	11	18
RBINH					
Mysmenidae			1	1	2
Total			1	1	2

Table 2: Number of type specimens from the spider collection by John and Frances Murphy in five world museums (as of 31 January 2022). Museums: AMNH = American Museum of Natural History, New York, USA (data from Louis Sorkin, 16 December 2021, and publications); MMUE = The Manchester Museum, University of Manchester, UK (data from Dmitri Logunov, 10 January 2022); MRAC = Royal Museum for Central Africa, Tervuren, Belgium (data from Arnaud Henrard, 9 December 2021); NHM = Natural History Museum, London, UK (data from Jan Beccaloni, 9 December 2021, and publications); RBINH = Royal Belgian Institute for Natural Sciences, Brussels, Belgium (Baert & Murphy 1987: sub. *Kilifia i*.).

4) The authors argued that "the spinnerets are remarkably constant and are the most stable basis for family definition" (p. 6), whereas "genitalia are of the use mainly at genus/ species level, and somatic characters are widely unpredictable" (p. v). Hence, copulatory organs are poorly featured in the book (figs. 8–56, pp. 525–550), representing just 49 species in 45 genera and 33 families (my count).

5) The style of the book is slightly provocative in places: e.g. the authors wrote (p. 7) that "according to Benjamin Disraeli (1804–1881) there are three kinds of lies: lies, damned lies and statistics. A fourth kind might be cladistics"—this passage was called by Bosselaers & Jocqué (2016: vii) the "disappointing, if not irritating, aspect of the text", which is hard to disagree with. Overall, the publishing of this book so strongly disappointed a number of notable arachnologists that some of them even resigned from the BAS after more than 40 years of membership.

Finally, regardless the current status and, to a large extent, unfortunate fate of *Spider Families of the World*, it is safe to conclude that even if some of its taxonomic conclusions do not prove to stand the test of time, much of the rich morphological content of this book will be of great lasting value for many generations of spider taxonomists.

Spider collection

The extensive worldwide spider collection assembled by Frances and John Murphy in a period of over 45 years (Figs. 3, 22) was donated to the Manchester Museum in November 2015. Based on the original Murphy's electronic catalogue (Microsoft Excel table), a total of 45,415 specimens in 95 families were collected, accounting for 3063 identified species in 1133 genera (64% of the entire collection) and some 16,478 specimens remaining undetermined; see Arzuza Buelvas (2018) for a full account of the collection based on the aforementioned catalogue. However, the actual size of the collection, which is now in the Manchester Museum, is smaller, containing 21,439 samples of 37,780 adult specimens. There are two main reasons for that: 1) immatures have not been counted and recurated, but still available in the Museum, and 2) many samples had been borrowed or donated to third parties before the collection was deposited in the Museum. For instance, all the Oonopidae from Costa Rica (33 samples), Panama (19), Singapore (96), Malaysia (60), and others (a total of 700+ tubes; John Murphy, pers. comm., Nov 2015), are now in the American Museum of Natural History (AMNH, New York), identified and published in numerous papers by Norman Platnick and the co-authors (e.g. Bolzern & Platnick 2013; Platnick & Berniker 2014; Platnick & Dupérré 2009a,b, 2010, 2011; etc.). Some Oriental and African pholcid specimens have been deposited in Bonn, Germany (e.g. Huber 2011). For a number of years, if new species were described on the basis of specimens collected by John and Frances, primary types were always deposited in recognised museums (see Table 2), plus a number of uncounted voucher specimens for known species. On rare occasions, paratypes of some newly described species were returned to the Murphys and retained in their collection: e.g. those of five Mediterranean Dysdera species described by Deeleman-Reinhold (in Deeleman-Reinhold & Deeleman 1988), and those of four Mediterranean Zodarion species described by Bosmans (1994).

Having donated to the Manchester Museum, the Murphy spider collection was also complemented with a corresponding archive consisting of 389 items (correspondence, original drawings, species lists, handwritten drafts, translations, etc.).

Upon arrival at the Manchester Museum, the collection was in perfect order (Fig. 23), which was a particular feature notable to anyone who saw/used the collection in the Murphys' home at Hampton (London). Here is just one shared memory from Robert Bosmans (pers. comm., 13 December 2021): "I once visited the Murphys at their home and I borrowed specimens from Crete from their collection for my catalogue of Crete. I admired the large collection of the Murphys and the way it was organised". Currently, the collection is slowly being re-curated by the museum staff. All samples that have been (re)examined and (re)identified are immediately re-housed in glass tubes and jars: e.g. all samples of the Mediterranean Nemesiidae which were recently studied by Zonstein (2017) (Fig. 23).



Fig. 23: Spider collection of John and Frances Murphy in the original wooden cabinet and drawer, with all samples in standard plastic tubes (on the left), and a fully recurated collection of the Mediterranean Nemesiidae in glass vials and glass jar (on the right), the Manchester Museum.

John and Frances travelled a lot and collected spiders in all their trips (Table 1), especially actively over the 20-year period between 1971 and 1992, during which they acquired 39,246 specimens (86% of the total collection) from 67 countries (Figs. 3, 22; Arzuza Buelvas 2018). Yet, collecting in the field was not the only way the Murphys obtained their specimens. For instance, John helped numerous specialists with sorting out and identifying their spider samples, which often resulted in acquiring some voucher specimens for their reference collection. For instance, in his letter to Ansie Dippenaar (20 October 1987; JMA, item 45) he wrote: "where numerous examples of a species occur, would it be possible for me to beg a specimen or two for reference purposes"? This way, voucher specimens of 146 species from several colleagues in South Africa whom he helped to sort out and identify their samples were acquired. In 1990, John helped to identify spiders for Colin C. D. Tingle from the Natural Resources Institute (UK), who was working on the community structure of the surface-active invertebrate assemblages (Tingle, Lauer & Armstrong 1992) and an impact of DDT used to control tsetse flies in Zimbabwe on the non-target spider fauna (JMA, items 5-6); 62 spider species collected by Tingle are now in the Murphy collection at the Manchester Museum. From a series of letters from Robert Bosmans in 1992-1994 (JMA, items 245, 247; Fig. 24) regarding loans of the Mediterranean and north African Zodariidae and Linyphiidae from John's collection, it is clear that the primary types of the Zodarion species described by Bosmans (1994) were deposited in the American Museum of Natural History (New York), but paratypes of four Mediterranean species were retained in Murphy's private collection. Examples of this kind can be extended.

Some people specifically collected spiders for John and Frances Murphy: e.g. E. W. Classey who collected 18 spider samples from Nigeria (nr Ile-Ife) in 1972 (JMA, item 13), or Ms A. M. Grubb who brought seven spider samples from Agadir, Morocco in 1972, including *Lycosoides crassivulva* (Denis, 1954) on which a paper was published (Murphy & Murphy 1978).

 Dear John,

 Dear John,

 Thank you very much for your last letter. I wish you all the best, especially to Frances. I just come back from a short collection. I have many species, but I do not not have that one. It is one of the species you allways meet in Simon's identification table, but never collect yourself.

 Include my latest reprints. As you can see, the Acadian paper is published. You can see for yourself what happened with it.

As for the other Mediterranean <u>Zodarion</u>, how shall we proceede? I have now finished all the drawings, and most of the text. Shall I send you copies, so you can try to identify them yourself, like we did with the Iberian ones? This will probably be the best.

Robert

Best wishes,

Fig. 24: A letter from Robert Bosmans (Gent, Belgium) offering John Murphy to use his newly produced drawings for identification of the Mediterranean Zodarion species; JMA, item 245, the Manchester Museum.

For a number of years (at least, in 1985–1997), John also helped to identify spiders for the Identification Service of the International Institute of Entomology (the former Commonwealth Institute of Entomology; see Ritchie 1992), dealing with various spider groups collected from agricultural fields in Sri Lanka, India, Cameroon, Malawi, etc. (JMA, items 279-287). In return, Don Macfarlane, with whom he corresponded at that time, helped John with photocopying rare and old arachnological works from the NHM's library, apparently inofficially. In his letter of 10 October 1991 (JMA, item 279) Don wrote that "these days it is best to do this 'after hours' or in small doses and as 'low profile' as possible. This is because department has tightened up on the use of the photocopier with a large notice stating that it is only to be used by departmental staff. A comment was made, I trust in jest, on Wednesday when I was 'caught' using it". Before digital time, such difficulties with photocopying quantities of relevant taxonomic works were familiar to many arachnologists working outside large museums. In this respect, it is worth mentioning an interesting document from the Murphy archive (JMA, item 178): a handwritten English translation of the Salticidae section of Simon's Histoire naturelle des Araignees, II (1893) (Fig. 25; 79 pages in total) made by John, with no reference to the year when this was done. There is also a translation of the pages from Simon with a key to Enoplognatha species (JMA, item 254).

Sometimes John identified spider materials based on illustrations received from other colleagues whom he then

Simm I . H.N.A \$ 539. Salturdae

Chrys U

31. Chrysilleae

The numerous genera that I combine in this group to longer possess ministry like the preceding genera and are of a hormal kind; They have for Charachers in amon the Svernum broader than the Corae, Scarcely attenuated in front where it is truncared, bridely separating the Corae of the first pair of legs; the labium always larger than broad, attenuated, blemt, varely truncated; the chelicerae, possess, and the invert margin; the 2 pairs of posterior legs armed with Several Spines, much weaker than those anthe anverior legs, and finally the legs of the 4th pair longer than those of the 3rd pair, with the metatassus and tarsus always larger than the partella and tiber.

J will begin the Srndy of this group with Ital of the genus <u>Telamonia</u> Thoreal, to which Stattach <u>Plexippus vittarus</u> C. Koch (= Hykus alremans C. Koch), the European and Siberian species <u>Saltrius Castriescanus</u> Grube (= Maeria Multipunchara E. Somon) and Some others described under the generic name of Maeria.

The Cephalo throw of three Spiders is raised, almost parellel in the cephalic regimer nonis inclined and almost flat, without projections or indentations, more or less expanded in the thoracic part. The anvenue eyes, large and subcontiguous (the laverals slightly separated) are in a Straight line on the female, recurred on themsele and Separated from the edge by a Clypens harrower than their radius, except on Certain males. The eye group is rather short a little narrower at the rear than at the fort, and at the rear a little harrower than the cephalo thorax, with the posterior eyes of average Size and the Small eyes of the Ind row Situated, more or less in frant of module (sepand from the posteriors by more than the diameter of the latter).

The legs are long; the anverses a little stonter Itan Ite rest, particularly in the femares Ite Horse having, Ventrally, 3 pairs of weak spines, particularly the apicals, and on each side or only inversally, 2 laveral spines of the ich like apical, longer Itan The basil, is located almost in the same line as the rentral spines; the anterior metatari, Short on the female, longer as the male (equally Sometrimes on the tibine), Strangultor Slightly Curved, Carty, Ventrally, 2 pairs of short, well spaced spines, of their the basils are much Stonter than the apicals; those of the females lacking lavere spines, whils those of the males possesse 2 small spines on each Side. (T. mellottei, musteling clovina, dives, E. Simm) or only I apical (T. viltara C. Koch), on the I^{SV} 2 pairs or only an Ite Second (T. Castriesiane, Grube); the spines of the posterior legs are usually weak; Ite Melavarsi have on erect apical borsve, those of the spines of a down legs are usually weak; Ite Melavarsi have on erect apical borsve, those of the spines of a down legs are usually weak; Ite

Fig. 25: A page from the handwritten English translation of the Salticidae section from Simon (1893), in total 79 pages; JMA, item 178, the Manchester Museum.

gave his identifications, while difficult species were loaned to or borrowed from the corresponding colleague for checking. For instance, John's material on the Mediterranean *Zodarion* species was identified in this way in collaboration with Robert Bosmans (JMA, items 245; Fig. 24), who then published a paper (Bosmans 1994). In return, Bosmans loaned some gnaphosid materials to John, including *Setaphis* spp. (JMA, item 247), which Murphy studied together with Norman Platnick. Some sources of *Setaphis* specimens were listed by John in a handwritten note (JMA, item 262; Fig. 26). In Newsletter 4 of the Research Group for the Study of African Arachnids for February 1990 (JMA, item 40), it was mentioned that John Murphy was working on a joint revision of the genus *Setaphis* Simon, 1893



Fig. 26: A handwritten note on some sources of the *Setaphis* specimens used for a revision published together with Norman Platnick (JMA, item 262), and original pencil drawings of *Setaphis fuscipes* (Simon, 1885) made by John Murphy; JMA, item 263, the Manchester Museum.

(Gnaphosidae) with Platnick, which, as evidenced by the letter from Norman (JMA, item 265; Fig. 27), started in 1986; the revision was published ten years later (Platnick & Murphy 1996).

Some identification requests came to John via Frances. For instance, a colleague from the Norfolk Museums Service sent her a letter and spider specimen, which was imported with tropical fish from Colombia (JMA, Item 138). The specimen was identified as a female of *Breda* sp. (Salticidae) and added to the collection. Actually, it is *B. milvina* C. L. Koch, 1846 (my identification; Fig. 28), a rare but widespread species known from at least central Mexico to south-eastern Brazil (Ruiz & Brescovit 2013) which was once recorded as having been imported with fruits to Europe (Nentwig 2015). Formally, Colombia (no exact locality) still represents a new country record for this species.

The importance of the Murphy spider collection lies not only in its size, but also in its wide geographical range: 72 countries of six biogeographic regions (Fig. 22); see Arzuza Buelvas (2018) for further details. Despite being a private collection, it was accessible to any external researcher requesting a loan, including the author of this paper. Indeed, it is impossible to calculate how many publications altogether were based partly or totally on the specimens originated from this collection. Since November 2015, when the collection was moved to the Manchester Museum, at least 15 papers based entirely or partly on Murphy's specimens have been published, of which six (Azarkina 2022; Logunov 2022; Sherwood, Logunov & Gabriel 2022; Pett 2022; Tanasevitch 2022; Zonstein & Marusik 2022) are presented in this *Festschrift*. Many important publications by John himself were largely based on their collection: e.g. the majority of illustrations in *Spider Families of the World* (Murphy & Roberts 2015) and all drawings made by M. Roberts for *Spiders of South-East Asia* (Murphy & Murphy (2000) were made from specimens originating from this collection.

The authors' electronic catalogue of the collection (see above) is rather detailed and contains the following information (Arzuza Buelvas 2018): collector's number, number of individuals per vial, sex (male, female, and juvenile), taxonomy (family, genus, and species), collecting date, country and location of origin, habitat (in some cases), name of the person who identified the species and an ID date. This information is freely accessible to anyone willing to study specimens from this collection, either by a direct request to the author of this paper, or via the Museum's Entomology blog (under the tab 'Data sets'): https://entomologymanchester .wordpress.com/data-sets/. The entire but less detailed content of Murphy's spider collection, as well all other arachnological resources of the Manchester Museum, can be searched online via the Museum's homepage: http://harbour .man.ac.uk/mmcustom/EntQuery.php.



DEPARTMENT OF ENTOMOLOGY October 3, 1986

265

Mr. John Murphy 323 Hanworth Ro Hampton, TW12 3EJ ENGLAND Middlesex

Dear John:

NIP/ci

I've finally had a chance to start thinking about <u>Setaphis</u>. Enclosed is what I've been able to pull together from notes made during my trip to Paris, with the bottle numbers, which should help J. Heurfault find them.

I'm pulling together all the material on hand here and should get it off to you by registered air mail on Tuesday. If you manage to sort through everything by the end of the year, Shadab can work on the drawings while I'm gone.

With best regards and many thanks,

Sincerely yours. 9 Norman I. Platnick Curator, Arachnida

Nir/ci Enc/ P.S. When you pick up the BM material, could you please do me a favor and see if you can find a <u>Cithaeron</u> that I identified from their unidentified gnaphosids (and any other cithaeronids that may be there). Incidentally, I just received the type of Roewer's <u>Bobineus</u>, which he described as a second genus of Cithaeronidae. It's a <u>Pterotricha</u>!!

Central Park West at 79th Street New York, New York 10024, U.S.A. Telephone (212) 873-1300

Fig. 27: A letter from Norman Platnick regarding the start of a revision of *Setaphis* published together with John Murphy; JMA, item 265, the Manchester Museum.

NORWICH CASTLE MUSEUM Salticid From ported with tropical Date 27. Sept. 19.79 No. 138 Norfolk Museums Service Director Francis W Cheetham OBE BA FMA Castle Museum Norwich NR1 3JU Telephone Norwich (0603) 22233 With compliments ances alive and this buch Can its status OVER : habito of in Columbia. I and collected it from a tropical fish near here, and am anxion passible. be as helpful an further spiders, bugs, Dr Wanless I expect etc. as thes the. in anted 27.9.79 Tupe 12663

Fig. 28: A copy of the original letter from the Norfolk Museum Service (JMA, item 138) and the imported female of *Breda milvina* C. L. Koch, 1846 (habitus, dorsal view, and epigyne, ventral view), the Manchester Museum.

Many of those who have used specimens from the Murphy collection expressed their appreciation for having access by naming new species after Frances and John. For instance, Jocqué (1990: 39) described the zodariid species Diores murphyorum, saying that it "is a patronym in honour of John and Frances Murphy in recognition for their extraordinary tropical spider collections". Later, Jocqué (1996: 237) dedicated a new genus name Murphydium to "John & Frances Murphy as appreciation for their invaluable spider collections I was allowed to study". Similarly, with regards to the newly described species Dysdera murphyorum, Deeleman-Reinhold & Deeleman (1988: 244) wrote that is was "named in honour of John and Frances Murphy who collected this species in number, in recognition of having entrusted me, on several occasions, with all their rich and interesting material from the Balkans".

Conclusions

According to Agnarsson, Coddington & Kuntner (2013), the field of systematics consists of three main components: biodiversity inventory; taxonomy (discovery and descriptions); and phylogeny (revealing phylogenetic relationships among described taxa); see also Minelli (1993). John Murphy significantly contributed to at least two of these areas: he published 30 papers (13 on the Gnaphosidae) and three books, and described six new spider genera (Gnaphosidae and Mysmenidae) and 76 new species (see Appendix). John Murphy never studied phylogenetic relationships of Araneae, but his book Spider Families of the World (Murphy & Roberts (2015) was an attempt to provide a practical identification tool to all world spider families known at that time, including a description of one new to science: Cambridgeidae from New Zealand. A historic analysis of the main Murphy publications is given above. Perhaps even more importantly, John and Frances Murphy assembled a large worldwide spider collection in which thousands of specimens still remain undetermined (see above). Indeed, it is an extremely useful taxonomic resource for discovering and describing more new spider species and for revealing phylogenies. The collection is fully accessible for any researcher by request to the Manchester Museum (UK).

Although most existing museum spider collections, stored at room temperature in 70% ethanol, still have limited use for modern DNA-based studies, developing new molecular biological techniques will definitely make a better use of them; even the specimens preserved in formalin are now possible to use for DNA-extraction (Freedman, van Dorp & Brace 2018). Yet, for the time being, morphology-based classifications and phylogenies still serve as a

reality check for molecular results (see Wiens 2004). Phylogenies and cladograms "are only truly useful to the extent that we know something about the morphology and the biology of its constituent taxa, and thus can use them to study evolutionary and ecological processes" (Agnarsson, Coddington & Kuntner 2013: 96). In this respect, the rich Murphy spider collection, John's taxonomic papers and books, including numerous published natural history observations on spiders, will continue to serve as a useful and valuable resource to all fields of systematics for many years to come.

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Appendix

This appendix contains all the spider species and genera described by John and Frances Murphy, based on the *World Spider Catalog* (2021), and all the taxa (spiders and false scorpions) dedicated to them, both published earlier and those described in the present *Festschrift*. A total of 30 spider species from 15 families and one false scorpion have been dedicated to John Murphy.

Genera described by John Murphy (6)

Drassodex Murphy, 2007 (Gnaphosidae)

- Kilifia Baert & Murphy, 1987 (Mysmenidae), homonym replaced
- Kilifina Baert & Murphy, 1992 (Mysmenidae), synonym of Isela Griswold, 1985
- Leptodrassex Murphy, 2007 (Gnaphosidae)
- Zelominor Snazell & Murphy, 1997 (Gnaphosidae)

Zelotibia Russell-Smith & Murphy, 2005 (Gnaphosidae) Zelowan Murphy & Russell-Smith, 2010 (Gnaphosidae)

Species described by John Murphy (76)

Acusilas gentingensis Murphy & Murphy, 1983 (Araneidae), synonym of Acusilas coccineus Simon, 1895

Acusilas malaccensis Murphy & Murphy, 1983 (Araneidae) Camillina capensis Platnick & Murphy, 1987 (Gnaphosidae) Camillina cordoba Platnick & Murphy, 1987 (Gnaphosidae) Camillina cui Platnick & Murphy, 1987 (Gnaphosidae) Camillina fiana Platnick & Murphy, 1987 (Gnaphosidae) Camillina galianoae Platnick & Murphy, 1987 (Gnaphosidae) Camillina isabela Platnick & Murphy, 1987 (Gnaphosidae) Camillina kaibos Platnick & Murphy, 1987 (Gnaphosidae) Camillina kochalkai Platnick & Murphy, 1987 (Gnaphosidae) Camillina madrejon Platnick & Murphy, 1987 (Gnaphosidae) Camillina mahnerti Platnick & Murphy, 1987 (Gnaphosidae) Camillina maun Platnick & Murphy, 1987 (Gnaphosidae) Camillina mauryi Platnick & Murphy, 1987 (Gnaphosidae) Camillina namibensis Platnick & Murphy, 1987 (Gnaphosidae) Camillina penai Platnick & Murphy, 1987 (Gnaphosidae) Camillina pilar Platnick & Murphy, 1987 (Gnaphosidae) Camillina tsima Platnick & Murphy, 1987 (Gnaphosidae) Drassodex drescoi Hervé, Roberts & Murphy, 2009 (Gnaphosidae) Drassodex granja Hervé, Roberts & Murphy, 2009 (Gnaphosidae) Drassodex simoni Hervé, Roberts & Murphy, 2009 (Gnaphosidae) Echemella sinuosa Murphy & Russell-Smith, 2007 (Gnaphosidae) Echemella tenuis Murphy & Russell-Smith, 2007 (Gnaphosidae) Isela inquilina (Baert & Murphy, 1987) (Mysmenidae)

Marinarozelotes huberti (Platnick & Murphy, 1984) (Gnaphosidae) Marinarozelotes malkini (Platnick & Murphy, 1984) (Gnaphosidae) Marinarozelotes stubbsi (Platnick & Murphy, 1984) (Gnaphosidae) Portia orientalis Murphy & Murphy, 1983 (Salticidae)

Psechrus cebu Murphy, 1986 (Psechridae)

Scotognapha costacalma Platnick, Ovtsharenko & Murphy, 2001 (Gnaphosidae)

Scotognapha galletas Platnick, Ovtsharenko & Murphy, 2001 (Gnaphosidae)

Scotognapha haria Platnick, Ovtsharenko & Murphy, 2001 (Gnaphosidae) Scotognapha juangrandica Platnick, Ovtsharenko & Murphy, 2001 (Gnaphosidae)

Scotognapha medano Platnick, Ovtsharenko & Murphy, 2001 (Gnaphosidae)

Scotognapha taganana Platnick, Ovtsharenko & Murphy, 2001 (Gnaphosidae)

Scotognapha wunderlichi Platnick, Ovtsharenko & Murphy, 2001 (Gnaphosidae)

Setaphis jocquei Platnick & Murphy, 1996 (Gnaphosidae) Setaphis walteri Platnick & Murphy, 1996 (Gnaphosidae) Setaphis wunderlichi Platnick & Murphy, 1996 (Gnaphosidae) Urozelotes mysticus Platnick & Murphy, 1984 (Gnaphosidae) Zelominor algarvensis Snazell & Murphy, 1997 (Gnaphosidae) Zelominor algericus Snazell & Murphy, 1997 (Gnaphosidae) Zelominor malagensis Snazell & Murphy, 1997 (Gnaphosidae) Zelotibia acicula Russell-Smith & Murphy, 2005 (Gnaphosidae) Zelotibia bicornuta Russell-Smith & Murphy, 2005 (Gnaphosidae) Zelotibia cultella Russell-Smith & Murphy, 2005 (Gnaphosidae) Zelotibia dolabra Russell-Smith & Murphy, 2005 (Gnaphosidae) Zelotibia filiformis Russell-Smith & Murphy, 2005 (Gnaphosidae) Zelotibia flexuosa Russell-Smith & Murphy, 2005 (Gnaphosidae) Zelotibia kaibos Russell-Smith & Murphy, 2005 (Gnaphosidae) Zelotibia major Russell-Smith & Murphy, 2005 (Gnaphosidae) Zelotibia mitella Russell-Smith & Murphy, 2005 (Gnaphosidae) Zelotibia papillata Russell-Smith & Murphy, 2005 (Gnaphosidae) Zelotibia paucipapillata Russell-Smith & Murphy, 2005 (Gnaphosidae) Zelotibia scobina Russell-Smith & Murphy, 2005 (Gnaphosidae) Zelotibia similis Russell-Smith & Murphy, 2005 (Gnaphosidae)

Zelotibia simpula Russell-Smith & Murphy, 2005 (Gnaphosidae) Zelotibia supercilia Russell-Smith & Murphy, 2005 (Gnaphosidae) Zelowan allegena Murphy & Russell-Smith, 2010 (Gnaphosidae) Zelowan bulbiformis Murphy & Russell-Smith, 2010 (Gnaphosidae) Zelowan cochleare Murphy & Russell-Smith, 2010 (Gnaphosidae) Zelowan cordiformis Murphy & Russell-Smith, 2010 (Gnaphosidae) Zelowan cuniculiformis Murphy & Russell-Smith, 2010 (Gnaphosidae) Zelowan ensifer Murphy & Russell-Smith, 2010 (Gnaphosidae) Zelowan etruricassis Murphy & Russell-Smith, 2010 (Gnaphosidae) Zelowan falciformis Murphy & Russell-Smith, 2010 (Gnaphosidae) Zelowan galea Murphy & Russell-Smith, 2010 (Gnaphosidae) Zelowan larva Murphy & Russell-Smith, 2010 (Gnaphosidae) Zelowan mammosa Murphy & Russell-Smith, 2010 (Gnaphosidae) Zelowan nodivulva Murphy & Russell-Smith, 2010 (Gnaphosidae) Zelowan pyriformis Murphy & Russell-Smith, 2010 (Gnaphosidae) Zelowan remota Murphy & Russell-Smith, 2010 (Gnaphosidae) Zelowan rostrata Murphy & Russell-Smith, 2010 (Gnaphosidae) Zelowan rotundipalpis Murphy & Russell-Smith, 2010 (Gnaphosidae) Zelowan similis Murphy & Russell-Smith, 2010 (Gnaphosidae) Zelowan spiculiformis Murphy & Russell-Smith, 2010 (Gnaphosidae)

Genera dedicated to John and Frances Murphy (3)

Murphyarachne Sherwood & Gabriel, 2022 (Theraphosidae) Murphydium Jocqué, 1996 (Linyphiidae) Murphydrela Jocqué & Russell-Smith, 2022 (Zodariidae)

Species dedicated to John and Frances Murphy (30)

Aelurillus murphyorum Azarkina, 2022 (Salticidae) Alopecosa murphyorum Zamani, Nadolny, Esyunin & Marusik, 2022 (Lycosidae) Asemonea murphyae Wanless, 1980 (Salticidae) Avstroneulanda johnmurphyca Zakharov & Ovtsharenko, 2022 (Gnaphosidae) Bianor murphyi Logunov, 2001 (Salticidae) Costarina murphyorum Platnick & Berniker, 2014 (Oonopidae) Diores murphyorum Jocqué, 1990 (Zodariidae) Dysdera murphyorum Deeleman-Reinhold, 1988 (Dysderidae) Eumenophorus murphyorum Smith, 1990 (Theraphosidae) Heteroonops murphyorum Platnick & Dupérré, 2009 (Oonopidae) Irura johnmurphyi Logunov, 2022 (Salticidae) Liphistius murphyorum Platnick & Sedgwick, 1984 (Liphistiidae) Locketina murphyorum Tanasevitch, 2022 (Linyphiidae) Lycosoides murphyorum Bosmans, Lecigne, Benhalima & Abrous-Kherbouche, 2022 (Agelenidae) Mallinella murphyorum Dankittipakul, Jocqué & Singtripop, 2012 (Zodariidae) Murphydrela johannis Jocqué & Russell-Smith, 2022 (Zodariidae) Namundra murphyi Haddad, 2022 (Prodidomidae) Neaetha murphyorum Prószyński, 2000 (Salticidae), synonym of N. oculata (O. Pickard-Cambridge, 1876) Palliduphantes murphyi Ballarin & Pantini, 2022 (Linyphiidae) Paratrechalea murphyi Diniz, Braga-Pereira & Santos, 2022 (Trechaleidae) Patelloceto murphyorum Pett, 2022 (Trachelidae) Pescennina murphyorum Platnick & Dupérré, 2011 (Oonopidae) Roncocreagris murphyorum Judson, 1992 (Neobisiidae, Pseudoscorpiones) Sceliraptor murphyorum Zonstein & Marusik, 2022 (Palpimanidae) Setaphis murphyi Wunderlich, 2011 (Gnaphosidae) Stenoonops murphyorum Platnick & Dupérré, 2010 (Oonopidae) Tropizodium murphyorum Dankittipakul, Jocqué & Singtripop, 2012 (Zodariidae) Xantharia murphyi Deeleman-Reinhold, 2001 (Miturgidae)

Zelotes murphyorum FitzPatrick, 2007 (Gnaphosidae)

Zodarion murphyorum Bosmans, 1994 (Zodariidae)