

**Secrets of de Selys Longchamps archives: one watercolour and two records
of nineteenth century observations of the grasshopper species
Psophus stridulus (Linnaeus, 1758) and *Locusta migratoria* (Linnaeus, 1758)
in Belgium (Orthoptera: Acrididae)**

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Abstract

Next to voucher specimens in entomological collections, also historical archives and historical illustrations can contain valuable taxonomical as well as ecological and faunistic data. We report here faunistic data for two currently extinct Belgian grasshopper species from the year 1862, deduced from a letter accompanied by a watercolour. The letter and watercolour are stored in the archives of Edmond de Selys Longchamps at the Royal Belgian Institute for Natural Sciences (RBINS). Both the watercolour and the letter are discussed, focusing on the observations of *Psophus stridulus* (Linnaeus, 1758) and *Locusta migratoria* (Linnaeus, 1758) (Orthoptera) at Lanaken in 1862. Two voucher specimens of these observations and their original labels, that are stored in the RBINS collections, were studied. We can conclude that Egide Fologne was the first to observe *P. stridulus* in Belgium. He reported this in a letter to Edmond de Selys Longchamps and supplied the watercolour depicting the specimen he collected and donated to Selys for his collection.

Keywords: Fologne, de Selys Longchamps, archives, Royal Belgian Institute for Natural Sciences

Samenvatting

Naast exemplaren in entomologische collecties, kunnen ook historische archieven en historische illustraties waardevolle taxonomische, ecologische en faunistische gegevens bevatten. Wij bespreken hier faunistische gegevens van twee tegenwoordig uitgestorven Belgische sprinkhaansoorten afkomstig uit het jaar 1862, afgeleid uit een brief met een bijbehorende aquarel. De brief en de aquarel zijn ondergebracht in de archieven van Edmond de Selys Longchamps in het Koninklijk Belgisch Instituut voor Natuurwetenschappen (KBIN). Zowel de aquarel als de brief worden besproken met de nadruk op de waarnemingen van *Psophus stridulus* (Linnaeus, 1758) and *Locusta migratoria* (Linnaeus, 1758) (Orthoptera) in Lanaken in 1862. Twee toen verzamelde exemplaren en de originele labels, die aanwezig zijn in de KBIN collectie, zijn bestudeerd. We kunnen concluderen dat Egide Fologne de eerste was die *P. stridulus* heeft waargenomen in België. Hij bracht hiervan verslag uit aan Edmond de Selys Longchamps in een brief en leverde de aquarel waarop het exemplaar is afgebeeld dat hij verzamelde en doneerde aan Selys voor zijn collectie.

Résumé

Outre les spécimens de référence conservés dans les collections entomologiques, les archives et les illustrations historiques peuvent également contenir des données taxonomiques, écologiques et faunistiques. Nous rapportons ici des données faunistiques concernant deux espèces de sauterelles observées en 1862 et actuellement éteintes de Belgique, déduites d'une lettre accompagnée d'une aquarelle. La lettre et l'aquarelle, issues des archives d'Edmond de Selys Longchamps et conservées à l'Institut royal des Sciences naturelles de Belgique (IRSNB), sont analysées en se concentrant sur les observations de *Psopus stridulus* (Linnaeus, 1758) et de *Locusta migratoria* (Linnaeus, 1758) (Orthoptera) faites à Lanaken en 1862. Deux spécimens de référence et leurs étiquettes originales, conservés dans les collections de l'IRSNB ont été étudiés. Nous pouvons conclure qu'Egide Fologne a été le premier à observer *P. stridulus* en Belgique. Il l'a signalé dans une lettre à Edmond de Selys Longchamps et a fourni l'aquarelle représentant le spécimen qu'il a collecté et donné à Selys pour sa collection.

Introduction

In 2014, the first two authors started the study of the odonate watercolour collection of Edmond de Selys Longchamps (1813-1900) (VERSPUI & WASSCHER 2016; 2017) at the Royal Belgian Institute for Natural Sciences. All the illustrations (1417 sheets) and texts (436 sheets) were scanned and stored as high quality jpg illustrations on the Virtualcollections site of RBINS (www.virtualcollections.naturalsciences.be).

In a box labelled 'Orthopteres', of the Selys archives, situated in a cabinet at the Entomological section at RBINS, a letter on Orthoptera observations and a watercolour of an Orthoptera species with red wings were found in April 2017 by the first author.

Information on two Belgian Orthoptera

The letter

The two-sided letter in French, dated August 26, 1862, was accompanied by a watercolour (Fig. 1). The signature (Fig. 2) at the end of the letter 'E. Fologne' indicates that the letter was written by the entomologist Egide Fologne (1830-1919), an acquaintance of Selys. The letter, in the Selys archives, starts with 'Monsieur et Honoré Collègue' (Mister and esteemed colleague) presumably meaning Selys although Fologne does not mention his name in the letter.



Fig. 1. Watercolour of *Psopus stridulus*, send by Egide Fologne to Edmond de Selys Longchamps (Selys archives, RBINS).

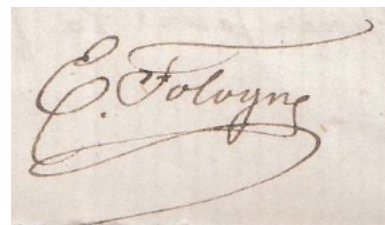


Fig. 2. Signature of Egide Fologne at the end of his letter to Edmond de Selys Longchamps (Selys archives, RBINS).

There are two paragraphs in the letter discussing observations of grasshoppers (Orthoptera). The first paragraph (Fig. 3) concerns a grasshopper both men talked about before. Possibly this was at their meeting on August 8th 1862 in Brussels, that is documented in Selys' diary (CAULIER-MATHY & HAESSENNE-PEREMANS, 2008). This paragraph reads: '*J'ai le plaisir de vous faire savoir que la*

Sauterelle à ailes rouges dont nous parlions avant mon départ pour la Campine, existe réellement dans le pays. Mes souvenirs étaient donc exacts quand je vous disais qu'il me semblait avoir déjà vu cette espèce. J'en ai trouvé un exemplaire au milieu des bruyères à Lanaeken, le 12 Août. Sans connaître les orthoptères, il me paraît que l'insecte dont je vous donne ci-joint un aperçu, n'est pas une simple variété de l'espèce à ailes bleues et qu'elle en diffère par la forme découpée des ailes inférieures. (I have the pleasure to inform you that the grasshopper with the red wings that we discussed before my departure for Campine ('Kempen' in Dutch) really exists in the country. My memories were correct when I told you that it seemed I had seen this species before. I have found a specimen there in the middle of the heathland at Lanaken on August the 12th. Without knowledge of the Orthoptera, it seems to me that the insect, of which I here add an illustration, is not a simple variety of the species with the blue wings and that it differs in the cut-out form of the lower wings.)

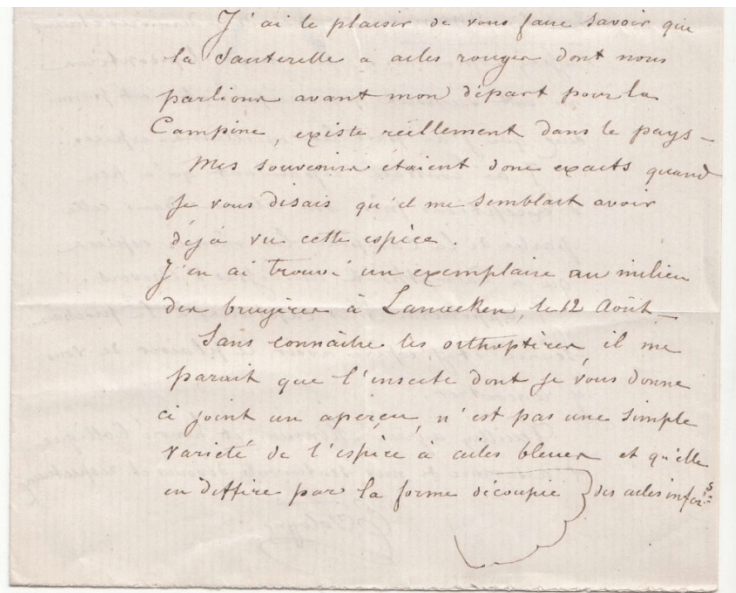


Fig. 3. Paragraph of the letter to Edmond de Selys Longchamps discussing the observation of *Psophus stridulus* in Lanaken by Egide Fologne (Selys archives, RBINS).

In the letter Fologne described another grasshopper species he found in the same area: '*J'ai encore trouvé à Lanaeken une espèce beaucoup plus grande, à ailes supérieures transparentes jaunâtres, plus obscures à la base et tachetées de brun, les ailes inférieures sont d'un jaune verdâtre excepté vers leurs bords où elles sont incolores avec l'angle antérieur foncé (c'est peut-être le criquet voyageur)*' (I have found also at Lanaken a much larger species with upperwings transparent yellow, darker at the base and specked brown, the lower wings are greenish yellow except the borders that are without colour with a darker front corner (it is maybe the migratory locust)).

Moreover, Fologne wrote in his letter: "*Vous en jugeriez mieux d'après l'insecte mentionné que je réserve pour votre collection*". Here he mentions that Selys can later on judge if his identification is correct and that he will give the specimen to Selys to add it to his collection. Further he also mentions: "*J'apporterai mes captures à la prochaine séance et j'espère avoir le plaisir de vous y rencontrer*". (I will bring my captures to the next meeting and I hope to have the pleasure to meet you there). He probably refers to the meeting of the Société entomologique de Belgique (now la Société royale belge d'Entomologie/Koninklijke Belgische vereniging voor Entomologie), a society of which both Fologne and Selys were active members.

The watercolour

The watercolour (Fig. 1) shows an Orthoptera species with red wings that has a black spot at the front border. The appearance and characteristics agree with *Psophus stridulus* (Linnaeus, 1758) (klappersprinkhaan in Dutch and 'le criquet stridulant' in French).

The formulation ‘ci joint un aperçu’ (illustration included) in the first paragraph of the letter (Fig. 3) concerning the grasshopper with the red wings, seems to refer to the watercolour that was found. This would imply that Fologne painted this watercolour or had someone who painted this specimen for him.

Observations of these two and other grasshopper species

The Orthoptera species with the red lower wings, mentioned in the letter, is not given a name by Fologne. Nevertheless, Selys mentioned this observation by Fologne in two publications (DE SELYS LONGCHAMPS, 1868; 1888) and he used the scientific name *Pachytylus stridulus* (now *Psophus stridulus*) in 1868 and *Psophus stridulus* in 1888. Selys noted that up till then, it is the only Orthoptera species with red lower wings observed in Belgium. The specimen of Fologne from Lanaken is listed in the description of Selys’ Orthopteres collection (BURR, 1913). It can be identified from both the description and the watercolour as *Psophus stridulus* (klappersprinkhaan in Dutch and ‘le criquet stridulant’ in French) that is currently an extinct species in Belgium (MAES *et al.*, 2017). There are three known observations for this species in Belgium, this one from Lanaken in 1862 and one from an unknown location in the province of Limburg in 1951 (DECLER *et al.*, 2000). A third observation of *Psophus stridulus* at the same area at Lanaken by Adrien Maurissen without a date is also documented (SELYS, 1888).

For the second species, that was mentioned and described as large with yellow upper wings, Fologne suggested the name ‘le criquet voyageur’. This observation by Fologne is mentioned by Selys (DE SELYS LONGCHAMPS, 1868). The specimen, collected by Fologne, was documented with both the species names *Pachytylus danicus* and *Pachytylus cinerascens* (synonyms of *Locusta migratoria*) in the description of Selys’ Orthopteres collection (BURR, 1913). Fologne’s description seems to fit with *Locusta migratoria* (Linnaeus, 1758) (Europese treksprinkhaan in Dutch and ‘le criquet migrateur’ in French). *Locusta migratoria* is currently extinct in Belgium (MAES *et al.*, 2017) and the last observation was made in 1944 (introduced individuals not included).

Probably in response to Fologne’s letter, Selys did visit the same site at Pietersheim (north of Lanaken) together with Ernest Candèze on 2 September 1863. He reported seeing *Pachytylus cinerascens* (now junior synonym of *Locusta migratoria*) but he did not find *Psophus stridulus* (SELYS, 1868). They made observations of many other grasshopper species and Selys thought two species were new for Belgium: *Ephippigera vitium* (now *Ephippiger diurnus* (Dufour, 1841) and *Sthenobothrus haemorrhoidalis* (Charpentier, 1825) (now *Omocestus haemorrhoidalis* (Charpentier, 1825). The latter was later identified as *Chorthippus mollis* (Charpentier, 1825) (mail 18 June 2017 Hendrik Devriese).

Specimens collected by Fologne and stored in Selys’ collection at RBINS

In the Orthoptera collection of Selys at RBINS, we found the two specimens collected by Fologne in 1862 and given to Selys. For the specimen of *P. stridulus*, it was not evident from the attached labels (Fig. 4) that Fologne collected this grasshopper because no additional information on the collector as such could be found on the labels. For the *L. migratoria* specimen, however, the writing indicates that this specimen was collected by Fologne on the 12th of August (“12.8”) (Fig. 5).



Fig. 4. *Psophus stridulus*, collected by Egide Fologne at Lanaken in 1862, in Selys’ collections (RBINS) (photographs: Camille Locatelli).



Fig. 5. *Locusta migratoria*, collected by Egide Fologne at Lanaken in 1862, in Selys' collections (RBINS) (photographs: Camille Locatelli).

Conclusions

Our discovery of this letter and watercolour in the archives of Selys confirms that also archives can harbor very valuable faunistic data and records. This watercolour was only discovered when screening systematically all correspondence and notes of Selys. In the Belgian Orthoptera collection at RBINS (containing the integrated Orthoptera collection of Selys), we found both specimens that were mentioned in the letter. Although for one specimen, the labels might suggest Selys collected them, this is not the case. This is important information as many labels attached to voucher specimens from that period (before 1900) only contain limited information and archives might supply additional information.

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References

- BURR M., 1913. – Orthoptères. Catalogue systématique et descriptif des collections zoologiques du baron Edmond de Selys Longchamps.2: 1–35. Hayez, Bruxelles.
- CAULIER-MATHY N. & HAESSENNE-PEREMANS N., 2008. – *Une vie au fil des jours. Journal d'une notable politicien et naturaliste, Michel-Edmond de Selys-Longchamps (1823–1900)*, 2 volumes. Bruxelles: Acad. R. Belg.
- DECLER K., DEVRIESE H., HOFMANS K., LOCK K., BARENBRUG B. & MAES D., 2000. – Voorlopige atlas en "rode lijst" van de sprinkhanen en krekels van België (Insecta, Orthoptera)/Atlas et "liste rouge" provisoire des sauterelles, grillons et criquets de Belgique (Insecta, Orthoptera) SALTABEL, sprinkhanenwerkgroep van de Benelux i.s.m. Instituut voor Natuurbehoud & Koninklijk Belgisch Instituut voor Natuurwetenschappen Rapport I.N.2000/10 Augustus. 75 pp.
- DE SELYS LONGCHAMPS E., 1868. – Additions et corrections au catalogue raisonné des orthoptères de Belgique/Excursions faites en 1863,1864, 1865, 1866 et 1867. *Annales de la Société entomologique de Belgique*, 11: 23-42.
- DE SELYS LONGCHAMPS E., 1888. – Catalogue raisonné des orthoptères et des névroptères de Belgique. *Annales de la Société entomologique de Belgique*, 32: 103-203.
- MAES D., ADRIAENS T., DECLER K., FOQUET B., FOQUET R., LAMBRECHTS J., LOCK K. & PISSCHAERT F., 2017. – IUCN Rode Lijst van de sprinkhanen en krekels in Vlaanderen. Rapporten van het Instituut voor Natuur- en Bosonderzoek 2017 (29). Instituut voor Natuur- en Bosonderzoek, Brussel. 76 pp.

- VERSPUI K. & WASSCHER M.Th., 2016. – The damselfly and dragonfly watercolour collection of Edmond de Selys Longchamps: I Agrionines. *International Journal of Odonatology*, 19(3): 125–156.
DOI:10.1080/13887890.2016.1184718
- VERSPUI K. & WASSCHER M.Th., 2017. – The damselfly and dragonfly watercolour collection of Edmond de Selys Longchamps: II Calopterygines, Cordulines, Gomphines and Aeschnines. *International Journal of Odonatology*, 20(2): 79-121. DOI: 10.1080/13887890.2017.1330226