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Chrysopidae of Canada and Alaska (Insecta, Neuroptera) : revised checklist, new and noteworthy records, and geo-referenced localities

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Abstract

The Chrysopidae of Canada and Alaska, the subject of a study since 1980, including more than 6,000 adults representing 24 species in two subfamilies, are here revised and the localities geo- referenced. The number of specimens, earliest authenticated specimen, new records, flight period, and the localities supported by museum specimens are provided for each species for each province or territory of Canada, as well as the State of Alaska, USA. Localities in literature for which no specimen exists are queried. A directory of collectors is provided. Biological attributes, such as attraction to light, and plants or habitat where specimens were collected, are based on label data. *Chrysopa quadripunctata* Burmeister and *Chrysoperla rufilabris* (Burmeister) are reported for the first time from the Province of Manitoba, Canada; and, *Meleoma emuncta* (Fitch), for the first time from the provinces of Alberta and Saskatchewan, Canada. Nomenclatural changes include: *Mallada slossonae* Garland, 1996, as a new objective synonym of *Dichochrysa macleodi* (Adams and Garland, 1983; *Mallada*) **syn. nov.**, and *Dichochrysa perfecta* (Banks, 1895), an **emendation**.

Key words: Neuroptera, Chrysopidae, Canada, Alaska

Résumé

Les Chrysopidae du Canada et de l'Alaska, le sujet d'une étude depuis 1980, y compris plus de six mille spécimens adultes représentant 24 espèces dans deux sous-familles, sont ici mis à jour et les localités mises en référence géographiquement. Pour chaque espèce dans chaque province ou territoire du Canada, aussi bien que l'état de l'Alaska, les États-Unis, on trouvera le nombre de spécimens, le spécimen authentifié le plus tôt, les nouvelles récoltes, les dates extrêmes de récolte, et les localités de récolte soutenues par des spécimens de musée. Des localités en littérature pour laquelle aucun spécimen n'existe sont indiquées. Ce travail fournit un annuaire de collecteurs. Des attributs biologiques, soit l'attraction à la lumière, soit les plantes-hôtes ou l'habitat où des spécimens ont été rassemblés, sont basés sur des données d'étiquette. Les espèces *Chrysopa quadripunctata* Burmeister et *Chrysoperla rufilabris* (Burmeister) sont signalées pour la première fois de la Province de Manitoba, Canada; et l'espèce *Meleoma emuncta* (Fitch), est signalée pour la première fois des provinces d'Alberta et de Saskatchewan, Canada. Des changements nomenclatural incluent : *Mallada slossonae* Garland, 1996, comme un nouveau synonyme objectif de l'espèce *Dichochrysa macleodi* (Adams and Garland, 1983; *Mallada*) **syn. nov.**, et *Dichochrysa perfecta* (Banks, 1895), comme une **emendation.**

Introduction

The study of green lacewings or Chrysopidae in Canada can be traced in literature for 150 years, or more, starting with Gosse (1840 [1971][1]). The first mention of Chrysopidae in Alaska was by Bickley and MacLeod (1956). Early specimens from British North America deposited at the British Museum, according to Walker (1853), could not be located. Such early specimens that do exist either lack context, i.e., there are no labels pinned with the specimens, or they lack the label data that has become standard (Wheeler *et al.* 2001). By the early 1900's, the practice had developed of documenting new records, including Neuroptera *sensu lato*, in Annual Reports of the Entomological Society of Ontario, e.g., Gibson 1910, and of retaining voucher specimens in Ottawa or sending them to specialists for identification. Thus, many Canadian first records are deposited at the Museum of Comparative Zoology at Harvard University. Also during this period, the United States Museum of Natural History made collecting excursions into Canada (Currie 1904; Dyar 1904; Flint 2002). Some years later, interest in biological control led to collections in the interior of British Columbia (Dennys 1927). Also, the chrysopid fauna of Canada was analysed for the first time (Smith 1932); collecting excursions were made to Timagami, Ontario, in 1932 (A.W.A. Brown 1934), and to insular Newfoundland in 1949 (Krogerus 1954; Lindroth 1957); and the chrysopid fauna of neighbouring countries became better known, e.g., Greenland (Carpenter 1938; Henriksen 1939), Iceland (Fristrup 1942), the United Kingdom (Barnard 1978), and the former USSR (Dorokhova 1979). In 1977, the Biological Survey of Canada was inaugurated (Danks 1979). At that time, it was thought that Chrysopidae in Canada numbered about 25 species, and that some of them probably extended as far north as tree-line (Kevan 1979).

1. Facsimile reprint, Coles Publishing Co., Toronto. 1971.