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THE TYPE SPECIMENS, PUBLICATIONS AND TRAVELS OF SCOTTISH ENTOMOLOGIST, KENNETH J. MORTON

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The type specimens, publications and travels of Scottish Entomologist, Kenneth J. Morton

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Abstract

Scottish entomologist Kenneth John Morton FRES (1858 - 1940) was a prolific Scottish insect collector and writer, although not a trained Entomologist. In 214 entomological papers and notes, he described 3 genera, 82 species and 4 subspecies with an 83% validity and details of his type specimens are listed here providing evidence of just how remarkable and broad was his interest in entomology. His published works have only been partly listed in dispersed bibliographies until now, while many remained obscure. For the first time a complete bibliography is presented. This list includes all his major papers and short notes published over a time period of 58 years (1882-1940), plus a single paper published posthumously by Fraser in 1942, which included notes by Robert McLachlan and Kenneth J. Morton. His many correspondents and travels are also discussed and listed, providing evidence of just how remarkable and broad was his interest. As a gentleman entomologist, the study of insects was a pursuit in his leisure-time, for he was an employee of the British Linen Bank first in Glasgow then, later in the Edinburgh branch. After retirement, he devoted his time to entomology and his large collection of insects from the net-winged orders now resides in the National Museums of Scotland.

Keywords: Odonata, Plecoptera, Neuroptera, Mecoptera, Trichoptera, Scottish Entomology, National Museums of Scotland.

Introduction

Kenneth John Morton (b.1858, d.1940) was born in Carluke (Lanarkshire, Scotland) on 5 August 1858 although Fraser (1940a) gives the month as May. The Scottish Births and Baptisms registry (Ancestry 2014) confirms his brith on 5 August 1858 to mother Helen Valentine née Home and father Andre Morton of Carluke. The 1861 census (Ancestry 2014) gives this siblings as two brothers (Robert and David) and two sisters (Ellanor and Sarah). He lived in the High Street and was educated at Carluke village school. In 1874, at the age of 16, he entered the employ of the British Linen Bank at the Glasgow branch (now the Bank of Scotland), Govan Cross, to which he commuted daily by train. He married Agnes Brownlee Freeland in 1888, with whom he had three children.

The List of Fellows of the Entomological Society of London (RES 1893) gave his address as Glenview Cottage, Carluke. Sometime during the summer of 1896 he moved to Uddingston, southwest of Glasgow. Evidence for this can be found in volume 32 of the Entomologist's Monthly Magazine, where his March 1896d note (p.112, published May), gives the Carluke address, while another (1896f, submitted in August, p. 232, published October) gives it as Uddingston and he comments:

> "In removing from Carluke to a district with a denser population and denser smoke, the pleasure and profit of entomological work out of doors have naturally suffered".

Morton worked for the British Linen Bank for forty-eight years, firstly in the Glasgow branch, until 1897 when he was transferred to the Edinburgh branch (now the Bank of Scotland, St Andrew's Square) as Chief Inspector of the Bank. He lived at 13 Blackford Road, Edinburgh, to the south of the city centre. Rapid promotion followed though Accountant and Secretary, but he refused the position of Manager in favour of having more time for leisure and the pursuit of his beloved hobby, the study of insects. In 1922, he retired and devoted the remaining years of his life to entomology.

In common with many gentlemen entomologists of his era, Morton was no exception in that his interest in entomology was stirred at a young age and by 18 he had accumulated a fine collection of Lepidoptera (butterflies and moths), mainly from the Clyde valley and connecting tributaries. He did not train as an entomologists, instead pursuing a career in the British Linen Bank, and by age 24 had published his first paper - a not unsubstantial account of voluntary submergence by the female of *Phryganea* (Trichoptera). At age 35 he was elected a Fellow of the Royal Entomological Society of London in 1893 (RES 1893). As a consequence of where he located for work purposes, many of his pristine specimens come for central Scotland.

Having found greater interest in the net-winged insects, he donated his collection of Lepidoptera to the Royal Scottish Museum (accessioned in 1908). He then focussed on the Neuroptera *sensu lato*, which included Odonata (dragonflies), Plecoptera (stoneflies), Neuroptera (lacewings), Mecoptera (Scorpion-flies), Trichoptera (Caddisflies) and some bees (Hymenoptera: Apoidea). By the time of his death in 1940, he had collected a vast number of specimens (accessioned to the Royal Scottish Museum in 1940), the geographical range of which was not restricted to central Scotland, or even to Scotland, although this always remained his favourite hunting ground. Indeed, his knowledge of Scotland seemed unbounded and his publications dealing with Scottish fauna frequently included detailed descriptions of the geography of the area and meteorological conditions at the time. Later in life, he knew the highlands so well as to debate the boundaries of vice-counties (1934b). He was a very able writer, publishing 214 entomological papers and notes on the insects he encountered, hereafter cited by date and page number.

He collected in Wales, the Lake District, New Forest and south-east counties of England, but his favoured hunting grounds within the British Isles remained Scotland. He assembled large collections from Midlothian, Perthshire, Inverness-shire, Ross-shire and Kintyre to which areas he restricted his travels between 1931 and 1939. His collection was deposited in the Royal Scottish Museum (now the National Museums of Scotland) and stimulated the curatorial efforts in net-winged insect orders that led to the large collection amassed by Andrew Rodger Waterston (b.1912, d.1996; Shaw & Whittington 1996), the combination of which now forms the backbone of the Scottish collection of net-winged orders.

Figure 1. Kenneth J Morton, 1901 at 43years old. (Reproduced by permission of the National Museums of Scotland, Entomology Section).

Despite his great love for collecting in his home country and adjacent England and Wales, his enthusiasm and travels took him across a wide geographical range in Europe: Austria (1904, 1928); Corsica (1929); France (1902, 1911, 1914, 1923, 1924, 1925, 1927, 1929, 1931); Hungary (1928); Ireland (1887, 1890, 1916); Italy (1925, 1927, 1928); Norway (1900); Spain

(1911,1913); and Switzerland (1888, 1904). Morton's reputation spread wide. By today's standards this doesn't seem so incredible, but taken back to 1897 when correspondence was undertaken by hand written letter and given that Morton was not a professional entomologist, this is quite an accolade.

Figure 2. Kenneth J Morton's final resting place in Old Carluke Cemetery, Carluke, South Lanarkshire, Scotland marked by a memorial stone shared with his daughter Helena (who died aged 15 in 1906) and other members of his wife's family (Findagrave 2023).

Kenneth Morton was healthy, although partially deaf, dying in his 82nd year from influenza on 29 January 1940 in Edinburgh (Ancestry 2014, probate notice; Killington 1940). He was survived by his widow, a son Kenneth V. Morton (b.1908) and daughter, Marguerite R.F. Morton (b.1889) (Ancestry 2014, 1901 census) - their other daughter, Helena V. Morton (b.1891) had died in Paris aged 15 in 1906. His passing was announced along with the deaths in 1940 of 13 other RES Fellows at the Royal Entomological Society Council meeting for 1940 (RES 1941). He is buried in Old Carluke Cemetery, Carluke, South Lanarkshire, Scotland (Findagrave 2023). A photograph of the memorial stone shared by Kenneth and his daughter Helena (along with other members of his wife's family) is available (Findagrave 2023).

Method

The starting point of this paper was to produce a list of type specimens of names proposed and published by Morton and housed in the National Museums of Scotland. It soon became clear that there was no complete bibliographic record of his publications, so the Museum archive and library were searched for copies of his reprints and a list was compiled and added to from on-line searches. While doing this a box of correspondence was found that provided a great deal of extra information about Morton's entomological activities. Thus, what started out as a straight forward list of type specimens, turned into a longer biographic account of this extra-ordinary entomologist.

The entomology collections were carefully searched for putative type specimens, which were then matched to details provided in the original published descriptions of species proposed by Morton. All labels and the condition of the material was noted and meticulously transcribed.

The validity of the names proposed by Morton were checked against modern databases for the various Orders that he published on (De Walt *et al.*, 2022, Kluge 2020, Morse 2024, Oswald 2022, Paulson *et al.* 2022). In the list for each Order that follows, the published names are arranged chronologically.

The list of publications specifically authored by Morton are also arranged chronologically, subdivided by year. Many of these publications are referenced in this paper, particularly in the discussion of his correspondence and travels, by year and page number (e.g. 1896e: 59), and in instances where more than one paper was published per year, these have been chronologically designated a subset a, b, c *etc.* for each year.

Species described by Kenneth J. Morton

The list below represents all the known putative types of taxa described by Morton and housed in the National Museums of Scotland.

Kenneth J Morton described 3 genera, 82 species and 4 subspecies (which he called Races) with an 83% validity (Table 1). This is a truly magnificent accomplishment given that all but six names were published while he was still in full time employment at the Scottish Linen Bank and one was later published posthumously by Fraser in 1942.

Table 1. New taxa described by Kenneth J. Morton

Order	Generic names	Specific names	Synonyms	Validity
Ephemeroptera	0	2	0	100%
Odonata	2	18	4	80%
Plecoptera	0	16	4	75%
Neuroptera	0	7	2	71%
Trichoptera	1	39	3	92%
Total	3	82	14	83%

It is not clear what Morton's type concept was and whether it changed, or became better defined during the period of his career. The latter is most probable, as his early publications refer simply to types (e.g. 1894d: 558), whereas in 1934a, he mentions that he had in his possession paratypes of *Helicopsyche revelieri* McLachlan 1884 (Hymenoptera, Formicidae) from McLachlan's collection, indicating that he not only understood the concept of paratypes, but that he also had at least part of McLachlan's collection. It maybe that his early interpretation of what he considered to be *the* type was the first specimen listed in discussion, despite that he didn't actually designate it so. As a result, all the specimens mentioned in discussion, at least in his early papers, must be considered as syntypes.

Taking *Capnia affinis* Morton, 1896 as an example, the syntype series is clearly listed in his 1896e paper. Three (out of three males and a number of females) specimens are distinguishable as the specimens he examined. The sole surviving male in the Morton collection has been placed on a microscope slide and that slide is clearly labelled "Type", in Morton's handwriting. One female is also dissected and the slide is in the collection, but poorly labelled, only as "*Capnia affinis* ♀" - there is nothing to associate it with the type series, other than the circumstantial evidence that we have one dissected specimen from the syntype series and one slide bearing female genitalia.

The problem is far greater in cases where Morton perhaps did not retain the specimen he considered to be *the* type, but returned it to its owner, leaving in his collection some of the material he examined during the course of preparation of the description, which of course we would potentially recognise as the syntype series (of course, it may not be) - if only these instances were appropriately labelled. For the purposes of the list below, I can only refer to this circumstantial material, without definitively being able to associate syntype status with it. The appropriate time to really argue the point and make claims about the appropriate status of these pinned specimens and slides, will be at the time of designation of lectotype status. It is beyond the scope of this document to track down and trace such changes as type status, over such a broad taxonomic range. This should, of course, be part of a taxonomic work rather than

for curatorial convenience (as this paper is) - see International Code of Zoological Nomenclature (ICZN 1999, 2003, 2012; Recommendation 74G).

An addition source of confusion is, perhaps, the later addition by curatorial staff of circular type labels (red bordered = holotype; yellow bordered = paratype; purple bordered = lectotype; pale blue bordered = syntype), sometimes bearing the name of new taxa in the centre. These labels have sometimes been presumptively placed as part of a curatorial process to identify types from non-type specimens. For the purposes of this paper, they are presumed to be merely an indication of the possibility that the specimen has type status, but they are in no way seen as definitive until detailed taxonomic assessment is carried out, unless of course I was able to match Morton's specimens to his published descriptions.

Many of the specimens listed below had little to no indication on the labels that type status is warranted. It is only through carefully scrutinising Morton's literature and associating it with his collection, that type status can be suggested for these specimens - they would have otherwise remained overlooked. Based on this list many putative types can now be associated with the collections in the National Museums of Scotland and are available for further scrutiny by specialist researchers for better clarification of their status.

Over and above specimens he personally collected for research purposes, many other specimens were sent to him for examination from Europe and Scandinavia, the Near, Middle and Far East, as well as from the Atlantic Islands, Americas, Africa (including Madagascar) and Australia. Of particular interest are the field notes and letters sent home by Capt. William Edgar Evans between 1917 and 1918 along with some 700 specimens that Morton made frequent reference to in his 1919 paper *Odonata from Mesopotamia*. Robert McLachlan loaned Morton several hundred Palaearctic Plecoptera while his 1894d paper was in preparation.

Morton evidently shared specimens and held lively discussions with many of his correspondents, for example J.F.X.X. King (1929b), and it is evident in many of his publications that lively debate was carried out with McLachlan in particular. Of the latter he wrote: "In making the investigation on which the above notes are based I have made free use of Herr Strand's material, and I am also indebted to an exceptional degree to Mr McLachlan for placing at my disposal, without restriction, valuable material from Central Europe and from high northern latitudes, including Spitzbergen, Nova Zembla and Iceland." (1902c: 156). In 1915, Morton shared specimens with Klapálek, despite the on-going war in Europe: "… it may be well to state that I subsequently [to 1913] submitted to Professor Klapálek specimens of the insect [then *Chloroperla griseipennis* (Pictet, 1841) now considered a synonym of *Isoperla obscura* (Zetterstedt, 1840)] for which the name of *C. venosa* [now considered a synonym of *Isoperla grammatica* (Poda, 1761)] was provisionally used, and discussed with him the nomenclature employed in the 'Süsswasser-fauna Deutschlands'." (1915b: 285). Furthermore, many of the specimens he examined were derived from collections further afield. For example, material for his 1904b paper on Hydroptilidae were sent to him from Switzerland, Czech Republic and Finland: "For material beyond the results of my own collecting, I am indebted to Professor Klapálek, Dr. Fr. Ris, and especially to Herr A. J. Silfvenius of Helsingfors, from whom I received a most extensive collection of *Hydroptilidae* [Italics in the original] for examination." (1904b: 323).

When in doubt he actively shared specimens and deferred to the experience of his colleagues and friends. For example, he sent specimens to Ris (1907a: 1; 1928b: 112) and Lieftnick (1928b: 112) for confirmation of identifications he had made. In reciprocal manner, he also identified specimens for colleagues, such as for William Evans, who wrote "…(see separate note by Mr K. J. Morton, who identified this [*Limnophilus borealis*, Trichoptera] for me)" (Evans 1899: 54) and to which Morton responded "I am indebted to Mr. William Evans for a fine specimen of *Limnophilus borealis* taken by him near Fenderbridge, Glen Tilt (East Perth)." (1899d: 56). Later, in 1906, Morton also identified specimens for William Lucas, of Kingston-on-Thames: "Some of these specimens, including the Trichoptera, were passed on to Mr. K.J. Morton, who kindly assisted in the identification, especially of these last, of which one-*Adicella meridionalis*, n.sp.-turns out to be new." (Lucas, 1906: 276).

The following list of species was complied directly from his publications and cross referenced against current lists such as De Walt *et al.* 2022, Kluge 2020, Morse 2024, Oswald 2022 and, Paulson *et al.* 2022. Many of the biological type specimens for these species occur in the National Museums of Scotland, as annotated below. All taxa are listed by insect Order, then arranged chronologically by date of publication. Species are listed under the original binomen-combination used by Morton, with the current valid combination provided if this differs. Next is listed the publication in which the name first appeared, followed by specimen details and discussion about the specimens.

Ephemeroptera

The current combinations and synonyms listed in this section are with reference to Kluge (2020).

Baetis carpatica Morton, 1910

Current valid combination unchanged

Entomologist **43**: 321

4♂ 1♀ 1?[dissected] syntypes: Chomiak, Błotek, 18 - 22.v.1909; pinned, plus two slide preparations.

Morton wrote his description (1910c) based on at least one male and one female, although he did not specify how many specimens he saw, all of which were collected by Josef Dziedzielewicz from Chomiak, Eastern Carpathians, a peak in the Flussgebiet of the Prut at 1544 metres in Romania.

The types have been labelled at a later stage with circular coloured bordered "Type" labels (later additions) for holotype (red), allotype (red) and paratypes (yellow) respectively, but they are all thought to be syntypes.

Two single slide preparations were present in the collections. One has on it the male abdomen, which accurately matches Morton's illustration (Plate 4, figure 1). The second slide has a hind wing, not precisely as illustrated (Plate 4, figure 1), since the basal lobe is folded back on itself and the cross-veins are not visible. Based on the length of abdomen on the slide preparation, it could only have originated from one of the two dissected males (this specimen bears the circular holotype label). The wing preparation originated from the same specimen as it is the only one lacking any wings (of the fore wing, only a stump remains).

Palingenia mesopotamica Morton, 1921

Current valid combination (Lestage 1923): *Mortogenesia mesopotamica* (Morton, 1921)

Entomologist **54**: 177

2♂ 1♀ syntypes, 4 Apr. 1918, Amara, Mesopot. P.ARS. [P.A. Buxton]; 1♂ pinned specimen; 1♂ 1♀ in fluid mounted in 55mm square, welled, glass block;

3♂ syntypes: River Tigris at Amara, circling & skimming over the surface of the water, W.E. Evans, 4.4.18; pinned specimens; plus 7♂ 2♀ slide preparations.

Although Morton's (1921b) description is clearly based on a dried [=pinned] male specimen, he did not specifically designate a "type" or holotype specimen. In comparison, he subsequently referred to and listed other material, all of which must be regarded as syntypes.

One pinned male, six males and six females in fluid, all collected by Buxton at the same locality and listed by Morton (1921b) were not located in the collections, and nine slides representing at least one male and one female were located. These are clearly part of this unaccounted for series as one of the male slides matches the slightly damaged right gonostyle illustrated in Morton's (1921b; Plate II figure 3). The seven male slides are: left wing, right wing, head, mouthparts, abdomen, left legs and right legs. The female slides are: abdomen and one set of legs. None of these slides have locality labels, but they have identification and publication labels, all of which are contemporaneous. Three slides have labels stating these represent the figured material for Morton's (1921b) Plate II, figure 1, 3 and 4.

Odonata

McLean (2004) provided a complimentary anecdote in her book "George Forrest, Plant Hunter":

> "When Forrest returned from his sixth expedition, he presented a collection of dragonflies to a fellow Scot, K.J. Morton, a great enthusiast who retired from the British Linen Bank in order to further his studies. He described and published two new species of dragonflies from Forrest's collections, with the splendid under-statement 'Little has been written on dragonflies of Yunnan'" [p.169]

This is followed by Plate 126: " Two dragonflies discovered by George Forrest in Yunnan, and named in 1928 as the type specimens of *Gomphus corniger* (the bigger one) and *Temnogomphus forresti* (the smaller one on the right)".

The current combinations and synonyms listed in this section are with reference to Paulson *et al.* (2022).

Ischnura fountaineae Morton, 1905

Current valid combination unchanged

Entomologist's Monthly Magazine, **41**: 147

1♂ holotype: [Algeria]: Biskra, 2 April 1904, [M. E. Fountaine]; pinned specimen, plus apex of abdomen on slide preparation.

In the original description Morton (1905c) clearly stated that the species was described from the male and that he also examined an associated female specimen, both of which were in the Morton collection. The gender of the original publication was incorrectly expressed as *Ischnura fountainei* Morton, 1905.

An additional male specimen bears the same data and, like the dissected holotype, has "Type" written in Morton's handwriting on the determination label. All three specimens have coloured bordered "Type" labels (later additions) for holotype (red), allotype (red) and paratype (yellow) respectively.

Ischnura forcipata Morton, 1907

Current valid combination unchanged

Transactions of the Entomology Society, London, **55**, 306

1♂ holotype: [India]: Quetta, June 1902, [C. G. Nurse]; pinned specimens.

In the original description Morton (1907c) clearly stated that the species was described from a male, giving the data as "Quetta, June 1902". He mentions no additional specimens, but in the Morton collection there is a dissected specimen from the same locality, from May of the same year. Both specimens bear determination labels in Morton's handwriting, saying "*Ischnura forcipata* Morton n.sp." and both have yellow bordered "Paratype" labels (incorrectly added later). The June specimen is the specimen Morton (1907c) mentioned and is therefore the holotype, while the May specimen clearly does not belong to the type series and has no type status. No associated slide preparation was located.

Ischnura nursei Morton, 1907

Current valid combination unchanged

Transactions of the Entomology Society, London, **55**, 306

1♂ syntype: [India]: Deesa, 1.02; pinned, abdomen broken.

In the original description Morton (1907c) clearly stated that the species was described from a male, giving the data for at least three specimens as "Deesa, October, November & January". He mentions that no female specimens were available to him.

Two specimens were found and both have yellow bordered "Paratype" labels (added later - incorrectly in the case of the syntype). The second specimen is labelled "2.00", which is assumed to be a date and since February 1900 was not mentioned in the description, then the specimen has to be excluded from the syntype series.

Pseudagrion bidentatum Morton, 1907

Current valid combination: *Pseudagrion hypermela*s Selys, 1876

Transactions of the Entomology Society, London, **55**, 308

1♂ holotype: [India]: Deesa, 1 February 1902, [C. G. Nurse]; pinned specimen, head lost, apex of abdomen on small piece of glass mounted on a pin beside the specimen.

In the original description Morton (1907c) clearly stated that the species was described from a single male - there is no doubt about the status of this specimen. The species is now a junior synonym of *Pseudagrion hypermelas* Selys, 1876 (Paulson *et al.* 2022).

Chorismagrion Morton, 1914

Type species *Chorismagrion risi* Morton, 1914, by monotypy.

Transactions of the Entomological Society of London, **62**: 170

Chorismagrion risi Morton, 1914

Current valid combination unchanged

Transactions of the Entomological Society of London, **62**: 170

Described by Morton (1914d) from a single male specimen from Cape York, Queensland, Australia. According to Bridges (1991), the specimen is in the Natural History Museum, London.

Cordulegaster annulatus algirica Morton, 1916

Current valid combination: *Cordulegaster boltonii* (Donovan, 1807)

Transactions of the Royal Entomology Society, London, **63**: 278

1♂ lectotype: Sebdou, Algeria, 9 July 1904 and 29 July 1904, M. E. Fountaine; pinned specimen; abdomen broken at sometime in the past and glued back onto the specimen.

Morton (1916d) described this species as a race of *Cordulegaster annulatus* Latreille, 1805, based on three males from Sebdou, 29.vi and 9.vii.1904 and Tlemcen, 14.vii.1904. The Sebdou 9.vii.1904 specimen was selected as the lectotype by Waterston (1976) and has purple bordered lectotype label added to the pin. The race was then listed by Waterston as a subspecies of *C. boltonii* (Donovan, 1807). Both male paralectotypes are currently in the collection. The species is currently synonymised under *C. boltonii* (see Paulson *et al.* 2022).

Cordulegaster princeps Morton, 1916

Current valid combination unchanged

Transactions of the Royal Entomology Society, London, **63:** 279

1♂ lectotype: Tiflis, Caucus, [M. E. Fountaine]; pinned specimen.

Morton (1916d) described this species as a race of *Cordulegaster annulatus* Latreille, 1805, based on the male and female pair, both of which are present in the National Museums of Scotland collections. The red bordered type and allotype labels are later additions, the assumption being that the male, described first, was the intended primary type. Waterston (1976) designated the figured male specimen as the lectotype. The species is currently given full species status (Bridges 1991, Paulson *et al.* 2022).

Cordulegaster charpentieri (Kolenati, 1846)

1♂ neotype: Lagodekhi, Georgia, U.S.S.R. [Bartenef]; pinned specimen.

Although not a species described by Morton, *Cordulegaster charpentieri* is included here because Waterston (1976) designated this specimen from the Morton collection as the neotype for the missing Kolenati type. Although it has a designated place in the type collection, the specimen is currently missing. The species is currently given full species status (Bridges 1991, Paulson *et al*. 2022) and is the senior synonym of *Cordulegaster insignis nobili*s Morton, 1916 (Paulson *et al*. 2022).

Cordulegaster insignis amasinus Morton, 1916

The current valid combination given by Paulson *et al.* (2022) has the gender of the specific epithet corrected to: *Cordulegaster amasina* Morton, 1916

Transactions of the Royal Entomology Society, London, **63**: 286

1♂ lectotype: Amasia, Asia Minor. [Manissadjian]; pinned specimen.

Morton (1916d) described this species as a race of *Cordulegaster insignis* Schneider, 1845, based on four males and two females from Amasia in Asia Minor. Waterston (1976) designated a male specimen as the lectotype and a female allolectotype, neither of which were found in the National Museums of Scotland Entomology collections, although a designated place in the type collection implies that the specimens are

currently missing. Three male paralectotypes are present in the collections, all with identical data labels. A female specimen, large and labelled "Beruit, Syria" also originating from the Morton collection and bearing his (identical) determination label, has no status as a type.

Cordulegaster insignis nobilis Morton, 1916

Current valid combination: *Cordulegaster insignis nobilis* Morton, 1916 is a junior synonym of *Cordulegaster charpentieri* (Kolenati, 1846).

Transactions of the Royal Entomology Society, London, **63**: 286

1♂ lectotype: Van, Asia Minor, Manissadjian; pinned specimen.

Morton (1916d) described this species as a race of *Cordulegaster insignis* Schneider, 1845, based on two males and two females from Van in Asia Minor. Waterston (1976) designated a male specimen as the lectotype and a female allolectotype, neither of which were found in the National Museums of Scotland Entomology collections, although a designated place in the type collection implies that the specimens are currently missing. One male and one female paralectotypes are present in the collections, the male with a pencil written label "Van" and the female with a handwritten label (in Morton's writing): "Van / Asia Mnior / 5.vii.1912 / Manissadjian".

Furthermore, Waterston (1976) designated a specimen from the Morton collection as the neotype for the missing Kolenati type (see *Cordulegaster charpentieri* (Kolenati, 1846) above). Although it has a designated place in the type collection, the specimen is also currently missing.

Cordulegaster coronatus Morton, 1916

The current valid combination given by Paulson *et al*. (2022) has the gender of the specific epithet corrected to: *Cordulegaster coronata* Morton, 1916

Transactions of the Royal Entomology Society, London, **63**: 287

1♂ lectotype: Kokand, Fergana, [Uzbekistan]; pinned specimen.

Morton (1916d) described this species based on seven males and one female from Kokand, Fergana in Uzbekistan. Waterston (1976) designated a male specimen as the lectotype and a female allolectotype, neither of which were found in the National Museums of Scotland Entomology collections, although a designated place in the type collection implies that the specimens are currently missing. Five male paralectotypes are present in the collections, with identical labels. A sixth specimen (bearing a yellow bordered paratype label) is from Wernyi in Turkmenestan and is therefore not part of the type series, despite that it has Morton's determination label (identical to the other specimens in the type series) on it.

Ischnura evansi Morton, 1919

Current valid combination unchanged

Entomologist's Monthly Magazine, **55**: 146

1♀ syntype: On bushes by side of Tigris just above Amara Mesopotamia, 5.11.17, W.E. Evans; pinned specimen.

2♂ 1♀ syntypes: No. 2, Mashes at Azizah below Amara Mesopotamia, 2.3.18, W.E. Evans; pinned specimens. Morton (1919) stated: "a long series of both sexes from the Azizah Marshes, near Carraba Jedeid, between Masharra and Chahala canals, about

twenty miles from Amara, March 2nd, 1918", but there is no way to know how many specimens there were originally.
1♂ syntype: No. 2, near Amara Mesopotamia, 19.3.18, W.E. Evans; pinned specimen.
1♂ syntype: No. 2, near Amara, Tigris, Mesopotamia, 19.3.18, W.E. Evans; pinned specimen.
1♀ syntype: No. 2, by pool below Amara Mesopotamia, 19.3.18, W.E. Evans; pinned specimen.
1♂ syntype: No. 2, side of pool by Tigris, Amara, Mesopotamia, 22.3.18, W.E. Evans; pinned specimen.
1♂ syntype: R. Tigris below Amara, on herbage, 21.3.18, W.E. Evans; pinned specimen.
1♀ syntype: R. Tigris below Amara, 21.3.18, W.E. Evans; pinned specimen.
1♂ 1♀ syntypes: Amara Palm garden, nr [=near] Masharra, 28.4.18, W.E. Evans; pinned specimens.
With reference to the above eight specimens, Morton (1919) also listed an unspecified number of males and females from similar localities dated 17 March, 2 April and 2 May, which have not been located in the National Museums of Scotland Entomology collections.
2♂ 3♀ syntypes: Amara, R.Tigris, March 1918, P. A. Buxton; pinned specimens, plus apex of abdomen of one male on slide preparation.
2♂ 1♀ syntypes: Amara, R.Tigris, April 1918, P. A. Buxton; pinned specimens. The number of P.A. Buxton specimens from this locality was not specified by Morton (1919).
1♂? 1♀ syntypes: Qurnah, R.Tigris, 17 May 1918, P. A. Buxton; pinned specimens. One specimen is labelled "♂(ten.)" has the apex of the abdomen broken off. It may actually be female, since Morton (1919) mentioned only females from this locality.
A single female specimen listed by Morton (1919) from Hamar Lake, River Euphrates, 18 May 1918 was not located in the National Museums of Scotland Entomology collections.
1♂ syntype: Basrah, open marshes, 11 Feb.1819[sic], P.J. Barraud; pinned specimen. Morton (1919) listed four males and one female from this locality, and gives the year as 1919. The year on the label therefore appears to be miswritten (a specimen of *Ischnura fountainei* Morton, 1905 collected from the same locality by P.J. Barraud bears the year 1918 confirming this). The other three male and the female specimens were not found, but a male and female from Basrah, also collected by Barraud and dated "24.II.19" and "XI.18" are present in the National Museums of Scotland Entomology collections, but should be excluded from the syntypes series on the grounds that Morton (1919) did not mention them.
Morton (1919) did not designate a primary type. A single P.A. Buxton specimen from the River Tigris bears a label "Type. See / prep. for app." The slide preparation clearly matches Morton's figure 1. The presence of this specimen label alone does not fix the name-bearing status to this specimen (ICZN, 2012; Article 72.4.7), thus the whole series should be considered syntypes.

Crocothemis chaldaeorum Morton, 1920
Current valid combination unchanged
Annals and Magazine of Natural History, (9)**5**: 298.

1♂ 1♀ syntypes: Basra, 9 & 10 June 1916, Brewitt-Taylor; pinned specimens.
1♂ syntype: No. 8, side of pool, by Masharra, Amara, Mesopotamia, W.E. Evans, 28.4.18; pinned specimen.
1♀ syntype: No. 8, in garden above, Amara, Mesopotamia, 21.3.18, Lt. W. Edgar Evans; pinned specimen.
1♀ syntype: No. 8, Large marsh full of *Scirpus* etc, by Masharra, Amara, Mesopotamia, W.E. Evans, 15.5.18; pinned specimen.
1♀ syntype: No. 8, In garden, Beit Na'Ama, Basrah, Mesopotamia, 29.3.19, W.E. Evans; pinned specimen.
1♂ syntype: Basra, 29 March 1819 [sic], W.E. Evans; pinned specimens. As mentioned for the previous species, the year on the label is miswritten.
Although Morton (1920a) published this name as a subspecies of *Crocothemis erythraea* (Brullé, 1832), it was later elevated to species rank, listed as such by both Bridges (1991) and by Paulson *et al.* (2022).
A further four males and six females from Basra, collected by Brewitt-Taylor and six females collected by Evans, listed by Morton (1920a), were not located in the National Museums of Scotland Entomology collections. None of the specimens are dissected, but two slides with male genitalia from Basra, collected by Evans and Brewitt-Taylor are present in the collections, clearly representing two of these unaccounted for specimens. They are labelled: Figured specimens Pl XIV fig. 1 and fig. 2 respectively and clearly match the figures.
There are two females from Beit Na'Ama (Basrah) collected by Evans on 11 April 1919 in the collection, which were not listed by Morton (1920a), but which must be excluded from the syntype series.

Agrion syriacum Morton, 1924

Current valid combination: *Coenagrion syriacum* (Morton, 1924)
Transactions of the Entomological Society of London, **72**: 32
1♂ syntype: Zirkon Jacob Coastal Zone, Palestine, 17.v.21, P.A. Buxton; pinned specimen.
3♂ 1♀ syntypes: Lake Huleh, Palestine, 24.May 1922, Buxton; pinned specimens.
2♂ syntypes: Beirut, Syria, [Rolle]; pinned specimens.
1♂ 1♀ syntypes: Palestine, [Staudinger]; pinned specimens.
Morton (1924a) also mentioned a specimen from Lake Huleh, collected by Buxton on 13 May 1921, but a specimen with this dare could not be located in the National Museums of Scotland Entomology collections. One male from the same locality has the label written Palestine, Lake Huleh and bears a purple bordered circular lectotype label, added by Waterston in 1967. This lectotypification appears to have not been published and is invalid. The female from this locality bears a similar "lectoallotype" label and all the rest have circular yellow bordered paratype (by which Waterston surely intended paralectotypes) labels.

Coryphagrion Morton, 1924

Type species *Coryphagrion grandis* Morton, 1924, by monotypy.
Entomologist, **57**: 217

Coryphagrion grandis Morton, 1924

Current valid combination unchanged

Entomologist, **57**: 218

Morton (1924b) mentioned only a single female from Tanzania, Moa, 6 January 1924, Mr W. Feather. According to Bridges (1991) this specimen is in the Natural History Museum, London.

Orthetrum mundulum Morton, 1928

Current valid combination: *Orthetrum mundulum* Morton, 1928 is a junior synonym of *Orthetrum abbotti* Calvert, 1892.

Entomologist's Monthly Magazine, **64**: 121

1♂ holotype: French Guinea, Kouroussa, 17 Dec. 1926, M.E. Fountaine; pinned specimen.

Morton (1928a) described this species on this single type specimen.

Temnogomphus forresti Morton, 1928

Current valid combination: *Anisogomphus forresti* (Morton, 1928)

Transactions of the Entomological Society of London, **76**: 113

2♂ syntypes: Yunnan, Mekong Valley, Mekong Salween Divide, lat. 26°-29°, Geo. Forrest leg.; pinned specimens.

Morton (1928b) only mentioned a single male specimen; there are, however, two male specimens with identical data. One has type written on the determination label and this specimen has a red bordered circular holotype label added to it. Similarly, the other specimen is marked paratype, with a yellow bordered label. Both specimens should perhaps be considered as syntypes as it is likely that these round type labels are subsequent curatorial additions.

Gomphus corniger Morton, 1928

Current valid combination: *Asiagomphus corniger* (Morton, 1928).

Transactions of the Entomological Society of London, **76**: 115

1♂ 1♀ syntypes: Yunnan, Mekong Valley, Mekong Salween Divide, lat. 26°-29°, Geo. Forrest leg.; pinned, laterally squashed, specimens.

Morton (1928b) mentioned a single male and two female specimens, but the second female specimen is not in the National Museums of Scotland Entomology collections. The male has "type" written on the determination label and this specimen has a red bordered circular holotype label added to it, while the female has a yellow bordered paratype label. Both specimens should be considered as syntypes, since Morton (1928b) mentioned both sexes in the description and did not specify a particular specimen as *the* type.

Mesogomphus sinaiticus Morton, 1929

Current valid combination: *Paragomphus sinaiticus* (Morton, 1929).

Entomologist's Monthly Magazine, **65**: 60

1♂ syntype: Sinai peninsula, Wadi Fieran, 12 July re. col. for Dr. Bodenheimer; pinned specimen.

1♀ syntype: Wadi Isle, 5.vii; Sinai peninsula, Wadi Isle, 5 July from Dr. Bodenheimer; pinned specimen, headless and with broken wing and abdomen.

Morton (1929b) mentioned single male and female specimens. Both have type written on the determination label and the male has a red bordered circular holotype label added to it, while the female has a yellow bordered paratype label. Both specimens should be considered as syntypes, since Morton (1929b) mentioned both sexes in the description and did not specify a particular specimen as *the* type.

Plecoptera

In his 1894d paper, Morton did not designate type specimens, neither did he list the locations from which the series examined was drawn. He did state that, besides his own material, he examined material from the collections of:

King, Mr James J.F.X. (Glasgow, Scotland) - British material

Klapálek, Professor "Franz" Frantisek (Prague, Czech Republic) - many useful specimens

McLachlan, Mr Robert (Lewisham, England) - several hundred Palaearctic "Nemourae", including Eaton specimens from Portugal and Zeller specimens from Carinthia, Austria

Ris, Dr "Fritz" Friedrich (Rheinau, Switzerland) - "his whole collection of Swiss Nemourae, an extensive series in perfect condition

Sahlberg, Dr Johan Reinhold (Helsinki; Finland) - 300-400 boreal and arctic specimens belonging to the Helsinki Zoological Museum.

He cross referenced the material against Pictet types from Genève and Stephens types from London. In the introduction to the 1894d paper, Morton stated that "These notes must be regarded as in all respects preliminary, …"[p.557], perhaps his own reflection of the fact that his was not (at that stage) a professional interest in entomology. Despite this, and perhaps because he expanded the paper from a discussion of British species to the inclusion of Palaearctic species, he published the following new names. To my knowledge lectotypes have not been selected for any of the species designated in 1894, and should not be designated in a paper such as this (ICZN 2012: Recommendation 74G). The collection also contains a large number of slides, undated (or at least without year) with MEM handwritten across one corner. These initials are taken to be those of Martin E. Mosely, with whom Morton exchanged many specimens. To my knowledge none of the slides so marked are preparations of types and those which do have the year written on them, post date Morton's descriptions.

Likewise, in later papers, type designation is not only imprecise, but the specimens listed as syntype series cannot be assumed to be the total series, because a large amount of unsorted material remains, some of it papered in a box containing 10 cigar boxes containing papered specimens neatly preserved in paper-folds. In addition, Morton exchanged his material widely, thereby dispersing the syntypes and some of these may have returned to him from correspondents such as Mosely.

The current combinations and synonyms listed in this section are with reference to De Walt *et al*. (2022).

Nemoura avicularis Morton, 1894

Current valid combination unchanged

Transactions of the Entomological Society of London, **42**: 562

Besides specimens in his own collection, Morton (1894d) mentions the collections of King, McLachlan and Helsinki, but is very unclear about locality. Consequently, no specimens were found in the Morton collection to which syntype status could be attached. Unlabelled King specimens have Morton's determination, but no locality nor

date data, and therefore cannot be assumed to be types. Among the slides there are admittedly more undated specimens, but none of the slides under this species are marked "sp.n." or "Type", so it cannot be definitively stated that any of these are syntypes.

Nemoura dubitans Morton, 1894

Current valid combination unchanged

Transactions of the Entomological Society of London, **42**: 565

1♂ syntype: Oerlikon, 4.[18]89, *lateralis*, Ris, *N. dubitans* Morton; pinned specimen (NMS-10016931).

1♀ syntype: Oerlikon, 24.5.[18]89, *N. dubitans* Morton; pinned specimen (NMS-10016932).

Morton (1894d) states that the specimens he examined (syntypes) were all from the Ris collection, labelled "Oerlikon, April". Morton may well have returned specimens to Ris; such specimens would also be a part of the syntype series.

Nemoura praecox Morton, 1894

Current valid combination: *Protonemura praecox* (Morton, 1894) - see Ris (1902).

Transactions of the Entomological Society of London, **42**: 566

Morton (1894d) mentions the collections of King (Perthshire rivers in April), his own (Clyde and tributaries), and Cooke specimens in the McLachlan collection (from Manchester). No pinned specimens were found in the Morton collection to which syntype status could be attached, but some may linger in the considerable quantity of undetermined material.

Among the slides there are specimens dated later than the description (which are clearly therefore not types) and a few undated specimens, but in nearly all cases of the latter, the generic name *Protonemura* was used suggesting identification or labelling after Morton's description and Ris' 1902 re-evaluation. In the instance of *Protonemura corsicana* (Morton, 1930c), Morton clearly re-labelled his slides with the modern combination, having originally described this species as *Nemura corsicana* Morton, 1930, so it is not clear why this species was not treated likewise.

Despite this, no slides have "sp.n." or the word "Type" written after his name, which tended to be his usual habit for his first mentioned specimen, but two do have "A" and "B" respectively (although they are dated [19]05 and therefore cannot be syntypes). All other candidates are undated and therefore subject to some scepticism.

There is a single slide labelled *Nemoura praecox* (not in Morton's handwriting), with a blue printed frame around the edge (which is most unlike the rest of Morton's slide labels) and since this slide is without data of any other form, it cannot be certainly recognised as a type.

Nemoura borealis Morton, 1894

Current valid combination: *Amphinemura borealis* (Morton, 1894) - see Ris (1902).

Transactions of the Entomological Society of London, **42**: 571

Morton (1894d) mentions "I have seen it from several Finnish localities, and I believe Mr McLachlan has it from Lapland"[p. 572], from which I presume the syntypes to either be among the undetermined material, in the McLachlan collection or in Helsinki. There are slide preparations in Morton's collection from Norway and Finland, but no

type status can be linked to these, as they were neither mentioned specifically by Morton, nor do they bear dates.

In his 1896e paper, Morton also did not designate type specimens, but he did list the locations from which the series examined was drawn. His collection contains numerous slides, many of which are whole mounts of the entire specimen. The labelling of his slides is, as already mentioned, often not very precise in these early years of his career. As a consequence it is very difficult to associate type status to particular slides. To my knowledge lectotypes have not been selected for any of the 1896e species, and should not be designated in a paper such as this (ICZN 2012: Recommendation 74G).

Nemoura sahlbergi Morton, 1896

Current valid combination unchanged

Transactions of the Entomological Society of London, **44**: 56

1♂ (NMS-10016933) 1♀ (NMS-10016934) syntypes: Utsjoki, J. Sahlb., 18(♂) [♀ is without number]; pinned specimens.

Morton (1896e) mentioned "I have seen a number of examples from Utsjoki, in the region of Lake Enara, Finnish Lapland, taken by Dr. John Sahlberg, to whom I have pleasure in dedicating the species."[p.56]. Two specimens were in the Morton collection, so we have to assume that the remainder were returned to Sahlberg.

Taeniopteryx risi Morton, 1896

Current valid combination: *Brachyptera risi* (Morton, 1896).

Transactions of the Entomological Society of London, **44**: 56

1♂ syntype: Zurichberg, Switzerland, iv.1889, Ris; slide preparation.

1♂ syntype: Tweed, June, 2.5.[18]89 (Morton); pinned specimen (NMS-10016956).

2♂ (NMS-10016958, NMS-10016960) 5♀ (NMS-10016955, NMS-10016959, NMS-10016961, NMS-10016962, NMS-10016963) syntypes: Rannoch, June, [18]89 (King); pinned specimens.

2♂ (NMS-10016953, NMS-10016954) 1♀ (NMS-10016957) syntypes: Rowardennan, Loch Lomand, 6.5.[18]95; pinned specimens.

Morton (1896e) mentioned a very wide range of localities from the collections of Ris, McLachlan, King and himself. The above specimens from the Morton and King collections agree with the data. In addition there is a slide labelled "Dr Ris 4" and "…Zurichberg, Switzerland, iv.1889, D^{r} F. Ris". This correlates to the first locality mentioned by Morton in his discussion of the species, although the distinction "sp.n." or "Type" is lacking.

There are also numerous Morton specimens matching localities (which was very broadly defined by Morton), but without date. There are two slides with "Arran No 1" and "Arran No 2" in the same label style as the previously mentioned "Dr Ris 4" label. These have all been excluded from the syntype series on the grounds that there is insufficient convincing evidence of type status. Three further slides have no date, two of which have the same mounting style the three slides just mentioned, not often employed by Morton, of setting the cover-slip on top of two cut pins. This suggests contemporaneous setting, but again nothing to suggest type status.

There are slide specimens from Mosely in the Morton collection, from Glen Lochay, are dated June 1896. Morton's 1896e paper was, however, published in March and therefore these specimens must clearly be excluded from the syntype series.

Capnia atra Morton, 1896

Current valid combination unchanged

Transactions of the Entomological Society of London, **44**: 58

In this instance Morton (1896e) was more specific about the material he examined and from which the description was derived. Only one male was certainly included, that being from Sahlberg's collection from Finnish Lapland. He also had material from King's and his own collections, in plenty from the shores of Loch Rannoch (Scotland) in April 1895. He included three females from Braemar, collected by Buchanan White, but was uncertain about the Swiss material (a male - female pair) in McLachlan's collection and stated that further Swiss Material is desirable.

No specimens were found in the Morton collection to which syntype status could definitely be attached, although among the slides there are eight slides with potential, one of which is dated 11-13 April (but no year) from Rannoch. Another slide compares *C. nigra* with *C. atra* and bears a label: "Supra-anal lobes expanded (*atra* ♂) lateral view". Another two slides (from Rannoch) have similar labels for dorsal and lateral views and three bear the letters "prep B" "X" and "Y". Finally, there is a slide from Finland from John Sahlberg. It could be construed that these were Morton's working specimens at the time of description, but again, in the absence of "sp.n." or "Type", there is nothing to confirm type status.

Capnia affinis Morton, 1896

Current valid combination unchanged

Transactions of the Entomological Society of London, **44**: 60

1♂ (NMS-10016937), 1♀ (NMS-10016938) & 1?♀ (NMS-10016939, the wings obscure the end of the abdomen, which is adhered to the card) syntypes: Russia: Blagowik, Amur, 22 April. Carded and mounted on pins, with all the wings of the first specimen and one pair of the second mounted on a separate card. In the case of the male, the card has been cut and the whole specimen less the wings, mounted on slide and marked TYPE.

Morton (1896e) specifically stated that three males and a number of female specimens are carded, received from McLachlan and collected from Blagowik, Amurland, 22 April. Clearly the specimens present are part of that syntype series. The slide of the apex of the female abdomen is associated with the series (and with that particular specimen), by virtue of the fact that only this one specimen lacks the apex of the abdomen and there is only one slide, although that slide bears no data other than "*Capnia affinis* ♀".

Dictyopteryx dovrensis Morton, 1901

This species is a junior synonym of *Arcynopteryx dichroa* (McLachlan, 1872).

Although Morton (1901e) did mention this name, he did so in the context of two teneral, micropterous female specimens, which he recognised were possible variations within the species *Dictyopteryx compacta* McLachlan, 1872, now recognised as *Skwala compacta* (McLachlan, 1872):

> "I was inclined to describe the insects as new under the name *dovrensis*. Further consideration of the subject leads me to doubt the prudence of this course; and I now believe that they represent a local form of …[*Dictyopteryx compacta* McLachlan, 1872]" [p.146]

He clearly had no intention of his discussion representing a new species at that time and concluded with the comment:

> "Should this species really prove different from *compacta*, the name *dovrensis* might be retained for it." [p.147]

Neither of the specimens Morton mentioned appear to be in the collection.

Capnia oklandi Morton, 1923

This taxon is considered a junior synonym of *Capnia zaicevi* Klapalek, 1914:
(see also Zhiltzova 1964; Zhiltzova 1966, Boumans 2011).
Report of the scientific results of the Norwegian expedition to Novaya Zemlya 1921, **16**: 5

No specimens were found in the National Museums of Scotland Entomology collections representing this species - Boumans (2011) reports seven specimens (of which four are labelled TYPES) to be in The Natural History Museum London. The material was listed by Morton (1923b) as Novaya Zemlya: four females (No. 130) Sukhoi Noss July 26th and 3 females (No. 174) Lake Trehorningen, 57 m. above sea level, Mashigin Fjord, August 3rd. It is possible that Morton returned the material to Mr. Fridthjof Økland, Norway. The original spelling was *Capnia oklandi* Morton, 1923: 5, although De Walt *et al.* (2022) list it as *oeklandi*.

Leuctra moselyi Morton, 1929

Current valid combination unchanged
Entomologist's Monthly Magazine, **65**: 128-134
2♂ (NMS-10016940, NMS-10016941) 2♀ (NMS-10016942, NMS-10016943) syntypes: Rannoch, 1-15.vii.1903; pinned specimens; male abdomen on slide preparation.
3♂ (NMS-10016944, NMS-10016945, NMS-10016946) syntypes: Killin, 31.vii.[no year]; pinned specimens; 2 male abdomens on slide preparation and one on acetate with pinned specimen.
5♂ 2♀ syntypes: Switzerland, Klosters, 12-30.Aug.1927; slide preparations
Morton (1929c) gave no specific details about the specimens he examined, stating only:

> "At small hill steams from Inverness to Merioneth in July and August" [p.128]
> and
> "This species was found by Mosely abundantly in Switzerland" [p.129].
> Preceding this, he stated:
> "The species which has hitherto stood in our lists as *Leuctra albida* Kempny, and which was so determined by Kempny himself from Scottish examples, is not the true *albida* of Kempny. It is closely allied, but quite distinct, and I have long doubted Kempny's determination. Mosely's Swiss material of both serves abundantly to prove their distinctness. I have pleasure in naming the new species *Leuctra moselyi* in recognition of the excellent work of my

> friend, whose zeal and material were invaluable in our attempt to clear up doubtful points connected with the genus." [p.128]

There are no specimens marked "type" and it must therefore be assumed that all specimens from these localities, prior to 1929 are candidate syntypes. I therefore include Morton's specimens from Rannoch and Killin (some which are labelled with the earlier name *albida* and others of which have "*Leuctra moselyi* Morton see prep.") and Mosely's material from Switzerland in 1927, as listed above.

Leuctra cincta Morton, 1929

This species is a junior synonym of *Leuctra aurita* Navás, 1919.

Entomologist's Monthly Magazine, **65**: 128-134

1♂ syntype: Orlice J. Bohemia, 18.viii.1898, Klapálek; slide preparation.

1♂ syntype: Libice, 22.viii.[19]01, *cingulata*, Klapálek; pinned specimen (NMS-10016947).

1♂ (NMS-10016950) 1? (NMS-10016952, no abdomen) syntypes: Libice, 23.viii.[19]01, *cingulata*, Klapálek; pinned specimens, both labelled "received as *mortoni*"; ♂ abdomen on slide preparation not located.

2♂ (NMS-10016948, NMS-10016951) 1? (NMS-10016950, no abdomen) syntypes: Jáehymov, 31.viii.[19]02, c*ingulata*, Klapálek; pinned specimen, abdomen on slide preparation not located.

Morton (1929c) proposed this name to distinguish the species misidentified by Klapálek under the name *L. cingulata* Kempny. He compared the specimen mentioned with paratypes of *L. cingulata* Kempny and, later, material of both from Mosely. The six pinned syntypes in Morton's collection were all over the label: " *Leuctra cincta* Morton (*cingulata* Klap. *nec* Kempny)". The slide has three labels, as follows, all in Morton's handwritting:

> "Received as *L. mortoni* in part, not *L. mortoni* of Kempny. Probably the *cingulata* of Klapálek in Süsswasserfauna Deutschlands"
>
> "*Leuctra cincta* Morton TYPE E.M.Mag. 1.vi.1929"
>
> "*Leuctra* ♂ *mortoni* Kempny [but see above] Orlice J. Bohemia, 18-viii.1898. KLAPÁLEK"

Two further slide preparations, a male and female, from Mosely are more difficult to assess, but I consider that they should be excluded from the syntype series. These specimens were also from Klosters 12-30 August 1927. Each bears the determination labels *Leuctra cincta* Morton and *L. cingulata* by Mosely. Later labels by Morton state:

> "This is a specimen of my *Leuctra cinta* K. Morton"

suggesting that Morton only saw these slides after his description was published, despite that they clearly originated from the same sample of specimens collected by Mosely in Klosters.

Chloroperla insularis Morton, 1930

Current valid combination: *Isoperla insularis* (Morton, 1930).

Entomologist's Monthly Magazine, **66**: 77

Morton (1930b) mentioned a single male and several female specimens, from Corte and Vizzavona, collected in Corsica by Martin Mosely between 21 May and 8 June 1928. No specimens have yet been found to match these data.

Isopteryx hamulata Morton, 1930

This species is a junior synonym of *Xanthoperla apicalis* (Newman, 1836).
Entomologist's Monthly Magazine, **66**: 78
1♂ syntype: Corsica, Cotre, 21.v.-8.vi.1928, M.E. Mosely; slide preparation.
In the description of this species, Morton (1930b) mentioned male and female characters, but did not state how many specimens he examined. The material was from Corte and Vizzavona, collected in Corsica by Martin Mosely between 21 May and 8 June 1928, but the female has not been located.

Leuctra fraterna Morton, 1930

Current valid combination unchanged
Entomologist's Monthly Magazine, **66**: 79
2♂ and 3♀ syntypes: Corsica, Vizzavona, 4 June 1928, M.E. Mosely; slide preparations.
In the description and figures of this species, Morton (1930b) mentioned male and female characters, but did not state how many specimens he examined. The material was from Vizzavona, collected in Corsica by Martin Mosely between 21 May and 8 June 1928; five specimens on slides have been located.

Nemura corsicana Morton, 1930

Current valid combination: *Protonemura corsicana* (Morton, 1930).
Entomologist's Monthly Magazine, **66**: 80
3♂ and 3♀ syntypes: Corsica, Cotre, 21.v.-8.vi.1928, M.E. Mosely; slide preparations.
In the description of this species, Morton (1930b) mentioned male and female characters, but did not state how many specimens he examined. The material was from Corte and Vizzavona, collected in Corsica by Martin Mosely between 21 May and 8 June 1928; six specimens, on slide, have been located, all labelled with the current combination, suggesting that Morton re-labelled his slides at a later stage.

Neuroptera

The Neuropterida types held in the National Museums of Scotland Entomology collections were comprehensively discussed by Whittington (2005). As a consequence, only the names and brief bibliographic details are listed here. The current combinations and synonyms listed in this section are with reference to Oswald (2022).

Hemerobius eatoni Morton, 1906

Current valid combination unchanged
Entomologist's Monthly Magazine, **42**: 147
3♂ and 2♀ syntypes, pinned.

Nelees mesopotamiae Morton, 1921

Current valid combination: *Graonus mesopotamiae* (Morton, 1921).
Entomologist's Monthly Magazine, **57**: 214.
♀ holotype, pinned.

Gepus buxtoni Morton, 1921

Current valid combination unchanged
Entomologist's Monthly Magazine, **57**: 217.
♀ holotype, pinned.

Boriomyia persica (Morton, 1921)

This species is a junior synonym of *Wesmaelius* (*Kimminsia*) *navasi* (Andréu, 1911).

Entomologist's Monthly Magazine, **27**: 221

♂ holotype, pinned.

Chrysopa tigridis Morton, 1921

Current valid combination: *Suarius tigridis* (Morton, 1921)

Entomologist's Monthly Magazine, **57**: 220

♂ holotype, pinned.

Macronemurus delicatulus Morton, 1926

Current valid combination unchanged

Transactions of the Entomological Society of London, **73**: 409.

2♂ and 2♀ syntypes, pinned.

Kimminsia killingtoni Morton, in Fraser 1942

This species is a junior synonym of *Wesmaelius* (*Kimminsia*) *malladai* (Navás, 1925) see Kimmins (1963).

Entomologist's Monthly Magazine, **78**: 80-86.

Syntype series: the type series was loosely defined by Morton (in Fraser 1942) in reference to a series of specimens he had gathered under the name *Kimminsia mortoni* (McLachlan, 1899):

Trichoptera

The current combinations and synonyms listed in this section are with reference to Morse (2024).

Hydroptila stellifera Morton, 1893

Current valid combination unchanged

Transactions of the Entomological Society of London, **41**: 75

1♂ syntype: Italy: Apennino Pistojese, 27 July 1882, A.E. Eaton; pinned specimen lacking abdomen, which is on slide.

Morton's (1893e) original description included 5 males and 5 females collected by A.E. Eaton, but the other nine specimens are not in the Morton cabinet.

Hydroptila fortunata Morton, 1893

Current valid combination unchanged

Transactions of the Entomological Society of London, **41**: 76

1♂ syntype: Grand Canary, 11 December, A.E. Eaton; mounted between microscope cover slips (in the pinned collection).

The original description (Morton 1893e) included 5 males and several mutilated specimens including a female, but only this one male is in the Morton collection.

1♂ syntype: Teneriffe, 25 December 1880, A.E. Eaton; pinned specimen.

The original description included 13 examples, but only this one is in the Morton collection.

1♂ syntype: Madeira, 26 November 1880, A.E. Eaton; pinned specimen, with right hand wings mounted between microscope cover slips (on the same pin).

The original description gave the date as 20 November, but this specimen from the Morton collection is dated 26 November; nevertheless, this seems an easy typographical error and I consider this specimen to be the one mentioned by Morton (1893e). D.E. Kimmins designated a Lectotype, revalidated the species and confirmed it as a member of the genus *Hydroptila* (Kimmins 1957), but no lectotype labels are present in the collection

Hydroptila uncinata Morton, 1893

Current valid combination unchanged

Transactions of the Entomological Society of London, **41**: 77

1♂ syntype: Italy: Apennino Pistojese, 5 August 1882, A.E. Eaton; pinned specimen, genitalia mounted between microscope cover slips (on the same pin).

Morton's (1893e) original description included 3 males two from 26 July and this one from 5 August collected by A.E. Eaton, but the two July specimens are not in the Morton cabinet.

Oxyethira ecornuta Morton, 1893

Current valid combination unchanged

Transactions of the Entomological Society of London, **41**: 79

3♂ "types" are present from Finland: Teisko, [no date], J. Sahlberg; 1 pinned specimen, abdomen mounted between microscope cover slips (on the same pin); 2 on slide preparation. Morse (2024) lists the following information: "Lectotype--male; [FINLAND:] Teisko, J Sahlb, 42; two glass slide preparations; deposited in the Zoological Museum, Helsinki, Finland (J Olah & T Ito, 2013, Opusc Zool Budapest 44(1): 33)"

The original description by Morton (1893e) included 3 males and one female all with the same data, but only one male is pinned in the Morton cabinet with this data. The other two males listed here are on one slide, labelled with the binomen, the authority and "Finland"; one of these is likely a female, but I have not had opportunity to check the specimens.

Oxyethira falcata Morton, 1893

Current valid combination unchanged

Transactions of the Entomological Society of London, **41**: 80

2♂ syntypes: Scotland: Redmyre Loch, Carluke, August 1892, K.A. Morton; 1 pinned, 1 with the whole specimen is mounted between microscope cover slips (in the pinned collection).

The original description (Morton 1893e) also included specimens from England: Woodbury and Ottery St. Mary, Devon in July collected by A.E. Eaton, and from Ireland: Knappagh Laogh and Cushinsheen Laogh near Westport, collected by J.J. King, but only the two males from Carluke were in the Morton cabinet.

Asynarchus productus Morton, 1896

Current valid combination: *Lenarchus productus* (Morton, 1896).

Meddelanden af Societas pro Fauna et Flora Fennica, **21**: 109.

1♂ holotype: Finland: Utsjoki, Mandojärvi, end June 1894, J. Sahlberg; pinned specimen, with antennae broken.

In the original description Morton (1896a) clearly stated that the species is described from one of two specimens collected by Sahlberg, which was added to Morton's collection. The determination label bears the word "Type". The other specimen (not a type) was certainly retained by Sahlberg. Morton submitted his manuscript to the journal *Meddelanden af Societas pro Fauna et Flora Fennica* in January 1895, where it was published in Volume 21 of the journal corresponding to the year 1894-1895. *Asynarchus productus* Morton, 1896 was listed by McLachlan (1897: p. 553) as a publication in 1896, along with Morton 1896c and f, thereby fixing the date of the species authority. The paper was reprinted in 1896 as *Öfvertryck ur Meddelanden af Societas pro Fauna et Flora Fennica*. 21: 109–111.

Hydroptila campanulata Morton, 1896

Current valid combination unchanged

Entomologist's Monthly Magazine, **32**: 103

1♂ syntype: Algeria: Constantine, 3 October 1893, A.E. Eaton; slide preparation only.

Morton (1896b) described this species from many examples from the river at Biskra, 29 May 1893 and 8 February 1894; from Sources d'Oumache, near Biskra, 4 July 1893; and from Constantine, 3 October 1893. There is only the single specimen matching these data in Morton's slide collection. The material was sent to Morton by McLachlan, and the remainder of it is presumed returned.

Hydroptila sylvestris Morton, 1898

Current valid combination unchanged

Entomologist's Monthly Magazine, **34**: 107

1♂ syntype: no data; the whole specimen is mounted between microscope cover slips (in the pinned collection).

Morton (1898b) described this species from at least a male and female pair from the shores of Loch Morlich, Glen More, Inverness-shire, 1064ft, by Morton and King during July 1896. There is a single specimen male matching the illustrations in Morton's 1898 paper (*H. sylvestris* figure 3), but lacking data. Despite this lack of data, I suggest that this specimen is a syntype.

Hydroptila serrata Morton, 1898

Current valid combination unchanged

Entomologist's Monthly Magazine, **34**: 108

1♂ syntype: Bône, 7.iv.96.B., Algeria, Eaton; the abdomen and the right hand side pair of wings are mounted (separately) between microscope cover slips (in the pinned collection) on the same pin as what remains of the dried specimen.

Morton (1898b) described this species from four examples (males and females are mentioned in the description). Eaton collected the specimens from Bône, Algeria, on 7.iv.1896. The data matches, but the mounted abdomen does not quite match the illustrations in Morton's 1898 paper (*H. serrata* figure 1-4), which may have been produced from a specimen no longer in the Morton collection.

The following species described by Morton (1900e) in *Transactions of the Entomological Society of London* 48, originated from the McLachlan collection. The possibility that specimens were returned to the McLachlan collection should not be overlooked.

Rhyacophila lanceolata Morton, 1900

Current valid combination: *Himalopsyche lanceolata* (Morton, 1900)

Transactions of the Entomological Society of London, **48**: 2

2♂ 1♀ syntypes: India: Khasia, Nat. Coll.; pinned.

Morton (1900e) did not specify how many specimens he examined, only that this species was evidently common and that he included two (♂♀) from Phadong, Sikkim. Of the three specimens present in the Morton collection, one male has the word "TYPE" written on the label.

Rhyacophila japonica Morton, 1900

Current valid combination: *Himalopsyche japonica* (Morton, 1900)

Transactions of the Entomological Society of London, **48**: 3

The description (Morton 1900e) was based on a specimen of each sex, from Japan, collected by Pryer. Neither of these specimens was in the Morton collection.

Rhyacophila tecta Morton, 1900

Current valid combination unchanged

Transactions of the Entomological Society of London, **48**: 4

The description (Morton 1900e) was based on a single male specimen, from Khasia Hills (India) and was not found in the Morton collection.

Rhyacophila articulata Morton, 1900

Current valid combination unchanged

Transactions of the Entomological Society of London, **48**: 5

1♂ syntype: Japan, Pryer; pinned.

The description (Morton 1900e) was based on two male specimens, from Japan, collected by Pryer. One specimen was in the Morton collection, with "TYPE" written on the label.

Rhyacophila curvata Morton, 1900

Current valid combination unchanged

Transactions of the Entomological Society of London, **48**: 5

3♂ 2♀ syntypes: India: Khasia, Nat. Coll.; pinned.

The description (Morton 1900e) was based on "numerous examples", from Khasia Hills (India). Of the five specimens present in the Morton collection, one male has the word "TYPE" written on the label and one female lacks the determination label altogether.

Rhyacophila scissa Morton, 1900

Current valid combination unchanged

Transactions of the Entomological Society of London, **48**: 5

1♂ syntype: India: Khasia, Nat. Coll.; pinned.

The description (Morton 1900e) was based on two males & one female, from Khasia Hills (India). The single male specimen present in the Morton collection has the word "TYPE" written on the label.

Rhyacophila anatina, Morton, 1900

Current valid combination unchanged

Transactions of the Entomological Society of London, **48**: 6
1♂ syntype: India: Khasia, Nat. Coll.; pinned.
The description (Morton 1900e) was based on an unstated number of males & females, from Khasia Hills (India). The single male specimen present in the Morton collection has the word "TYPE" written on the label.

Rhyacophila naviculata Morton, 1900
Current valid combination unchanged
Transactions of the Entomological Society of London, **48**: 6
The description (Morton 1900e) was based on a single male, from Trichinopoly (India) collected by Castets. The single male specimen was not present in the Morton collection.

Rhyacophila inconspicua Morton, 1900
Current valid combination unchanged
Transactions of the Entomological Society of London, **48**: 6
The description (Morton 1900e) was based on a single male, from Khasia Hills (India). This single male specimen was not present in the Morton collection.

Crunoecia kempnyi Morton, 1901
Current valid combination unchanged
Entomologist's Monthly Magazine, **37**: 69
The description (Morton 1901a) was based on an unspecified number of males & females, from Gutenstein, Austria collected by Kempny. No specimens conforming to this data were found in the Morton collection.

Ithytrichia violacea Morton, 1902
Current valid combination: *Ugandatrichia violacea* (Morton, 1902)
Entomologist's Monthly Magazine, **38**: 283.
1♂ syntype: [no data]; slide preparations only; one slide with head and two legs, one with male abdomen.
The types, one male collected from Khasias, two males and a female from Cherra Punjiwere (two of which were dated vii-[18]94). One specimen was broken (and by implication, retained by Morton), and the two whole specimens were clearly stated by Morton (1902e) to be in the McLachlan collection. The slides, lacking data labels are evidently these broken remains of the first mentioned specimen. The dissected male abdomen matches text figure A & B in Morton (1902).

Leptocerus excisa Morton, 1904
Current valid combination: *Ceraclea excisa* (Morton, 1904)
Meddelanden af Societas pro Fauna et Flora Fennica, **30**: 67
1♂ 1♀ syntypes: Ekenäs, Finland, Silfvenius, [no date]; slide preparations only.
Described from numerous specimens, two of which were in the Morton collection and, although these are undated, they do match the illustrations (text figures 2 & 5) in Morton (1904a).

Hydroptila cintrana Morton, 1904

Current valid combination unchanged

Transactions of the Entomological Society of London, **52**: 323

1♂ lectotype: Cintra, Portugal A. E. Eaton; slide preparation only; designated by M. Dakki.

The description (Morton 1904b) was based on an unspecified number of specimens (only male features were specifically referred to), collected in Cintra, Portugal, 26 & 27 April, by A. E. Eaton. A single slide preparation was present in the Morton collection, matching this data and designated a lectotype in 1982, by M. Dakki, *Bulletin de l' Institute Scientifique, Rabat* **6**: 143.

Oxyethira mirabilis Morton, 1904

Current valid combination unchanged

Transactions of the Entomological Society of London, **52**: 323

1♂ holotype: Scotland, Rannoch, July 1903, K.J. Morton; slide preparation only.

Morton's description (904b) clearly states that only a single specimen was examined, and that the whole insect was prepared on a slide.

This specimen was found in the slide collection.

The following species described by Morton in 1905(b) in *Bulletin of the New York State Museum* **86**, originated from the Professor C. Betten in Ithaca, New York. The possibility that specimens were returned to him should not be overlooked.

Hydroptila consimilis Morton, 1905

Current valid combination unchanged

Bulletin of the New York State Museum, **86**: 65

1♂ syntype: no data; slide preparation only.

Morton's (1905b) description does not state how many specimens were examined, but only that they came from Ithaca, N.Y. and Belfrage, Texas. One specimen was found in the slide collection, although the label has no data (only the binomen) and slide bears a circular, red bordered "Type" label, which is a later addition and cannot be taken as confirmation of the status. The slide clearly matches Morton's illustration (Plate 13, figures 1 & 2), as the aedeagus is slewed sideways.

Hydroptila delineata Morton, 1905

Current valid combination unchanged

Bulletin of the New York State Museum, **86**: 66

1♂ syntype: no data; slide preparation only.

Morton's (1905b) description does not state how many specimens were examined and gives no indication of locality. One specimen was found in the slide collection, although the label has no data (only the binomen) and slide bears a circular, red bordered "Type" label, which is a later addition and cannot be taken as confirmation of the status. The genitalia on the slide are mounted at an angle, which would not permit the production of Morton's illustrations (Plate 13, figures 5 - 7), although the dissection may have rotated during setting of the slide. Nevertheless, the two cannot be definitively matched.

Hydroptila spatulata Morton, 1905

Current valid combination unchanged

Bulletin of the New York State Museum, **86**: 66

1♂ syntype: no data; slide preparation only.

Morton's (1905b) description does not state how many specimens were examined and gives no indication of locality. One specimen was found in the slide collection, although the label has no data (only the binomen) and slide bears a circular, red bordered "Type" label, which is a later addition and cannot be taken as confirmation of the status. The slide clearly matches Morton's illustration (Plate 13, figure 9), as the aedeagus is bent sideways.

Hydroptila hamata Morton, 1905

Current valid combination unchanged

Bulletin of the New York State Museum, **86**: 67

3♂ syntypes: no data; slide preparation only.

Morton's (1905b) description does not state how many specimens were examined and gives no indication of locality. Three specimens were found in the slide collection, although the labels have no data (only the binomen). One slide matches Morton's illustrations (Plate 13, figures 11 & 12) and has "type" written on the label in pencil in Morton's handwriting. In addition the slide bears a circular, red bordered "Type" label, which is a later addition and cannot be taken as confirmation of the status. The other two slides have yellow bordered "Paratype" labels (added later) and these specimens do not match the illustrations.

Hydroptila perdita Morton, 1905

Current valid combination unchanged

Bulletin of the New York State Museum, **86**: 67

1♂ syntype: no data; slide preparation only.

Morton's (1905b) description does not state how many specimens were examined and gives no indication of locality. The single specimen found in the slide collection has no data (only the binomen) and an additional circular, red bordered "Type" label, which cannot be taken as confirmation of the status. None of the features on the slide definitively matches Morton's illustrations (Plate 15, figures 31 - 34), but the specimen is a good likeness of figures 31 & 32.

Ithytrichia clavata Morton, 1905

Current valid combination unchanged

Bulletin of the New York State Museum, **86**: 67

6♂ syntypes: no data; slide preparation only.

Morton's (1905b) description does not state how many specimens were examined and gives no indication of locality. Six specimens were found in the slide collection, although the labels have no data (only the binomen). One slide matches Morton's illustration (Plate 15, figure 35) and has a circular, purple bordered "LECTO-TYPE" label, which is a later addition and cannot be taken as confirmation of the status. The other five slides have yellow bordered "Paratype" labels (added later) and of these specimens none accurately match the illustrations (Plate 14, figures 14 & 15; Plate 15,

figure 35). I have no information regarding the designation of lectotype status and the slide bears nothing more than the added circular, purple bordered label.

Ithytrichia confusa Morton, 1905

Current valid combination: *Ochrotrichia confusa* (Morton, 1905)

Bulletin of the New York State Museum, **86**: 69

1♂ syntype: no data; slide preparation only.

Morton's (1905b) description does not state how many specimens were examined and gives no indication of locality. The single specimen found in the slide collection has no data (only the binomen) and an additional circular, red bordered "Type" label, which cannot be taken as confirmation of the status. I cannot definitively match the slide with Morton's illustrations (Plate 14, figures 16 - 17).

Orthotrichia brachiata Morton, 1905

This species is a junior synonym of *Orthotrichia aegerfasciella* (Chambers, 1873) according to Ross, 1938.

Bulletin of the New York State Museum, **86**: 70

1♂ holotype: no data; slide preparation only.

Morton's (1905b) description clearly states that the description is based on a single male specimen, but he provided no indication of locality. The single specimen found in the slide collection has no data (only the binomen) and an additional circular, red bordered "Type" label, which cannot be taken as confirmation of the status. It accurately conforms to Morton's illustrations (Plate 14, figures 18), which he also mentioned in the description.

Oxyethira coercens Morton, 1905

Current valid combination unchanged

Bulletin of the New York State Museum, **86**: 70

2♂ syntypes: no data; slide preparation only.

Morton's (1905b) description does not state how many specimens were examined and gives no indication of locality. The two slide preparations found in the slide collection have no data (only the binomen). These slides weakly match Morton's illustrations (Plate 14, figures 20 - 22) and require some rotation to correlate them to the figures. The first slide (correlating to Plate 14, figures 20 & 21) has the genus originally written as *Hydroptila*, but crossed through and corrected to *Oxyethira* below the species epithet.

Oxyethira viminalis Morton, 1905

This species is a junior synonym of *Oxyethira pallida* (Banks, 1904) according to Ross, 1938.

Bulletin of the New York State Museum, **86**: 71

1♂ holotype: no data; slide preparation only.

Morton's (1905b) description clearly states that the description is based on a single male specimen from Ithaca and later verified with additional material from Lake Forest, 15 October 1902 from Professor Needham. The single specimen found in the slide collection has no data (only the binomen) and an additional circular, red bordered "Type" label, which cannot be taken as confirmation of the status. It accurately conforms to Morton's illustration (Plate 14, figure 23), despite that it has "Lake Forest

?" faintly written in pencil. A second slide for this species, also without data does not conform to the angle at which the figure was drawn and the positioning of the genital parts.

Oxyethira dualis Morton, 1905

Current valid combination unchanged

Bulletin of the New York State Museum, **86**: 71

1♂ holotype: no data; slide preparation only.

Morton's (1905b) description clearly states that the description is based on a single male specimen from Las Vegas, New Mexico, collected by Cockerell. The single specimen found in the slide collection has no data (only the binomen) and an additional circular, red bordered "Type" label, which cannot be taken as confirmation of the status. It conforms to Morton's illustration (Plate 15, figures 37 - 39) only with some hesitation and I cannot definitively state that this is the holotype, although it seems likely.

Neotrichia Morton, 1905

Type species *Neotrichia collata* Morton, 1905, by monotypy.

Bulletin of the New York State Museum, **86**: 72

Neotrichia collata Morton, 1905

Current valid combination unchanged

Bulletin of the New York State Museum, **86**: 72

3♂ syntypes: no data; slide preparation only.

Morton's (1905b) description does not state how many specimens were examined and gives no indication of locality. Three specimens were found in the slide collection, although the labels have no data (only the binomen). A.C. Keth has confirmed their syntype status (11 April 2002), labelling the slides 1, 2 & 3 of 3. One slide has a circular, red bordered "TYPE" label, which is a later addition and cannot be taken as confirmation of the status. The slides do not accurately match the illustrations (Plate 14, figures 24 - 28; Plate 15, figures 29 & 30). Also see Keth, *et al.*, (2015).

Orthotrichia cristata Morton, 1905

Current valid combination unchanged

Bulletin of the New York State Museum, **86**: 75

The description Morton (1905b) was based on an unspecified number of specimens, from Lake Forest, Illinois collected by Needham. Although there are specimens from this locality and collector in the Morton collection, none are of this species.

Adicella meridionalis Morton, 1906

Current valid combination unchanged

Entomologist, **39**: 275

2♂ syntypes: Casayo, N.W. Spain., 2-8,VII.06., T.A.C.; pinned specimens and slide of one abdomen.

In the description of this species, Morton (1906a) mentioned both of these males, but did not distinguish one as the primary type. The slide preparation matches Morton's (1906a) text figure and is mounted together with an abdomen of *A. reducta*.

Polycentropus intricatus Morton, 1910

Current valid combination unchanged

Entomologist, **43**: 3

1♂ syntype: France, Rev. A.E. Eaton; slide preparation only.

Morton (1910a) wrote his description from three specimens collected by A.E. Eaton at Laruns, Pyrenees, 3 & 4 September 1902; he did not mention gender. The single slide preparation present in the National Museums of Scotland Entomology collections accurately matches Morton's illustration (Plate 2, figure 3). It is not known where the other two specimens are.

Metanoea chapmani Morton, 1914

This species is a junior synonym of *Drusus flavipennis* (Pictet, 1834) - see Schmid, 1956.

Entomologist, **47**: 49

The material examined by Morton (1914a) for the description of this species originated from Dr T.A. Chapman: 3 males one female, Lauteret, Alps of Dauphiné (Chapman, 22 July & 5 August [1913]. None of this syntype series has not been located in the National Museums of Scotland Entomology collections. Morton appended his list of specimens with localities provided from Dr "Fritz" Ris, and he also examined material from his own collection under the name *Metanoea flavipennis* (Pictet, 1834). This latter material was evidently not included in the syntype series.

Subspecies described by Kenneth J Morton

Morton also described four taxa as races or subspecies, some of which are now elevated to full species status by subsequent designation (see *Cordulegaster algirica* Morton, 1916 and Crocothemis chaldaeora Morton, 1920 are dealt with in the section above). The two taxa still designated at subspecies level are listed below.

Trichoptera

Philopotamus montanus chrysopterus Morton, 1884

Current valid name *Philopotamus montanus* (Donovan, 1813)

Entomologist's Monthly Magazine, **20**: 273.

2♂ syntypes: Tinto, Lanarkshire; pinned specimens.

Morton (1884a) collected three specimens from a small stream at this locality in July 1883. These two specimens match the data. The third specimens was noted by E.C. Pelham-Clinton (in a note inserted in the collection) to have been sent to The Natural History Museum, London according to correspondence with Kimmins.

Rhyacophila rougemonti sicula Morton, 1906

Current valid name *Rhyacophila rougemonti* McLachlan, 1880

The Entomologist, **39**: 106.

Morton (1906a) described this subspecies from a single specimen sent to him by McLachlan. It is not in the Morton collection and was likely to have been returned to McLachlan after Morton's description.

Posthumous description

A single species of Neuroptera (Hemerobiidae) was described posthumously in a paper by Fraser (1942). This was based on correspondence (including figures and notes) between Morton and Fraser shortly before Morton's death, in which Morton actually proposed the new name. Fraser honourably published the name in Morton's favour, quoting the correspondence at length. His foot note stated: "* The definition of this new species is, and must be considered as, a posthumous publication of the late Mr. Kenneth Morton, and the species should be therefore hereafter quoted as '*Kimminsia killingtoni* Morton.'—F.C.F." But, *Kimminsia killingtoni* Morton, in Fraser 1942 is a junior subjective synonym of ***Wesmaelius* (*Kimminsia*) *malladai* (Navás, 1925)** see Kimmins (1963) and Aspöck *et al*. (1980, 2001)) and was published in the *Entomologist's Monthly Magazine*, 78, 80-86, figure 3 [copy of Killington 1937, figure 80]. The somewhat complicated syntype series was discussed in Whittington (2005).

Patronyms

Further honour was heaped upon Morton by his many correspondence colleagues in the form of taxa named in his honour. These are less easy to trace and I have accumulated a list of 3 genera and 17 species described in his honour. These being:

Ephemeroptera

Mortogenesia Lestage 1923

Plecoptera

Nemura mortoni Ris, 1902
Perlodes mortoni (Klapálek, 1906) - originally as *Dictyopteryx*
Leuctra mortoni Kempney, 1899 and as a subspecies.

Odonata

Macothemis mortoni Ris, 1913
Lyriothemis mortoni Ris, 1919
Calicnemia mortoni (Laidlaw, 1917) - originally as *Calicnemis mortoni* Laidlaw, 1917
Mortonagrion Fraser, 1920
Protosticta mortoni Fraser, 1924
Chlorogomphus mortoni Fraser, 1936
Pseudagrion mortoni Schmidt & Ris, 1936 - a junior synonym of *Pseudagrion sublacteum* (Karsch, 1893)
Ischnura mortoni Schmidt, 1938 - a junior synonym of *Ischnura elegans* (Van der Linden, 1823)
Cannaphila mortoni Donnelly, 1992

Neuroptera

Ameropterus mortoni Esben-Petersen, 1933
Leucochrysa mortoni Lacroix, 1926
Wesmaelius (Kimminsia) mortoni (McLachlan, 1899), originally as *Hemerobius mortoni*

Trichoptera

Mortoniella Ulmer, 1906
Allogamus mortoni (Navas, 1907), originally in *Halesus*
Polycentropus mortoni Mosely, 1930
Rhyacophila mortoni Kimmins, 1953 - a junior synonym of *Rhyacophila curvata* Morton, 1900.

Sources

While no single source lists all of the 214 papers and short notes written by Kenneth J. Morton, the list provided by Derksen & Scheiding-Göllner (1968) was the most complete up until 1900. After this period, some of Morton's papers were published in the bibliographies of those dealing mainly with taxonomic issues of particular orders of insects. Betten (1934) listed 45 papers written by Morton dealing with caddisflies (Trichoptera), Killington (1937) listed 29 papers concerning Neuroptera and Bridges (1991) listed 26 concerning dragonflies (Odonata) of Britain, Europe and the Middle East. In contrast, an internet based bibliography (Oswald 2022) presents 46 of Morton's papers dealing with Neuroptera. Manuscript notes by A. R. Waterston a former curator at the National Museums of Scotland (Shaw and Whittington, 1996) include a list of 76 papers by Morton dealing with Odonata.

Smith & Smith (1983) listed only two papers by Morton and Horn *et al.* (1990) give an illustration example of Morton's labels. Morton's obituaries were listed by Gilbert (1977), but with incorrect pagination for two of the entries, which are correctly presented below.

Morton's publications consist of a mixture of substantial papers and short notes, the shortest of which is a note titled "*Lepidostoma hirtum* bred" consisting of a single sentence (1885c: 66) and the longest are 17 (1894d: 557-574, with two plates; 1916d: 273-290, with 12 figures) and 19 pages (1924a: 25-44, with three figures). He most frequently published in *Entomologist's Monthly Magazine*, but also submitted manuscripts to the *Scottish Naturalist*, *The Annals of Scottish Natural History*, *The Entomologist*, *Entomological News* and *Transactions of the Entomological Society of London*.

His first paper was a short note dated 17th June 1882, from "High Street, Carluke, N.B. [North Britain, pers. comm. K.P. Bland]" published in *Entomologist's Monthly Magazine* (volume 19) and his last was dated 30 September 1939, from "13 Blackpool Road, Edinburgh, 9." [*sic* - a typo, as he lived at 13 Blackford Road] and published January 1940, also in Entomologist's Monthly Magazine (volume 76). After this, according to Fraser (1942: 80) "That he did not publish the name *killingtoni* was due to the weight of years, for about that time he had informed me that he was unable to summon up energy to publish any more papers and that he had also decided to accept no more additions to his collections."

Morton's writings shifted easily between Orders, although it must be said that the concept of separate orders for the Neuroptera *sensu lato* was not defined then as it is today, so perhaps the ebb and flow between groups is not so surprising. His earliest publications were detailed accounts of the larval morphology of Trichoptera, which, as we have already seen, provided the bulk of the taxa he described. He shifted from Trichoptera to Plecoptera, then to Odonata and Neuroptera *sensu stricto* interspersed with occasional forays into Lepidoptera and Ephemeroptera. Four of his 213 papers were co-authored with J.J.F.X. King - the only person

he co-authored with. In his later papers he returned again to the Trichoptera producing his *magnum opus* 'North American Hydroptilidae' published in *Bulletin of the New York State Museum* in 1905 (Morton 1905b).

Chronological list of publications authored by Kenneth J. Morton

1882 Voluntary submergence by the female of *Phryganea*. *Entomologist's Monthly Magazine,* **19**: 28.

1883 a. Notes on the Trichoptera of Upper Clydesdale. *Entomologist's Monthly Magazine,* **19**: 194–196.

b. Occurrence of *Oecetis furva*, Ramb., and other Trichoptera in Co. Monghan, Ireland. *Entomologist's Monthly Magazine,* **20**: 142.

c. Note on the development of *Phryganea striata*. *Entomologist's Monthly Magazine,* **20**: 168.

1884 a. Description of a variety of *Philopotamus montanus*, Donovan, from Scotland. *Entomologist's Monthly Magazine,* **20**: 273.

b. On the larva, etc. of *Beraeodes minuta*, Linné. *Entomologist's Monthly Magazine,* **21**: 27–29.

c. *Adicella filicornis*, Pict.; an addition to the British Trichoptera. *Entomologist's Monthly Magazine,* **21**: 91.

d. Notes on the larva, etc. of *Asynarchus coenosus*, Curt. *Entomologist's Monthly Magazine,* **21**: 125–126.

e. Insecta Scotica; The Trichoptera of Scotland. *Scottish Naturalist,* **1**, new series: 235–240, 285–288 [authored by J.J.F.X. King and K.J. Morton].

1885 a. Insecta Scotica; The Trichoptera of Scotland. *Scottish Naturalist,* **2**, new series: 45–48, 95–96 [authored by J.J.F.X. King and K.J. Morton].

b. *Beraea pullata* and *Crunoecia irrorata* bred. *Entomologist's Monthly Magazine,* **22**: 43.

c. *Lepidostoma hirtum* bred. *Entomologist's Monthly Magazine,* **22**: 66.

d. *Drepanopteryx* [sic] *phalaenoides*, L., in Scotland: a re:discovery. *Entomologist's Monthly Magazine,* **22**: 139–140.

1886 a. On the case, etc. of *Agraylea multipunctata*, Curt. (=*Hydroptila flabellifera*, Bremi). *Entomologist's Monthly Magazine,* **22**: 269–272.

b. *Agrypnia pagetana*, Curt., and other Trichoptera in Ireland. *Entomologist's Monthly Magazine,* **23**: 138.

c. Notes on some spring-frequenting Trichoptera. *Entomologist's Monthly Magazine,* **23**: 146–150.

1887 a. On the cases etc. of *Oxyethira costalis*, Curt., and another of the Hydroptilidae. *Entomologist's Monthly Magazine,* **23**: 201–203.

b. On the oral apparatus of the larva of *Wormaldia*, a genus of Trichoptera.*Transactions of the Natural History Society of Glasgow,* **2**: 115-117, Plate 2, figures 1–5.

c. *Apatania fimbriata*, Pict., a caddis-fly new to the British Isles. *Entomologist's Monthly Magazine,* **24**: 118.

d. Another Caddis-fly new to the British Isles: *Tinodes maculicornis*, Pict. *Entomologist's Monthly Magazine,* **24**: 136.

e. Additional Trichoptera from Glasslough, Ireland. *Entomologist's Monthly Magazine,* **24**: 136.

1888 a. The larva and cases of *Ithytrichia lamellaris*, Eaton, with references to other species of Hydroptilidae. *Entomologist's Monthly Magazine,* **24**: 171–173, text figures 1–7.
b. The larva, &c., of *Philopotamus*. *Entomologist's Monthly Magazine,* **25**: 89–91.
c. Note on *Orthotrichia angustella* and its case. *Entomologist's Monthly Magazine,* **25**: 93–94.

1889 a. Note on *Stenophylax stellatus* and *S. latipennis*. *Entomologist's Monthly Magazine,* **25**: 235–236.
b. On the position of *Chimarrha*. *Entomologist's Monthly Magazine* **25**: 262.
c. Notes on *Agrypnia pagetana* and other Trichoptera. *Entomologist's Monthly Magazine,* **25**: 323.
d. *Aeschna borealis*, Zett., at Rannoch. *Entomologist's Monthly Magazine,* **25**: 383. [authored by K.J. Morton and J.J.F.X. King].

1890 a. Notes on the metamorphosis of two species of the genus *Tinodes. Entomologist's Monthly Magazine,* **26**: 38–42, text figures 1–8.
b. A correction*. Entomologist's Monthly Magazine,* **26**: 90.
c. Notes on the metamorphosis of British Leptoceridae. (No. 1). *Entomologist's Monthly Magazine,* **26**: 127–131, text figures 1–11.
d. Notes on the metamorphosis of British Leptoceridae. (No. 2). Section of Odontocerum. II.-*Odontocerum albicorne*, Scop. *Entomologist's Monthly Magazine,* **26**: 181–184, text figures 1–11.
e. Notes on the metamorphosis of British Leptoceridae. (No. 3). Section of *Beraea*. *Entomologist's Monthly Magazine,* **26**: 231–236, Plate 1, figures 1–11, Plate 2, figures 1–8.

1891 a. List of Neuroptera observed at Rannoch in June, 1889. *Entomologist's Monthly Magazine* **27**: 45–47 [authored by J.J.F.X. King and K.J. Morton].
b. *Drepanopteryx* [sic] *phalaenoides*, Linn., in Scotland. *Entomologist's Monthly Magazine,* **27**: 308. [*Drepanepteryx* is the correct generic spelling]

1892 a. *Hydroptila maclachlani*,Klapálek, a caddis fly new to Britain. *Entomologist's Monthly Magazine,* **28**: 108.
b. *Limnophilus decipiens*, Kol., in Ireland. *Entomologist's Monthly Magazine* ,**28**: 110.
c. *Drepanopteryx* [sic] *phalaenoides*. *Entomologist's Monthly Magazine,* **28**: 194.
d. Notes on Trichoptera and Neuroptera from Ireland. *Entomologist's Monthly Magazine,* **28**: 301.

1893 a. On the preparatory stages of *Diplectrona felix* McLach. *Entomologist's Monthly Magazine,* **29**: 84–-86, Plate 1 with12 figures.
b. *Lestes nympha*, Selys, and other dragonflies in Cambridgeshire. *Entomologist's Monthly Magazine,* **29**: 215.
c. *On variation in Vanessa urticae* and *Erebia blandina* in Scotland. *Entomologist's Monthly Magazine,* **29**: 223–224.
d. Notes on Neuroptera. *Entomologist's Monthly Magazine,* **29**: 249.
e. Notes on the Hydroptilidae belonging to the European Fauna, with descriptions of new species. *Transactions of the Entomological Society of London,* **41**: 75–82, Plate 5–6.

1894 a. *Agriotypus armatus,* Curtis, in Perthshire. *Entomologist's Monthly Magazine,* **30**: 62–63.

b. Occurrence of the yellow male of *Hepialus humuli,* L., in Lanarkshire. *Entomologist's Monthly Magazine,* **30**: 212.

c. *Phibalapteryx lapidata,* Hb., in South Lanarkshire. *Entomologist's Monthly Magazine,* **30**: 257.

d. *Palaearctic Nemourae. Transactions of the Entomological Society of London,* **42**: 557–574, Plates 13–14.

1895 a. Early Perlidae. *Entomologist's Monthly Magazine* **31**: 121.

b. Neuroptera observed in Glen Lochay. *Entomologist's Monthly Magazine* **31**: 260–263.

1896 a. A new species of Trichoptera from Finnish Lapland *Asynarchus productus*. *Meddelanden af Societas pro Fauna et Flora Fennica,* **21**: 109–111, text figures A-C. [submitted to the journal by Morton in January 1895; listed on page 60 of the 1894-1895 volume on Monday, March 2, 1895; reprinted in 1896 as *Öfvertryck ur Meddelanden af Societas pro Fauna et Flora Fennica,* **21**: 109–111, text figures 1–3; and listed by Lucas (1897: p. 553) as a publication in 1896 along with Morton 1896 c and f].

b. Habits of *Coremia munitata*, Hb. *Entomologist's Monthly Magazine,* **32**: 39.

c. Hydroptilidae collected in Algeria by the Rev. A.E. Eaton. *Entomologist's Monthly Magazine* **32**: 102–104, one unnumbered text figure and text figures 1–4.

d. Early Perlidae. *Entomologist's Monthly Magazine,* **32**: 112.

e. New and little-known Palaearctic Perlidae. *Transactions of the Entomological Society of London,* **44**: 55–63, Plate 2, 20 figures (not sequentially numbered).

f. *Allotrichia pallicornis*, Eaton, and other Trichoptera from Clydesdale. *Entomologist's Monthly Magazine,* **32**: 231–232.

1897 a. Lepidoptera observed in Glen Lochay. *Entomologist's Monthly Magazine,* **33**: 1–4.

b. *Coenonympha tiphon* and its varieties. *Entomologist's Monthly Magazine,* **33**: 28–29.

c. Variation in *Lycaena minima*. *Entomologist's Monthly Magazine,* **33**: 43.

d. Neuroptera observed in 1897, chiefly in the New Forest and in the Fens. *Entomologist's Monthly Magazine,* **33**: 275–278.

1898 a. Aberrations of *Argynnis paphia* and *Thecla quercus. Entomologist's Monthly Magazine,* **34**: 1, Plate 1.

b. Two new Hydroptilidae from Scotland and Algeria respectively. *Entomologist's Monthly Magazine,* **34**: 107–109, 7 text figures.

c. *Isopteryx torrentium* Pictet, and *I. burmeisteri*, Pictet; with note on other species of the genus. *Entomologist's Monthly Magazine,* **34**: 158–160, text figures 1–4.

1899 a. Note on the occurrence of *Anabolia nervosa* in June, with remarks on the effect of altitude on the time of appearance of insects. *The Annals of Scottish Natural History,* **8**(29): 22–25, 1 table.

b. *Aeschna coerulea*, Ström. a boreal Dragonfly. *The Annals of Scottish Natural History,* **8**(29): 26–29.

c. Distribution of *Pachnobia hyperboreai* in Scotland. *The Annals of Scottish Natural History,* **8**(29): 55.

d. *Limnophilus borealis*, Zett., and *L. nigripes*, Zett.,from Glen Tilt. *The Annals of Scottish Natural History,* **8**(29): 56.

e. Entomological notes from Glen Lochay and Loch Tay including record of an *Oxyethira* new to Britain. *Entomologist's Monthly Magazine,* **35**: 53–55.

f. *Philopotamus montanus*, var. *chrysopterus*, on the Pentland Hills. *Entomologist's Monthly Magazine,* **35**: 157–158.

g. Neuroptera and Trichoptera observed in Wigtownshire during July, 1899, including two species of Hydroptilidae new to the British list. *Entomologist's Monthly Magazine,* **35**: 278–281.

1900 a. Notes on the Scottish species of the genus *Hemerobius*. *The Annals of Scottish Natural History,* **9**: 30–32.

b. Notes on Wigtownshire Lepidoptera. *The Annals of the Society of Natural History,* **1900**: 156–159.

c. Some old records of the occurrence of certain Dragon-flies in Scotland. *Entomologist's Monthly Magazine,* **36**: 108–110.

d. *Xenolechia aethiops*, Westw., and *Adela cuprella*, Thunb., in Scotland. *Entomologist's Monthly Magazine,* **36**: 159.

e. Descriptions of new species of Oriental *Rhyacophilidae*. *Transactions of the Entomological Society of London,* **48**: 1–7, Plate 1, figures 1–22.

1901 a. Trichoptera, Neuroptera-Planipennia, Odonata and Rhopalocera collected in Norway in the summer of 1900. *Entomologist's Monthly Magazine,* **37**: 24–33.

b. Description of a new species of *Crunoecia* (Trichoptera) from Austria. Entomologist's *Monthly Magazine,* **37**: 69–71, text figures 1–3.

c. *Acella ferruganai,* Fr., in spring. *The Annals of Scottish Natural History,* **10**(38): 119.

d. Note on *Agriotypus armatus,* Curtis. *The Annals of Scottish Natural History*, **10**(38): 120.

e. Perlidae taken in Norway in June and July, 1900, with remarks on certain Arctic forms. *Entomologist's Monthly Magazine,* **37**: 146–148, 2 text unnumbered figures.

f. Notes on certain Palaearctic species of the genus *Hemerobius*: *H. concinnus*, and its *var. quadrifasciatus*. *Entomologist's Monthly Magazine,* **37**: 163–165, text figures 1–5.

g. Notes on certain Palaearctic species of the genus *Hemerobius*: *H. inconspicuus*, McLach., and *H. pellucidus* Walker. *Entomologist's Monthly Magazine,* **37**: 222–224, text figures 1–7.

h. *Pyrrhosoma tenellum* Vill. in Merionethshire. *Entomologist's Monthly Magazine,* **37**: 224–225.

1902 a. *Apatania muliebris*, McLach., in Lanarkshire. *Entomologist's Monthly Magazine,* **38**: 10.

b. Trichoptera, Planipennia and Pseudo-Neuroptera collected in North Wales in July 1901. *Entomologist's Monthly Magazine,* **38**: 34–36.

c. Notes on the females of Arctic and Northern species of *Apatania*. *Entomologist's Monthly Magazine,* **38**: 150-157, Plate 3, figures 1–19.

d. The British species of *Leuctra*. *Entomologist's Monthly Magazine,* **38**: 255–256.

e. A new Indian micro-Trichopteron. *Entomologist's Monthly Magazine,* **38**: 283–284, text figures A & B.

1903 *Micromus angulatus*, Steph., and a few other Neuroptera and Trichoptera from Colvend. *Entomologist's Monthly Magazine,* **39**: 100–101.

1904 a. A new species of Trichoptera from Western Finland, *Leptocerus excisus*. *Meddelanden af Societas pro Fauna et Flora Fennica,* **30**: 67–69, text figures 1–5.

b. Further notes on Hydroptilidae belonging to the European Fauna, with descriptions of new species. *Transactions of the Entomological Society of London,* **52**: 323–328, Plate 11, figures 1–8.

c. Occurrence of the genus *Strobliella*, Knap., in Northern Africa. *Entomologist's Monthly Magazine,* **40**: 38–39.

d. Neuroptera and Trichoptera observed in the Lake district. *Entomologist's Monthly Magazine,* **40**: 52–54.

e. The preparatory stages of *Adicella filicornis* Pictet. *Entomologist's Monthly Magazine,* **40**: 82–84, Plate 1, figures 1–11.

f. Robert McLachlan. Obituary. *The Annals of the Society of Natural History,* **52**: 201–203.

g. *Neuronia clathrata*, Kol., in Wigtownshire. *Entomologist's Monthly Magazine,* **40**: 281–282.

h. The Neuroptera of Cambridgeshire. pp.145–149. *In*: Marr J.E. and Shipley, A.E. (eds.) *Handbook to the Natural History of Cambridgeshire*, Cambridge University Press, Cambridge.

1905 a. Dragonfly hunting in Eastern Switzerland. *Entomologist's Monthly Magazine,* **41**: 1–4 & 33–36.

b. North American Hydroptilidae. *Bulletin of the New York State Museum,* **86**: 63–76, Plate 13, figures 1–13, Plate 14, figures 14–28, Plate 15, figures 29–39, text figure 15. 1905. [Part of a larger accumulation of papers titled: Needham, J.G., Morton, K.J., and Johannsen, O.A. 1905. *May Flies and Midges of New York: Third Report on Aquatic Insects. A study conducted at the entomologic field station, Ithaca, N. Y.* New York State Education Department, Albany. 352 pp., 37 plates.]

c. Odonata collected by Miss Margaret E. Fountaine in Algeria, with description of a new species of *Ishnura*. *Entomologist's Monthly Magazine*, **41**: 145–149, text figures 1–4.

1906 a. Notes on Trichoptera collected in Sicily by Dr T.A. Chapman. *The Entomologist,* **39**: 105–06, text figures 1–2.

b. *Rhyacophila munda*, McL., and *Halesus guttatipennis*, McL., in Scotland. *Entomologist's Monthly Magazine,* **42**: 65–66.

c. Notes on certain Palaearctic species of the genus *Hemerobius*: the Madeira-Canarian species allied to *H. humuli*, and other species from the same islands. *Entomologist's Monthly Magazine,* **42**: 146–148, 1 unnumbered text figure.

d. Neuroptera from North Uist. *Entomologist's Monthly Magazine,* **42**: 162.

e. Note on *Agrion armatum* Heyer. *Entomologist's Monthly Magazine,* **42**: 181.

f. Review [of three papers by:] A.J. Silfvenius. *Entomologist's Monthly Magazine,* **42**: 163–165.

g. A new species of *Adicella* from Spain. *The Entomologist,* **39**: 275–276, text figure 1.

h. On some Trichoptera collection in St.Kilda by Mr Waterston. *The Annals of Scottish Natural History,* **1906**: 153.

i. *Triaenodes reuteri*, McLach., a species of Trichoptera new to Britain. *Entomologist's Monthly Magazine,* **42**: 270–271.

1907 a. Notes on Neuroptera collected from Corsica by Miss Fountaine. *Entomologist's Monthly Magazine,* **43**: 1–2.

b. The British Plecoptera (Perlidae). *Entomologist's Monthly Magazine,* **43**: 107–109.

c. Odonata collected by Lt.-Colonel Nurse, chiefly in North-Western India. *Transactions of the Entomology Society, London,* **55**, 303–308, Plate 24, figures 1–14.

1908 a. Odonata collected from Corsica by Miss Fountaine in Bosnia & Hercegovina. *Entomologist's Monthly Magazine,* **44**: 37.

b. Some scarce Neuropteroidea from Soffolk. *Entomologist's Monthly Magazine,* **44**: 42–43.

c. On the varieties of *Pyrrhosoma tenellum* and *P. nymphula*. *Entomologist,* **41**: 38.

d. Butterflies and Neuroptera in Perthshire. *Entomologist's Monthly Magazine,* **44**: 149–151.

1909 *Limnophilus fuscinervis*, Zett.: a Trichopteron new to the British Isles. *Entomologist's Monthly Magazine,* **45**: 233.

1910 a. A new species of *Polycentropus* (Trichoptera). *The Entomologist,* **43**: 3–4, Plate 2, figures 1–7.

b. Life-history of *Drepanepteryx phalaenoides*, Linn. *Entomologist's Monthly Magazine,* **46**: 54–62, Colour Plate 2, figures 1–10 [including notes (p.60–62) from M. Standfuss, Zurich, send to Morton by Dr Ris and translated by Morton. This excerpt is often separately quoted, although it falls within the body text of Morton's paper].

c. A new species of *Baëtis*, (Ephemeridae), from the Eastern Carpathians. *The Entomologist,* **43**: 321, Plate 6, figures 1–3.

1911 a. Note on *Halesus guttatipennis*, McL. *Entomologist's Monthly Magazine,* **47**: 19.

b. On *Taeniopteryx putata* Newman (Plecoptera), with notes on other species of the genus. *The Entomologist,* **44**: 81–87, Plate 2, figures 1–7, Plate 3, figures [males] 1–3 & [females] 1a–3a, text figures A & B.

c. *Nemoura dubitans*, Morton, a species of Plecoptera new to the British fauna. *The Entomologist,* **44**: 134.

d. *Raphidia cognata*, Ramb., in West Suffolk. *Entomologist's Monthly Magazine,* **47**: 112–113.

e. A bromeliadicolous caddis-worm. *Entomological News,* **22**: 411. [As a note at the end of: Calvert, P.P., 1911. Studies on Costa Rican Odonata. II. The habits of the plant-dwelling larva of Mecistogaster modestus. *Entomological News*, **22**(11): 402–411.]

1912 a. A collecting trip to the Camargue and the Sierra Albarracin. *The Entomologist,* **45**: 109–114, Plate 3, 2 unnumbered figures.

b. *Erotesis baltica* McLachl., from Hampshire. *Entomologist's Monthly Magazine,* **48**: 241.

c. Odonata in Perthshire. *Entomologist's Monthly Magazine,* **48**: 264–265.

1913 a. *Sympetrum flaveolum* L., in Norfolk. *The Entomologist,* **46**: 60.

b. An addition to the list of British Plecoptera: Re-instatement of *Chloroperla venosa*. *The Entomologist,* **46**: 73–77, Plate 6, figures 1-4.

c. *Mesophylax impunctatus* &c., in Perthshire. *Entomologist's Monthly Magazine,* **49**: 259.

d. Distribution of *Agraylea pallidula*, McLach. *Entomologist's Monthly Magazine,* **49**: 259.

e. The Odonata, Trichoptera, Neuroptera and Plecoptera of Wood Walton Fen, Huntingdonshire. *Entomologist's Monthly Magazine,* **49**: 271–274.

1914 a. Some remarks on the Atlantic forms of *Sympetrum striolatum*, Charp. *The Entomologist,* **47**: 1–7, 2 unnumbered text figures.

b. *Hemianax ephippiger* Burm. in Ireland. *Entomologist's Monthly Magazine,* **50**: 16.

c. A new species of *Metanoea* from France. *The Entomologist,* **47**: 49–51, text figures 1–2.

d. A remarkable new genus and new species of Odonata, of the legion *Podagrion*, Selys, from North Queensland. *Transactions of the Entomological Society of London,* **62**: 169–172, Plate 9, figures 1–4.

e. Notes on the British species of *Sympherobius* (Hemerobius), including one hitherto unnoticed. *The Entomologist,* **47**: 209–212, Plate 5, figures 1–3.

f. *Sympetrum forscolombii* (Selys) in Arran. *The Scottish Naturalist,* **25**: 22–23.

g. Notes on a collection of Odonata from Van, Turkey in Asia. *Entomologist's Monthly Magazine,* **50**: 56–59, Plate, Figures 1–6.

1915 a. Notes on Odonata from the environs of Constantinople. *The Entomologist*, **48**: 129–134, text figures 1–4.

b. Names of the British species of *Chloroperla*. *The Entomologist,* **48**: 285.

1916 a. Neuroptera (in the Linnean sense) from Inverness-shire. *Entomologist's Monthly Magazine,* **52**: 114–116.

b. *Vanessa urticae* and other butterflies in Co. Monaghan. *Entomologist's Monthly Magazine,* **52**: 231.

c. Chartley Moss and its Neuroptera. *Entomologist's Monthly Magazine,* **52**: 257–259.

d. Some Palaearctic species of *Cordulegaster*. *Transactions of the Royal Entomology Society, London,* [1915] **63**, 273–290, Plate 34, figures 1–4, Plate 35, figures 5–8, Plate 36, figures 9–12 & Plate 37, figure 13.

The date of volume 63 of *Transactions of the Royal Entomology Society, London* is confusing in that the date of reading Morton's paper is given as May 5, 1915, the page references are given as June 1915, but the separate covers quote June 2, 1916.

The inside cover of the volume in NMS library gives the following data:

Part I pg 1–176 publ. 26 June 1915
Part II pg 177–256 publ. 5 Aug 1915
Part III & IV pg 257–430 publ. 2 July 1916
Part proc. publ. 2 July 1916

The date stamp in the NMS volume is RSM–5.9.16 and lastly *Zoological Record* gives the date for the 1915 issue (i.e. volume 63) of the journal as 1916. Thus Morton's paper (and the species described in it) is correctly dated 1916.

e. *Limnophilus fuscinervis* in Co. Monaghan. *Entomologist's Monthly Magazine,* **52**: 279.

1917 *Megalomus hirtus* on Kincardineshire coast. *Entomologist's Monthly Magazine*, **53**: 129.

1918 A new locality for *Somatochlora arctica* Zett. *Entomologist's Monthly Magazine,* **54**: 185.

1919 Odonata from Mesopotamia. *Entomologist's Monthly Magazine,* **55**: 143–151, 183–196, Plate 5, 2 unnumbered figures, text figures 1–3.

1920 a. Odonata collected in Mesopotamia by the late Major R. Brewitt-Taylor, R.A.M.C. *Annals and Magazine of Natural History,* (9)**5**: 293–303, Plate 14, figures 1–4.

b. Odonata collected in North-Western Persia and Mesopotamia by Captain P.A. Buxton, R.A.M.C. *Entomologist's Monthly Magazine,* **56**: 82–87.

1921 a. Neuroptera, Mecoptera, and Odonata from Mesopotamia and Persia. *Entomologist's Monthly Magazine,* **57**: 213–225, Plate 2, figures 1–4, text figures 1–6.

b. A new species of Mayfly, *Palingenia* (*sensu lato*), from Mesopotamia. *The Entomologist,* **54**: 177–180, Plate 2, figures 1–4.

1922 a. *Sympetrum fonscolombii* and other dragonflies near London in October. *Entomologist's Monthly Magazine,* **58**: 277–278.

b. Further notes on the Odonata of Constantinople and adjacent parts of Asia Minor. *The Entomologist,* **55**: 80–82, text figures 1–2.

1923 a. Neuroptera (in the Linnean sense) from Argyllshire. *Entomologist's Monthly Magazine,* **59**: 9–12.

b. Plecoptera. *Report of the scientific results of the Norwegian expedition to Novaya Zemlya, 1921* **16**: 3–6, text figures 1–5.

1924 a. The Dragon-flies (Odonata) of Palestine, based primarily on collections made by Dr. P. A. Buxton, with notes on the species of the adjacent regions. *Transactions of the Entomological Society of London,* **72**: 25–44, figures 1–3.

b. A new genus and new species of Dragonfly from East Africa, belonging to the legion *Podagrion* (Odonata). *The Entomologist,* **57**: 217–220, 1 unnumbered text figure.

c. *Pyrrhosoma tenellum* Vill. in Wales. *Entomologist's Monthly Magazine,* **60**: 262.

1925 a. *Macromia splendens* at last: an account of Dragon-fly hunting in France. *Entomologist's Monthly Magazine,* **61**: 1–5.

b. *Aeshna grandis* L., a doubtful nature of Scotland. *Entomologist's Monthly Magazine,* **61**: 47.

c. *Mystrophora intermedia* Klap., new to the British fauna, and *Apatania muliebris* McLach, two species of Trichoptera From the Lake District. *Entomologist's Monthly Magazine,* **61**: 130–131.

1926. a. Notes on Neuroptera from Palestine, including a description of a new species of Myrmeleonidae. *Transactions of the Entomological Society of London*, **73**: 403–412, Plate 46, figures 1–3.

b. Odonata observed in France in 1923 and 1924. *Entomologist's Monthly Magazine,* **62**: 1–9.

c. *Psithyrus rupestris* in East Lothian. *The Scottish Naturalist,* **158**: 62.

d. Notes on Dragonflies observed in the Italian Lake district. *The Entomologist*, **59**: 235–239.

e. *Pyrameis cardui* in Argyllshire. *The Entomologist,* **59**: 291.

1927 a. An addition to the dragonfly fauna of Europe, *Aeshna subarctica* Walker. *Entomologist's Monthly Magazine,* **63**: 60–61.

b. *Aeshna subarctica* Walker in Europe. *Entomologist's Monthly Magazine,* **63**: 86–89, text figures 1–2.

c. Notes on Odonata observed in the Alpes Maritimes, France. *Entomologist's Monthly Magazine,* **63**: 226–231.

1928 a. Odonata collected by Miss Margaret E. Fountaine in West Africa, with description of a new species of *Orthetrum*. *Entomologist's Monthly Magazine,* **64**: 119–123, text figures 1–2.
b. Notes on the Odonata of Yunnan with descriptions of New Species. *Transactions of the Entomological Society of London,* **76**: 109–118, text figures 1–7.
c. *Sympetrum vulgatum* (Linné) in Kent. *The Entomologist,* **61**: 42–43.
d. Odonata collected in Austrian Tirol, the Trentino and Tuscany. *Entomologist's Monthly Magazine,* **64**: 254–260.

1929 a. Embioptera from Bagdad. *Entomologist's Monthly Magazine,* **65**: 43.
b. Odonata from the Sinai Peninsula, Suez and Palestine, including a new species of *Mesogomphus*. *Entomologist's Monthly Magazine,* **65**: 60–63, figures 1–4.
c. Notes on the genus *Leuctra* with descriptions of two new species, and on the genus *Capnia*, including a species new to the British Fauna. *Entomologist's Monthly Magazine,* **65**: 128–134, Plate 6, figures 1–12, Plate 7, figures 13–25.
d. *Aeschna coerulea* Ström at Rannoch. *Entomologist's Monthly Magazine,* **65**: 245–248.

1930 a. Some Riviera notes chiefly concerning Odonata and Neuroptera. *Entomologist's Monthly Magazine,* **66**: 1–5.
b. Plecoptera collected in Corsica by Mr Martin E. Mosely. *Entomologist's Monthly Magazine,* **66**: 75–-81, Plate 2, figures 1–12.
c. Odonata, Neuroptera and Trichoptera observed in West Inverness-shire. *Entomologist's Monthly Magazine,* **66**: 268–272.

1931 a. *Triaenodes simulans*, Tjeder, a species of Trichoptera new to Britain, and a correction. *Entomologist's Monthly Magazine,* **67**: 16–17.
b. *Hemerobius perelegans* Stephens: a good species. *The Entomologist,* **64**: 197–201, Plate 4, figures 1–3, text figures 4–6.
c. Obituary. - Dr.Fritz Ris. *Entomologist's Monthly Magazine,* **67**: 65–66.
d. *Megalomus hirtus* Linn. at Edinburgh. *Entomologist's Monthly Magazine,* **67**: 233–234.
e. *Mesophylax impunctatus* McLach. at Windermere and in the Isle of Skye. *Entomologist's Monthly Magazine,* **67**: 250–251.
f. Speckled Wood Butterfly, (*Pararge egeria*), in West Inverness. *Scottish Naturalist,* **1931**: 187–188.

1932 a. Further notes on the Odonata of France: Dordogne and Lot. *Entomologist's Monthly Magazine,* **68**: 54–59.
b. *Ischnura pumilio* Charp. In Hampshire. *Entomologist's Monthly Magazine*, **68**: 87.
c. Neuroptera (in the Linnean sense) from West Ross. *Entomologist's Monthly Magazine,* **68**: 268–272.

1933 a. Neuroptera (*sens*. Linn.) observed in Argyllshire (V.C. Kintyre) in May, 1933. *Entomologist's Monthly Magazine,* **69**: 220–223.
b. *Drepanepteryx phalaenoides*, Linn. in Mid Lothian; a new county record. *Entomologist's Monthly Magazine,* **69**: 246–247.
c. A note on *Chrysopa carnea* Steph. (= *vulgaris* Schn.) (Neur.). *Journal of the Entomological Society of the South of England,* **1**: 98–99.
d. Some data relating to Scottish Chrysopidae (Neur.). *Journal of the Entomological Society of the South of England,* **1**: 99–101.

1934 a. Notes on some Odonata, Trichoptera and Neuroptera collected in Corsica. *Entomologist's Monthly Magazine,* **70**: 1–7.
b. A note on the Vice-Counties of Inverness-shire. *Scottish Naturalist,* **1934**: 83–86.
c. A note on the Vice-Counties of Perth and Inverness-shire. *Entomologist's Monthly Magazine,* **70**: 43.
d. *Coniopteryx borealis* Tjeder (Neuroptera) in Perthshire and Midlothian. *Entomologist's Monthly Magazine,* **70**: 262.
e. What is *Phryganea bicaudata* of Linne? *Journal of the Society for British Entomology,* **1**: 42–43.
f. Habits of the larvae of Hydroptiliidae. Trichoptera. *Journal of the Society for British Entomology,* **1**: 44–45.

1935 a. Odonata and other Neuroptera (sens. Linn.) in Ross- and Sutherland-shires. *Entomologist's Monthly Magazine,* **71**: 1–7.
b. Remarks on the name *Boriomyia nervosa* Fabr. *Entomologist's Monthly Magazine,* **71**: 95–100, Plate 4, figures A & B.
c. Some additional data relating to Scottish Chrysopidae (Neur.). *Journal of the Society of British Entomology,* **1**: 87–88.
d. Plecoptera, Neuroptera (s. str.) and Trichoptera in Banffshire in May, 1934. *Journal of the Society of British Entomology,* **1**: 96–98.
e. Plecoptera and Trichoptera from St. Mary's Loch, Selkirkshire. *Journal of the Society of British Entomology,* **1**: 98–100.

1936 a. Further notes on the Neuroptera (sens. Linn.) of Kintyre. *Entomologist's Monthly Magazine,* **72**: 79–82.
b. *Nothochrysa capitata* Fabr. in Midlothian. *Entomologist's Monthly Magazine*, **72**: 230–231.
c. Note on a specimen of *Psectra* (Neur.) taken by Dr. F.H. Haines in the New Forest. *Entomologist's Monthly Magazine,* **72**: 252–257, Plate 4, text figures 1–4.
d. Scottish Chrysopidae (Neuropt.) in 1935. *Journal of the Society of British Entomology,* **1**: 154–155.

1938 Notes on the Neuroptera, (s.str) and Odonata of Glen Lyon, Mid Perthshire, with some other Scottish records. *Entomologist's Monthly Magazine,* **74**: 1–7.

1940 Notes from Breadalbane, Perthshire, mainly about Neuroptera (s.str) and Odonata. *Entomologist's Monthly Magazine,* **76**: 1–5.

Archives

Given the loss of most of Morton's correspondence, it is appropriate to add to his bibliography a list of those with whom he corresponded. The list of names below has been compiled from his publications and from the National Museums of Scotland archive concerning Morton, which contains various notes, handwritten aids to identification, translations from texts, proofs of papers and correspondence.

The archive includes a page proof for Morton's 1916c paper in *Entomologist's Monthly Magazine* (volume 52: 257-259), providing a clear, yet brief, example of his handwriting, which is also to be found on his portrait photograph (Fig. 1).

Letters to Morton

The archive in the National Museums of Scotland contains several files of letters written to Morton, from notable people such as P. Esben-Petersen, Lt. Col. F.C. Fraser, W.J. Lucas, M. Mosely, F. Ris, R.J. Tillyard, A.R. Waterston, and C.L. Withycombe. In his obituaries of Morton in 1940, Fraser claimed to have in his possession 750 letters of correspondence between Robert McLachlan and Morton and knew of 250 letters between Ris and Morton, testifying to the incredible correspondence Morton maintained. Morton himself testified to the hundreds of letter between Robert McLachlan and himself (1904f: 203).

Fraser (1942: 81) noted that much of Morton's correspondence was burnt, but offers no explanation; thus we may assume that what remains is a remnant of a former, much richer, correspondence. Many of the letters Morton sent, may of course survive in correspondents' files and archives across the globe.

Morton's correspondence and collaborations

Morton was a prolific correspondent accumulating over 750 letters between himself and Robert McLachlan during 26 years and a further 250 letters between himself and Ris over 38 years (Fraser 1940b, Killington 1940). After he moved to Edinburgh in 1897, he acknowledged his correspondence with, for example, Klapálek (Czech Republic), Ris (Switzerland) and Sahberg (Finland). Sadly, most of his correspondence was burnt (Fraser 1942: 81) after his death, but the National Museums of Scotland retains a small archive.

He clearly valued the friendship offered by his many correspondents. The earliest correspondence of an entomological nature that I could trace was between Morton and Robert McLachlan in Lewisham (although born in Ongar, Essex, McLachlan was of Scottish extraction, his father having come from Greenock). Although the letter does not seem to have survived, it was mentioned in McLachlan's obituary (written by Morton) this correspondence dated 1878 from when Morton was just 20 years old and had been working at the British Linen Bank in Glasgow for 6 years (1904f: 201-203). During his visit to the New Forest in 1897, Morton comment on McLachlan's companionship: "For a few days I had the pleasure of my friend Mr. McLachlan's companionship and guidance, and I cannot refrain from saying that I received much courtesy and help from others upon whom I had no claim." (1897d: 275).

Morton had a particularly strong and long friendship Dr "Fritz" Friedrich Ris formed early in his entomological career with the first correspondence between them (by introduction of Robert McLachlan) in 1893 when Morton was 35 years of age (1931c: 66). Unfortunately this correspondence seems not have survived. The earliest published record of correspondence between Morton and Ris was in 1896 (1896e: 58 & 59). The strength of their friendship can perhaps be measured by the nineteen times Morton mentioned Ris in his published papers. In 1899 (1899a: 24), Morton mentioned: "My valued correspondent and friend Dr Ris of Rheinau, Switzerland" and in 1905 "Dr Ris has become one of my most valued correspondents …". Specimens passed between them "… the beautiful series of Swiss *Neuroptera* sent by him from time to time form quite an outstanding feature of my collection both with regard to the interest which they possess and also on account of their perfect preservation" (1905a: 1). Ris assisted Morton by producing photographs "In connection with this paper I have to express my thanks to my ever-obliging friend, Dr. Fr. Ris, of Rheinau, who in the midst of much more important work kindly took the trouble to make preparations

of a series of wings, and to photograph them" (1911b: 87) and "My friend Dr. Ris, to whom I am once more indebted for the beautiful photographs which illustrate this paper, …" (1914e: 211). The depth of Morton's friendship for Ris became evident in Ris' obituary, in which Morton says "… soon ripened into a close friendship, which continued to the very end." and "All entomologists who knew him will sympathise deeply with them [Ris' family] in their great loss. He was a loveable personality!" (1931c: 66).

So much so, that Morton and his wife visited Ris in Switzerland in 1904 "Having never been to Eastern Switzerland, I resolved to go there this summer, when I hoped to have not only the pleasure of making the personal acquaintance of Dr Ris, but also to see for myself, under his experienced guidance, … dragonfly hunting in the "Züricher gebiet" …" (1905a: 1) ; Ris, following a visit to the British Museum of Natural History visited Morton in Edinburgh in 1906; and Ris and Morton went collecting together in France and Spain in 1911 (1925a: 3). Furthermore, in 1914 Morton described *Chorismagrion risi* as the type species of the genus *Chorismagrion* "…in recognition of many kindnesses received at his hands during a friendship of over twenty years." (1914d: 171), suggesting that they had made their acquaintances at least by 1894.

In particular it is evident that Morton valued his Scottish colleagues with high regard and often joined them or was joined by them on collecting trips: "My friend and neighbour Mr William Evans joined us [in Lochaber] toward the end of our stay." (1914a: 2); "In June, 1898, as strong contingent, consisting of Messers. Porritt, Briggs and King, whom I also joined for a few days…" (1929d: 245); "…dragonflies which were observed in the Pyrenees and Central France visited in the summers of 1923 and 1924 respectively, in company with my friend, Mr. Martin Mosely" (1926b: 2); and "In a valuable paper by my friend, the late Mr. William Evans …" (1930c: 269). William Evan's son, Capt. William Edgar Evans (Royal Botanic Gardens, Edinburgh), often helped Morton by producing the photographs for his publications (1931b: 201) and Morton referred to Lt.Col. Fredric Charles Fraser as "My friend Lt.Col. F. C. Fraser very kindly read over the preliminary draft of these notes …" (1935b: 100). In like manner, Martin E. Mosley often assisted Morton with the preparation of microscopic slides and with photographs for his publications "Mr. Martin E. Mosely, ever ready to assist, kindly made for me a fine series of slides of the wings and other details, and provided the photographs of the whole insect. For the photographs of the wings I am indebted to Mr R.M. Adam of the Royal Botanic Gardens here [Edinburgh]." (1921b: 180; also see 1926a: 404).

It is clear that collaboration about specimens was important to Morton too. Of J.J.F.X. King, he wrote "… I had obtained a few more cases, which were sent to my friend Mr .King of Glasgow" (1884b: 28) and "My friend Mr King has kindly examined his materials in these species, and finds the character in the main to hold good." (1889a: 236). Both Robert McLachlan and J.J.F.X. King were clearly important mentors at an early stage of Morton's entomological career. In 1882 (published in 1883), Morton wrote "Mr. McLachlan has very kindly confirmed for me such species as I had any doubt about, and Mr. J.J. King, of Glasgow, has assisted me in many ways." (1883a: 196).

And Morton was not slow to return a favour. In 1897, McLachlan wrote "… it was considered advisable that I should abandon, at any rate temporarily, *camera lucida* drawing, and having

once abandoned it, the difficulty of resuming it became apparent when attempted. Ever ready to assist me, and influenced by the fact that at least two British species have never been properly elucidated, my friend and former pupil (in Neuroptera), Mr. K. J. Morton, kindly came to my aid, and supplied the necessary drawings." (McLachlan 1897: 77). Referring to McLachlan's correspondence, after Morton's death, Fraser (1942: 82 & 83) wrote: "McLachlan then goes on to explain that, owing to trouble with his eyes, he had to abandon the work of *camera lucida* drawings and that Mr. Morton had kindly come to his aid and supplied the figures for the present papers."

Friends further afield were not less valued. Of F.J. Killington, Morton wrote "For the past two seasons I have paid more attention than usual to the Scottish Hemerobiidae, a revival of an old interest due in great measure to active correspondence with my friend Mr. F.J. Killington" (Morton 1933b: 246).

Conversely, there is every indication that Morton was admired and respected by his contemporaries. For example, Martin Mosley wrote to Morton (19 January 1919):

> "…and all your former delinquencies are now forgiven. For a lazy man, as you describe yourself, you seem to get through a tolerable amount of work! I think I must also cultivate the lazy work habit and see if thereby I can manage to do a little more."

and McLachlan refers to Morton as "my friend Mr Morton" (McLachlan 1899: 77; 1901: 166) and after McLachlan's death in 1904, Morton wrote "I am speaking of a man I knew well" (1935: 96). A short note by Fraser (1942: 80) after Morton's death expresses clearly a long established and respected relationship between the two men: "Twenty years of close association and collaboration with Mr. Morton taught me that he never expressed a positive opinion unless he was absolutely sure of his ground, …".

Such valued friendships inevitably come with a cost for it seems Morton keenly felt the loss of his friends as, one by one, they passed away before him (McLachlan in 1904; Briggs in 1916; William Evans in 1922; Porritt in 1927; Bowhill and Ris in 1931; and King in 1933). He often referred back to his colleagues notes and specimens, writing of the former achievements of his late friends with great respect and fondness. For example, his "old friend and mentor" (1933b: 246) Robert McLachlan is mentioned in eighteen of Morton's papers prior to his obituary for McLachlan (1904: 203) and eight of his papers afterwards.

Comments in his papers such as "A short series, for which I am indebted to my late friend, still lies before me." (in reference to McLachlan, 1935: 6); "A few specimens of the late lamented Mr R. McLachlan, London, have also passed through my hands" (1905b:63) "In a valuable paper my friend, the late Mr. William Evans, on the distribution of Scottish Odonata …" (1930c: 269); " … a note of the Odonata to my friend the late William Evans …" (1932c: 268) and "Some of these had been taken in the county years ago and they may have been found there even earlier by my late friend King, but neither of us systematically published all our captures." (1938: 2) reflect a melancholy reminiscence in his publications, particularly after writing with deep sadness the obituary of Fritz Ris (1931c). Through these later publications, one gleans that Morton keenly missed camaraderie and correspondence of his predeceased colleagues and especially their company on field trips despite that Morton did

much of his collecting alone. As a consequence, some entries in the list below contain references to correspondence referred to after the death of the correspondent.

The following list of collaborations (providing or examining specimens and/or co-authoring papers), collecting trips, correspondence and visits have been compiled from the writings of Morton (either published or archived). It is arranged alphabetically by surname. Where possible, date and page reference is provided where correspondents were mentioned in his publications. Archived letters in the National Museums of Scotland, Entomology Section are marked with an asterisk (*). Note that these correspondents are not necessarily also mentioned in Morton's publications so may not bear reference citations and indeed, in many instances it is difficult to discern from Morton's published writing whether or not a particular piece of collaborative information arose from his correspondence or from papers written by his collaborators. Likewise, specimens received by Morton, sometimes came via somebody other than the collector, making it difficult to know if Morton had correspondence with the collector. Nonetheless, an important aspect of Morton's extensive collaboration, is that many of the species names used in the British literature were rendered consistent with those used on the continent, thus avoiding unnecessary synonymy.

Much of the surviving correspondence is of a scientific nature, discussing species identification and differences, providing specimens or illustrations and concerning returned loans. A good portion of the detail from those specimens and loans ended up being published by one or other of the correspondents. As a consequence of the loss of most of Morton's correspondence, this list may be only partially complete, but nonetheless demonstrates the remarkable extent of his entomological involvement.

Adam, Mr. Robert Moyes, (b.1885, d.1967) Royal Botanic Gardens, Edinburgh, Scotland: collaboration (1921b: 180)

Bang-Haas, Herr Andreas (b.1846 d.1925) Dresden: collaboration, Caucasian and Ferganan material (1916d: 273)

Barrett, Mr. Charles Golding (b.1836, d.1904) Peckham Rye, England: collaboration, correspondence visit to Morton summer, 1893 (1897a: 1; 1900d: 159)

Bartenef (alternatively, Bartenev), Aleksandr Nikolaevich (b.1882, d.1946) Rostov University, Rostov-on-Don, Russia, collaboration, Caucasian material (1916d: 273 & 280)

Beaumont, Mr. Alfred (no biographical detail) collaboration (1885a: 96)

Bengtsson, Dr. Simon Frederick (b.1860, d.1939) Lund, Sweden: collaboration, correspondence (1934e: 43)

Betten, Professor Cornelius (b.1877, d.1962) Lake Forest University, Illinois, USA: collaboration, North American material (1905b: 63 & 73; also see Calvert 1940)

Blackwood, Mr. G.G., Edinburgh, Scotland: collaboration (1914a: 3)

Blair, Mr Kenneth Gloyne (b.1882, d.1952): correspondence

Bodenheimer, Dr. Frederick Simon (b.1897, d.1959) Tel-Aviv, Israel (then referred to as Palestine): collaboration, correspondence, material from Sinai Peninsula, Suez and Palestinian (1929b: 60-63)

Bolton, Mr. Birmingham, England: collaboration (1887a: 201; 1888a: 171; 1888c: 93)

Bowhill, Mr. J.W. (b.1868, d.1931) Edinburgh, Scotland: collaboration (1918: 185; 1923a: 9; 1933a: 223; 1935a: 3)

Briggs, Mr. Charles Adolphius (b.1849, d.1916) Lynmouth, Devonshire, England: collecting (1899b: 26; 1929d: 245)

Brown, Mr. R.S. Glasgow University Museum: collaboration, correspondence (1938: 7)

Buxton, Dr. & Capt. Patrick Alfred (b.1892, d.1955): collaboration, correspondence, Palestinian and Mesopotamian material *e.g.* Amara (presumably, Kut-al-Amara in modern Iraq) (1919: 143; 1920b: 82; 1921a: 213; 1921b: 177 & 179; 1924a: 25; 1926a: 403)

*Calvert, Philip Powell (b.1871, d.1961) Philadelphia, USA: collecting, correspondence (1912c: 264)

*Campion, Mr. Herbert (and brother Mr F.W.) (b.1870, d.1924) Ealing, London, England: collaboration, correspondence, Spanish material and material from Mesopotamia collected by Maj. A.D. Fraser & Lt. P.J. Barraud (1911b: 82; 1913b: 76; 1914e: 212: 1919: 143; 1921a: 221 & 225; 1922a: 278; 1922b: 81; 1928d: 254)

Carr, Professor, John Wesley (b.1862, d.1939) University College, Nottingham: collaboration (1914e: 210)

Chapman, Dr. Thomas Algeron (b.1842, d.1921): collaboration, Spanish material (1901a: 24 & 26; 1906a: 105; 1906g: 275; 1916d: 273)

Cockerell, Theodore Dru Alison (b.1866, d.1948) San Diago, USA: collaboration, North American material

Cowley, J. (b. 1909, d.1967) Cambridge, England: correspondence

Curtis, Mr. Wilfred (or William) Parkinson (b.1878, d.1968): collaboration, correspondence, photographs (1936c: 253)

Dziedzielewicz, Herr Josef (b.1844, d.1918) Lemberg, Austria): collaboration, eastern Carpathian material (1910c: 321; 1911b: 85)

*Eaton, Rev. Alfred Edwin (b.1845, d.1929) Northam, Devon, England: collaboration, correspondence (1904c: 38; 1906c: 146; 1910a: 3; 1910c: 321; 1913d: 259)

*Esben-Petersen, Dr. Peter (b.1869, d.1942) Silkeborg, Denmark: collaboration, correspondence (1906e: 181; 1921a: 225; 1926a: 406 & 407; 1930b: 79 & 80)

Evans, Mr. William (b.1851, d.1922), father of W. Edgar Evans; Royal Botanic Gardens, Edinburgh, later 38 Morningside Park, Edinburgh, Scotland): collaboration, correspondence (1899d: 56; 1906b: 65; 1906i: 270; 1911a: 19; 1914a: 2; 1916a: 114 & 116; 1919: 143; 1926c: 62; 1934b: 86; 1935a: 3; 1935c: 87)

*Evans, Capt. William Edgar (son of William Evans) (b.1882, d.1963) Royal Botanic Gardens, Edinburgh, Scotland: collaboration, correspondence (1919: 143-151 & 183-196; 1921a: 213; 1921b: 177 & 179; 1931: 5; 1934b: 84; 1938: 4)

Evans, Miss. Charlotte Ethel Edinburgh, (daughter of William Evans) (b.1888, d. unknown), Edinburgh, Scotland: collaboration, collecting, correspondence (1929d: 247; 1931e: 251; 1935c: 88)

Ewing, Mr Peter (b.1849, d.1913) Botanist, Uddingston, Glasgow, Scotland: acquaintance (1895b: 260)

Feather, Mr. W. (no biographical detail): collaboration from Tanganyika, Tanzanian material (1924b: 217)

Forrest, Mr George (b.1873, d.1932) Falkirk, Scotland and China: collaboration, correspondence, Yunnan material (1928b: 109-118) - see also McLean (2004) p169 & Plate 126.

Fountaine, Miss, Margaret E. (b.1862, d.1939) Port of Spain, Trinidad: collaboration, correspondence, West African, Algerian, Herzegovinian and Spanish material (1905c:

145; 1907a: 1; 1908a: 37; 1912a: 112; 1916d: 273 & 278; 1924a: 41; 1928a: 119; 1934a: 1)

Fraser, Lt.-Col. Frederic Charles (b.1880, d.1963) writing c/o Bombay Natural History Society on active service in India, later from Parley Cross & Catford, Kent, England: collaboration, correspondence (1932b: 87; 1935e: 100; 1936c: 252 & 253)

Freeland, Miss A.B. (no biographical detail) Uddingston, Monaghan, Scotland: collaboration, correspondence, visit(?) (1883b: 142; 1886b: 138; 1887d: 136)

Frey-Gessner, Emil, (b.1826, d. 1917) Geneva Musuem: collaboration (1894d: 558)

Gahan, Dr. Charles Joseph (b.1862, d.1939) British Museum of Natural History, London, England: collaboration, correspondence, Maj. R. Brewitt-Taylor's Mesopotamian material and note books (1920a: 293)

Gordon, Mr. J.G. (no biographical detail) and brother R., Corsemalzie, Wigtownshire, Scotland: correspondence, visit (1904g: 281)

Goss, Mr, (no biographical detail) Brighton: collaboration (1897a: 43)

Graves, Maj. Philip Percival (b.1876, d1953) Constantinople: collaboration, Asia Minor material (1915a: 129; 1922b: 80; 1924a: 40 & 41)

Haines, Dr. Frederick Haslewood (b.1864, d.1946) Linwood, England: collaboration, correspondence, visit (1936c: 252)

Halbert, Mr. James Nathaniel (b.1872, d.1948) National Museum, Dublin: collaboration (1909: 233; 1914a: 5, 1914b: 16)

Haliday, Mr. Alexander Henry (b.1806, d.1870) Holywood, County Down, Ireland: correspondence

Hobby, Mr. Bertram Maurice (b.1905, d.1983) Oxford, England: correspondence (1932a: 57)

Johnson, W.F. Rev. (no biographical detail) Belfast, Ireland: correspondence (1925b: 47)

Kempny, Dr Peter (b.1862, d.1906) Gutenstein, Austria: collaboration, correspondence (1901b: 69;1902d: 256; 1930a: 3)

*Kennedy, Clarence Hamilton (b.1870, d.1952) California, USA: correspondence (see Calvert 1940)

King, Mr. James, J.F.X. (b.1855, d.1933) Glasgow, Scotland: collaboration, collecting, correspondence (1885d: 139–140; 1887c: 118; 1894d: 558; 1889a: 236; 1893d: 249; 1894d: 563; 1896e: 58; 1898c: 159; 1899b: 26; 1899d: 56; 1904b: 327; 1914a: 6; 1929d: 245; 1931e: 250; 1933b: 246)

Killington, Dr. Frederick James (b.1894, d.1956) England: collaboration, correspondence (1931b: 197 & 198; 1933b: 246; Fraser 1942: 85 quoting correspondence from Killington)

*Kimmins, Mr. Douglas Eric (b.1905, d.1985) British Museum of Natural History, London, England: collaboration, correspondence (1931b: 198)

*Kinnear, Norman Boyd (b.1882, d.1957) writing c/o Bombay Natural History Society while on active service in India: collaboration, correspondence

Klapálek, Professor "Franz" Frantisek (b.1863, d.1919) Prague, Czech Republic: collaboration, correspondence (1890c: 127; 1894a: 62; 1894d: 557-574; 1896e: 58; 1902d: 256; 1904b: 323 - 328; 1915b: 285; 1930a: 4)

Klingstedt, Herr Torsten Holger (b.1919, d.1947): collaboration, correspondence (1936c: 256; Fraser 1942: 81 quoting Morton)

Lacroix, M. (no biographical detail) Niort, Deux Sevres, France: correspondence (1926b: 8)

*Laidlaw, Dr. Frank Fortescue (b.1876 d.1963) Uffculme, Devon, England: collaboration, correspondence (1916d: 287; 1928b: 113)

Leman, Herr (no biographical detail) Tirol: collaboration, correspondence (1928d: 254)

Lieftinck, Mr Maurits Anne (b.1904, d.1985) Amsterdam, Netherlands: correspondence (1926d: 238; 1927a: 60; 1927b: 86; 192b8: 112; 1928c: 42)

Longfield, Miss Cynthia Evelyn (b.1896, d.1991) Castle Mary estate, Cloyne, Co. Cork): correspondence

Lowne, Professor (no biographical detail) Curator of the Entomological Club cabinets, London, England: correspondence (1911b: 82)

*Lucas, William John (b.1858, d.1932) Kingston-on-Thames, Ringwood, England: correspondence (1906g: 275; 1914c: 49; 1931b: 198)

Maarud, Herr & Frau (no biographical detail) Wattne Saeterstølen, Norway: accommodation, correspondence (1901a: 25)

Manissadjian, Professor Johannes 'John' Jacob (b.1862, d.1942) Merzifun, Turkey: collaboration, Amasian, Van and Asia Minor material (1914g: 56; 1916d: 273 & 285)

*Martynov, Mr. Andrey Vasilyevich (b.1879, d.1938) Zoological Museum, Russian Academy of Sciences, St Petersburg: collaboration, correspondence (1927b: 86)

Mathieson, Dr. (no biographical detail) Plockton, Scotland: correspondence (1932c: 269)

McLachlan, Mr Robert (b.1837, d.1904) Lewisham, England: mentor, collaboration, collecting, correspondence (1883a: 194; 1884a: 273; 1885a: 96; 1885d: 139–140; 1887a: 201 & 202; 1893e: 75 & 80; 1894d: 557-574; 1896: 102; 1896e: 56–59; 1899d: 56; 1900d: 1–7; 1901a: 30; 1902a: 10; 1902c: 156; 1902e: 283; 1904b: 326 & 327; 1904c: 38; 1904f: 203 (obituary); 1905b: 65 & 69; 1906c: 146; 1910b: 55–62; 1911b: 81; 1930a: 4; 1933b: 246; 1934a: 5; 1934e: 42 & 43)

Morley, Mr Claude (b.1874, d.1951) Ipswich, later Monks Soham, Suffolk: collaboration, correspondence (1901d: 120; 1908b: 42)

*Mosley, Mr Martin Ephraim (b.1877, d.1948) London, England: collaboration, collecting, correspondence (1911a: 19; 1911b: 83; 1912b: 241; 1913b: 74; 1913d: 259; 1914e: 210; 1916d: 273; 1920a: 303; 1921b: 180; 1922a: 277; 1926a: 404; 1926b: 2& 3; 1929c: 128; 1930b: 75; 1934a: 5)

Müller, Dr Johann Friedrich “Fritz” Theodor (b.1822, d.1897) Santa Catharina, Brazil: correspondence (1889b: 262; 1911e: 411)

*Nakahara, Waro (b.1896, d.1976) Tokyo, Japan: collaboration, correspondence, Japanese and Formosa material

Navás, Father Longinos (b.1858, d.1938) Madrid, Spain: correspondence (1906g: 276; 1914e: 212; 1925a: 5; 1926a: 410)

Needham, Professor James George (b.1868, d.1957) Lake Forest University, Illinois, USA: collaboration, North American material (1905b: 63 & 73; 1922a: 277; also see Calvert 1940)

Nurse, Lt.-Col. Charles George (b.1862, d.1933) Tunbridge-Wells, England: collaboration, North-western Indian material (1907c: 303-308; 1911c: 134)

Økland, Mr. Fridthjof (b.1893, d.1957) Norway: collaboration, correspondence, Novaya Zemlya material (1923b: 3)

Percival, Mr E. (no biographical detail) Leeds: collaboration (1929c: 131)

Perkins, Dr. Robert Cyril Layton (b.1866, d.1955) Devon, England: correspondence (1926c: 62)

Pongrácz Dr. Sándor (no biographical detail) Hungarian Natural History Museum, Budapest: collaboration (1928d: 254)

Porritt, Mr George Taylor (b.1848, d.1927) Huddersfield, England: collaboration, collecting, correspondence (1899b: 26; 1904h: 145; 1914a: 7; 1914e: 210 & 211; 1929d: 245; 1936b: 231)

*Ris, Dr "Fritz" Friedrich (b.1867, d.1931) Rheinau, Switzerland: collaboration, collecting, correspondence, visits: 1904 (Morton to Rheinau); 1906 (Ris to Edinburgh) (1894d: 557-574; 1896e: 58 & 59; 1898c: 159; 1899a: 24; 1901e: 147; 1904b: 323 - 328; 1905a:1-4 & 33-36; 1905c: 148; 1907a:1; 1907c: 303; 1910b: 54-59; 1911b: 87; 1912a: 109-114; 1914a: 2: 1914c: 49; 1914d: 169, 171 & 172; 1914e: 211; 1914g: 57; 1916d: 273; 1924a: 26-44; 1924b: 220; 1926d: 236; 1927a: 60; 1927b: 86; 1928d: 259; 1928a: 119 (West Africa); 1928b: 112 (Yunnan); 1929b: 63; 193c1: 65-66 (obituary))

*Rothschild, Hon. Mr. Nathaniel Charles (b.1877, d.1923) Huntingdonshire & Devonshire, England: collaboration (1910b: 54-62; 1913a: 60; 1913e: 271; 1916d: 273)

Sahlberg, Dr Johan Reinhold (b.1846, d.1920) Helsingfors, Finland: collaboration, correspondence (1893e: 75, 79 & 80; 1894d: 558; 1896: 110; 1896e: 59; 1898c: 159; 1901e: 146 & 147)

Scott, Mr. Hugh (b.1885, d.1960); University Museum of Zoology, Cambridge, England: collaboration (1911d: 113)

Service, Mr. Robert (b.1854, d.1911) Dumfries, Scotland: correspondence, visits (1885a: 96; 1899g: 280; 1900c: 108)

Silfvenius, Herr A. Johannes (b.1878, d.1910) Helsinki, Finland: collaboration, correspondence (1904a: 69; 1904b: 323)

Smart, Mr John (b.1907, d.1986) Edinburgh, Scotland: correspondence (1926b: 7)

Staig, Dr. Robert Arnot (b.1878, d.1963) Glasgow University Museum: collaboration, correspondence (1938: 7)

Standfuss, Maximilian Rudolph (b.1854, d.1917) Zürich, Switzerland: correspondence (1899a:24)

Stewart, Mr. A.M. (b.1862, d.1948) Paisley, Scotland: collaboration, correspondence (1914f: 23; 1931f: 188)

Storey, Mr. (no biographical detail): collaboration, Egyptian material (1921a: 219)

Strand, Herr Embrik (b.1876, d.1947) [then] University of Oslo, Norway: collaboration (1902a: 10; 1902c: 151 & 156)

Straudinger, Herr Otto (b.1830, d.1900) Dresden: collaboration, Caucasian and Ferganan material (1916d: 273)

Swainson, Mr. George Frederick (b.1829, d.1870) son of ornithologist William John Swainson, Auckland, New Zealand: correspondence (1934f: 44)

*Tillyard, Robin John (b.1881, d.1937) Hornsby, N.S.W. Australia: collaboration, correspondence, Australian material

Tjeder, Herr Bo (b.1901, d.1992) Lund, Sweden: collaboration, correspondence (1931b: 198; 1936c: 255 & 256; Fraser 1942: 81 quoting Morton)

Trail, Professor James William Helenus (b.1851, d.1919) Aberdeen, Scotland: collaboration (1885a: 96)

Ulmer, Georg (b.1877, d.1963) Hamburg, Germany: correspondence

Valle, Kaarlo Johannes (b.1887, d.1956) Turku, Finland: correspondence

Walker, Edmund Murton (b.1877, d.1969) Toronto, Canada: correspondence

Walker, Commander James John (b.1851, d.1939) Oxford, England: correspondence (1910b: 61)

Waterhouse Mr. Charles Owen (b.1843, d.1917) British Museum (now The Natural History Museum), London, England: collaboration, correspondence (1894d: 559; 1896e: 61)
Waterston, Mr. Andrew Rodger (b.1912, d.1996) Royal Scottish Museum, Edinburgh: collaboration, correspondence (1921: 213)
Waterston, Mr. James (b.1879, d.1930) Edinburgh; father of Andrew Rodger: collaboration, correspondence (1906d: 162; 1906h: 153)
Whitehead, Professor Hugh (b.1899, d.1983) Leeds, England then Christchurch, New Zealand: collaboration (1929c: 131)
Williamson, Edward Bruce (b.1877, d.1933) Bluffon, Indiana, USA): correspondence (see Calvert 1940)
Withycombe, Cyril Luckes (b.1898, d.1926) Walthamstow, England: collaboration, correspondence
Wood, Dr John Henry (b.1841, d.1914) Ledbury, England: correspondence (1901e: 147)
Zerny, Dr. Hans (b.1887, d.1945) Naturhistorisches Museum, Vienna: collaboration (1928d: 254)

Morton's travels

Morton clearly enjoyed his prolific travels, collecting specimens where ever he stopped. A catalogue of his travels is presented below to shed light on the extent of his interest in and dedication to entomology as well as giving an indication of immense enthusiasm for the subject. While he lived in Carluke, many occasions were spent collecting in the Clyde Valleys and surround area, with Mousse Glen being a firm favourite. Yet, at times, busy schedules kept him from going no further than "the immediate vicinity of Carluke; all the species referred to below having, with the exception of one or two [specimens] from Lanark Loch [six miles away], been taken within a radius of three miles around this place [meaning Carluke]" (1883a: 194). After he moved to Edinburgh, a substantial portion of his collection was collected in and around Edinburgh. Indeed, he evidently frequently collected at home in his garden and in the surrounding neighbourhood of Edinburgh and Balerno (1933c: 98-99).

His papers frequently refer to travelling companion(s) simply as "we" giving no clue to who accompanied him, but wherever possible it has been ascertained with whom he travelled. This has not always been conclusive and such instances have been annotated by "[with (?)]". That he also mentions both his wife and son accompanying him on trips suggests perhaps that his mention of 'we' meant members of his family. His wife assisted him ably with net in hand, adding to his collections: "…I was accompanied by my wife, and her net and quick eye contributed largely to the results…". Edgar Evans confirms this in a letter to Morton from Mesopotamia dated 24/9/18: "…and that of your son, who is apparently quite a keen naturalist".

That Morton collected more widely then I have been able to record here, especially on fleeting, but frequent visits to places within easy reach of his home (whether that be Carluke, Uddingston or Edinburgh) is clearly demonstrated in his January 1902 note (1902a: 10): " During the last ten years I have had occasion during the month of May to pay several flying visits to a locality in South Lanarkshire situated at the foot of a hill called Tinto (about 2400 feet)."

Many of the Scottish field trips were undertaken with his friends and colleagues, especially J.F.X.X. King. For example, on collecting in Mouse Glen, a tributary of the Clyde River, near Cleghorn in September 1885, Morton wrote: "My companions were Robert McLachlan (who visited Scotland twice from Lexisham) and J.F.X.X. King, two of the most energetic collectors I have ever seen at work" (1933b: 246). Another example, from 1899: "In June of the present year Briggs, King, Porritt and myself went to Rannoch, and when I left on 21st June *Ae. coerulea* was just appearing" (1899b: 26). And a similar statement "In June, 1898, a strong contingent, consisting of Messrs. Porritt, Briggs and King, whom I also joined for a few days, sojourned for a fortnight at Camghouran, and collected the species [*Aeschna coerulea* Ström, 1783] with great success" (1929d: 245) suggests that these trips were undertaken with great enthusiasm. He also went collecting with J.W. Bowhill in Taynult and Dalmally (1923a: 9).

Ever the 'modern' man, he used a variety of transportation,

motor-car: "On 25th August we motored from Cagnes to San Romo…" (France, 1924) and "…when we motored one day to Florence." (Italy, 1927); "Running the car into the mouth of a small quarry, where it was more sheltered from the wind, I turned my attention to the shores of the loch." (St Mary's Loch, Scotland, 1934)

motor-bus/coach "…an accident occurred…the steering gear of the coach having been damaged beyond immediate repair." (Corsica, 1929) "I forget the exact distance between the two places - eighty or ninety kilometres, I think. We found that a railway journey would be very circuitous and take, it seemed the best part of a day; besides it would probably be very hot. … so on the afternoon of 2nd July we covered the distance more quickly and more coolly by motor…" (France, 1932)

boat "Our port of entry was Calvi.." (Corsica, 1929); "from Molde we sailed direct to England" (Norway 1900)

and

bicycle and foot: "On the 24th I cycled some 10 miles up Glengarry, to within about 5 miles of Dalnaspidal…" (he was staying at Blair Athol at the time, July 1907).

Visiting locations in the alps as high as 7,000 ft. (Hannen See, 1904), 6,314ft. (Laghi di Colbricon, 1928), 5,800ft. (Lago di Nambino) and 6,000ft. in the Pyrénées (1926).

train: "Taking the train to Glattbrugg, our course led us along the banks of the Glatt for a stretch, then over the Riet to Oerlikon Station." (1905a: 33), "We took the train to Fontvieille and explored the hills lying between that place and Paradou" (France, July 1911).

Frequently he collected from dawn till dusk, commenting in 1891, for example, that when collecting in Rannoch in June 1889, "Some good dragonflies were taken at about 7 o'clock in the morning in the Woods…" (1891a: 45). That he collected *Drepanopteryx phalaenoides* (Neuroptera) in flight at dusk on 6 June, also suggests the lateness of the hour (1892c: 45) causing Morton to consider that this species might be crepuscular. In his 1927 describing a visit to the Alpes Maritimes, Morton mentions "On 25th June a female was picked up on the street about 8:30pm…" (1927c: 228) and Mr Lacroix told Morton "*B.* [=*Boyeria, Odonata*] *irene* … flies very late, even up to 9.30…" (1926b: 8)

His planned travels were extensive and sometimes lengthy. Many of these locations remain relevant today as well known places of collection or even now designated as nature reserves. Morton's travels were as follows:

1881 August, a burn near Carluke.
1883 June (14th and again later), July (9th - 17th), August and September, Carluke & Mouse Glen (on 7th), Lanarkshire, Scotland .
1884 April & June, Mouse Glen, Lanarkshire, Scotland (on 14 June with the Glasgow Natural History Society, later in June with J.J.F.X. King)
August & September, Clyde area moorlands
1885 18 September, Mouse Glen, Cleghorn, Lanarkshire, Scotland with J.J.F.X. King and R. McLachlan
1887 First week of August, Killarney, Ireland with J.J.F.X. King
9 - 10 August, Glaslough, Co. Monaghan, Ireland
1888 July, Northamptonshire and New Forest
Carluke and Clyde
Summer, Chamonix, Switzerland
1889 7 June, Hogganfield Loch, Glasgow dist., Scotland
17 - 22 June, Rannoch, Perthshire, Scotland, with J.J.F.X. King
1890 15 - 22 June, Camachgouran, Rannoch, Perthshire, Scotland
1 - 15 August, Glaslough, Co. Monaghan, Ireland
1891 5 October, Cleghorn, Lanarkshire, Scotland
1892 6 June, Clyde valley, Scotland
1-15 August, Glasslough, Co. Monaghan, Ireland
1893 Early March, Carluke, Mouse Glen, Lanarkshire, Scotland
1 May, Loch Ard, Perthshire, Scotland
[10 - 23] July, Thorney, Cambridgeshire, England
July, Arran, Scotland
7 August, Cleghorn, Carluke, Lanarkshire, Scotland
1894 18 July & mid-September, South Lanarkshire, Scotland, with his nephew
1895 9, 14-16 March, River Clyde, Lanarkshire, Scotland
[1-15] April, Rannoch, Perthshire, Scotland, with J.J.F.X. King
6 May, Loch Lomond (eastern shore), Stirlingshire, Scotland
June-July, Glen Lochay, Perthshire, Scotland
1896 June, River Clyde, Uddingston, Scotland
July, "Aviemore" (Loch-an-Eilan), Rothiemurchus and Glenmore, Speyside, Scotland, with J.J.X.F. King
1897 July, New Forest, Hampshire, England, with Robert McLachlan (for a few days)
1898 June (for a few days ending 21st)
Camghouran, Rannoch, and Lochan na Lairige Perthshire, Scotland with Messrs. Porritt, Briggs and King.
26 June, Uddingston, Scotland
July, Glen Lochay, Loch Tay and Rannoch, Perthshire, Scotland
1899 17 April, Logan Burn, Pentlands, Scotland
July, Monreith, Wigtownshire, Scotland
1900 17 June - 11 July, Norway with his wife
1901 28 June, Lake of Menteith, Perthshire, Scotland
July, Egrun, Barmouth and Harlach, Merionethshire, Wales
1902 5 May, Loch Lubnaig, Perthshire, Scotland
July, Digne, Basses Alpes, France
August, Colvend, Kirkcudbrightshire & Carluke, Lanarkshire, Scotland

1903 4 May, Loch Ard, Perthshire, Scotland
1 - 15 July, Rannoch, Perthshire, Scotland
1 - 15 September, Lake District, England
1904 1 - 25 July, Rheinau, Switzerland, to visit Ris, and Austria, with his wife
1906 14 July, Aberfoyle, Perthshire, Scotland
1907 July, Blair Athole, Perthshire, Scotland
1908 Carnarvonshire, Wales
1909 4 June, Loch Leven, Kinross, Scotland
1910 3 June, Lake of Menteith, Perthshire, Scotland
4 November, River Tyne, Ormiston, East Lothian, Scotland with William Evans
1911 2 - 25 July, France & Spain with Fritz Ris
1912 16-23 July, Rannoch & Glen Lochay, Perthshire, Scotland, with Professor Philip P. Calvert
1913 5 May, Logan Lee, Midlothian Perthshire
July, France & Spain with his wife
26 July, Lawers, Loch Tay,Perthshire, Scotland with his wife
1914 July, Digne, Basses Alpes, France
1915 1 - 26 July, Lochaber, Inverness-shire, Scotland [with his family] joined toward the end of their stay by Mr William Evans
1916 23 - 26 June, Chartley Moss, Staffordshire, England
15 - 31 July, Inverlair, Inverness-shire, Scotland
4 - 11 August, Emyvale, co. Monaghan, Ireland with his son (probably wife and daughter too)
1917 8 June, Ormiston, East Lothain, Scotland
July, Loch Laggan and Spey, Perthshire, Scotland
At the beginning of August, Inverlair, Inverness-shire, Scotland
1918 17 July, Glen Nant, Scotland with Mr J.W. Bowhill
1919 8 June, Taynuilt, Argyllshire, Scotland
1920 August, Loch Sween, Argyllshire, Scotland with [his wife and family?]
1921 17 & 18 September, Fortingal, Perthshire, Scotland
1922 11 July, Longniddry & Port Seton, East Lothian, Scotland
22 July, Black Mount Forest, Rannoch Moor, Perthshire, Scotland with Mr J.W. Bowhill
At the beginning of August and the end of September, Loch Awe, Argyllshire, Scotland
1 October, Ruislip reservoir, London with Martin Mosely
1923 5 June - 7 July, France, Pyrenees with Martin Mosely
10 August, Longniddry & Port Seton, East Lothian, Scotland
1924 29 June - 29 July, Central France, with Martin Mosely
August & September, France, Alpes Maritimes with his wife and family
1925 8 - 28 April, Coniston Lake, Lancashire, England
1 June - 4 July, France, Alpes Maritimes with Martin Mosely
2 August - 20 September, France, Alpes Maritimes and Italy, Lake District with his wife and family
1926 mid-September, Kilchrenan, Loch Awe
1927 15 July - 12 August, Apennines, Italy
1928 15 - 18 June, Austria, Vienna

18 June - 22 June, Hungary, Budapest
23 June - 1 July, Austria, Tirol
2 July - 7 August, Italy, Lake District [all with (?)]
early August? British Museum (Natural History), London

1929 12 June, Rannoch, Perthshire, Scotland, with his wife and son
26 - 30 June, Arisaig, West Inverness-shire, Scotland
20 July - 1 August, Corsica
August, Riviera, France

1930 26 June - 20 July, Arisaig district and Glen Mamie, West Inverness-shire, Scotland
12 - 22 September, Lawers, Perthshire, Scotland

1931 18 June - 2 July, Dordogne and Lot, France [with his wife]
29 August, Holyrood Park, Edinburgh, Scotland

1932 June, Plockton, West Ross-shire, Scotland
May, summer & September, Roslin Glen, Midlothian, Scotland
1 - 17 July, Glen Affric, Inverness-shire, Scotland

1933 15 May - 1 June, Tayvallich, Kintyre, Argyllshire, Scotland
June (16th, 23rd & 28th), August, September & October (3rd & 6th), Roslin Glen, Midlothian, Scotland
July, Rothiemurchus, Inverness-shire, Scotland

1934 5 May, St Mary's Loch, Selkirkshire
14 - 30 May, Ballindalloch & Tomintoul Banffshire, Scotland with [his wife and family?]
June (6th, 13th, 18th & 25th), July (18th, 24th & 25th), August (8 - 17) and 5 September, Roslin Glen, Midlothian, Scotland
3 - 30 July, Ross-shire and Sutherland, Scotland
1 October, Yarrow, St Mary's Loch and Loch of the Lowes, Selkirkshire

1935 11 May - 7 June, Tayvallich and Carsaig Bay (Sound of Jura), Kintyre, Argyllshire, Scotland
22 June - 4 September, Roslin Woods and Arniston, Midlothian, Scotland
24 September - 7 October, Tayvallich, Kintyre, Argyllshire, Scotland

1936 May - September, Linwood, New Forest, Hampshire, England sporadically] with Dr Haines
28 July, 21 August & 12 October, Roslin, Midlothian, Scotland

1937 May (26th) & June (7th & 11th), Roslin, Midlothian, Scotland
17 June - 30 July, Cambusvrachan, Glen Lyon, Perthshire with Miss Ethel Evans on the 21st (and one other day)

1938 30 May - 30 June, Boreland, Loch Tay, Perthshire, Scotland

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(https://www.findagrave.com/memorial/222663986/kenneth-john-morton: accessed 24 March 2023), memorial page for Kenneth John Morton (5 Aug 1858-29 Jan 1940), Find a Grave Memorial ID 222663986, citing Old Carluke Cemetery, Carluke, South Lanarkshire, Scotland; Maintained by Genealogist (contributor 47802629).
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