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## The localities of I. A. Scopoli's *Entomologia Carniolica* (1763)

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### Introduction

Giovanni Antonio Scopoli was born in Cavalese (Trento) on 13 June 1723 and died in Pavia on 8 May 1788. He was a physician, and became successively Professor of Metallurgy and Chemistry in Idria, then an important mining centre<sup>1</sup> of the crown-land and duchy of Carniola in the Austro-Hungarian Empire [now Idrija in Slovenia] (1754–1769); Professor of Mineralogy and Metallurgy at Schemnitz in Hungary [now Banská Štiavnica in Slovakia] (1769–1776); and Professor of Natural History in the University of Pavia (1777–1788). Among his many publications<sup>2</sup> two works in particular were important for entomology, the *Entomologia Carniolica* (Vienna, 1763; Figure 1) and the *Deliciae florae et faunae insubricae* (1786–1788). The present note concerns the localities of the Insecta described in the *Entomologia* and seeks to rectify current misunderstandings: recent authors have misidentified Carniola with Carinthia.

### The localities of the *Entomologia Carniolica*

Carniola, or Krain, was, in political terms, 'a crown-land and titular duchy of Austria-Hungary, in Cisleithania, enclosed by Styria, Croatia, Istria, Görz and Gradisca, and Carinthia' (Heilprin & Heilprin, 1922: 347), or, topographically, the area comprising the hinterland of Trieste up to, in the north, the eastern extremities of the Julian Alps and the foothills of the Karawankens. Notwithstanding these readily ascertainable facts, or the fact that Moll long since had emphasized that Scopoli was dealing with 'Krainschen, nicht Kärntschen, Insekten' (Moll, 1789: 288), Carniola has been identified by recent authors with Carinthia, e.g., by Ebmer (1974: 113<sup>3</sup>, 1988: 597) as 'Kärnten oder Krain' and by Warncke variously as 'SE-Österreich' (1967: 253), 'SE-Australien' (*sic*, 1967: 300) or, more specifically, 'Kärnten' (1970: 31, several entries).

The *Entomologia Carniolica* dealt with the insects, and in small part the other arthropods, collected by Scopoli in the grand-duchy between the years 1759 and 1762 ('in Ducatu Carnioliae, ab Anno 1759 ad 1762 a me primo collecta'), in other words, during a part of the period when he was a professor in Idria, to which were added a few received from correspondents, notably from Wulfen<sup>4</sup> who provided specimens from the area of the capital, Laibach [Labacum, now Ljubljana, Slovenia] and from Göriz [Gorizia, now Gorizia, Italy]. The work is of particular interest as being not only one of the earliest major entomological works to apply the Linnaean system but also in giving, in many instances, details of the plants and habitats with which the insects were associated, and,

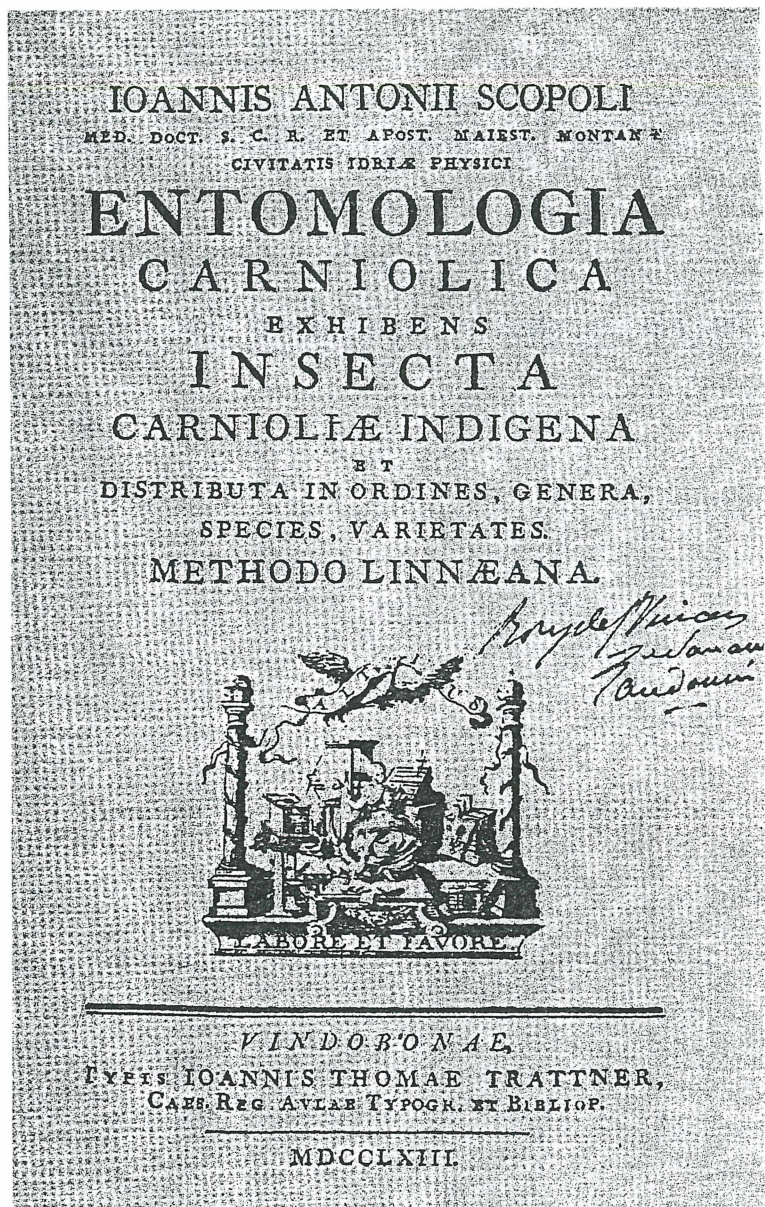


Fig. 1. Title page of the *Entomologia Carniolica*. Copy inscribed 'Bory de St Vincent à son ami Audouin' [Jean-Baptiste-Geneviève-Marcellin Bory de Saint-Vincent (1778–1846), botanist; Jean-Victor Audouin (1797–1841), entomologist, Latreille's successor at the Muséum d'Histoire Naturelle]. Author's library.

sometimes, their dates of capture (e.g., p. 9, under *Scarabæus Alpinus*, 'Reperi. A. 1761. 20. Julii, in alpibus *Vochinensibus* ...').

Unsurprisingly, most of Scopoli's insect collecting was done, as is evidenced by the frequent recurrence of the locality in his descriptions, in the neighbourhood of Idria ('circa *Idriam*, in *Rosenberg*', 'in montibus circa *Idriam*', 'prope litus fluvii *Idriae*', etc.), but it is also evident that he collected more widely, from the Adriatic coastlands and throughout the hinterland of Trieste up to the Julian Alps and the foothills of the Karawankens ('in *Austriaco Littorali*', 'in *Carniolia Istriaca*', 'circa *Tergestum*, prope mare', 'in monticulis *Adriatico mari proxime*', 'in *Carniolia calidiore / inferiore / media / super*', 'ad radicem alpium nostrarum', 'in alpibus *Carnioliae super*', etc.). While localities are commonly stated in such general terms as those quoted, a few are more precisely stated. With some of these there is no problem of identification: 'circa *Tergestum*' = about Trieste [Tergeste, Trieste]; 'circa *Labacum* / in agro *Labacensi*' = Ljubljana [Labacum, Laibach]; 'in agro *Vipacensi*' = Vipava [Vipacum, Wippach]; 'Lippiza' = Lipica. With others, recognition is less simple: former German names under the Empire have been replaced and classical ones have fallen into desuetude. These included, with their modern equivalents so far as established (exemplar page references in brackets):

circa <i>Idriam</i> in <i>Rosenberg</i> (240)	Rosenberg	common place-name, not identified: Idria district
in nemore <i>Weichenthal</i> (282)	Weichenthal	not identified
in <i>Gariusche</i> , inter <i>Veldes</i> & <i>Vochein</i> (299)	Gariusche Veldes	Gorjuše [Goriusch], 46°19'N 14°01'E Bled, 46°22'N 14°07'E (and Lake, Bledsko Jezero, Veldeser-See, Radmannsdorfer-See)
	Vochein	Bohinjska-Bistrica, 46°16'N 13°57'E (and Lake, Bohinjsko Jezero, Vocheiner-See, 46°17'N 13°51'E)
ad radicem alpium nostrarum, praesertim ad pedem <i>M. Greben</i> , <i>Grindovitz</i> , in <i>Kankerthal</i> , & supra <i>Gariusche</i> inter <i>Veldes</i> & <i>Vochein</i> (168)	<i>M. Greben</i> Grindovitz Kankerthal	not identified (? Triglav) Grintavec (mt), 46°22'N 14°32'E Kokra valley [Kokra, 46°18'N 14°30'E]
In alpibus <i>Vochinensibus</i> (9, 129)	—	mountains about Bohinjska-Bistrica
circa tuguria & possessiones <i>Rusticorum</i> (236); prope <i>Rusticorum</i> tuguria (328)	—	not in fact a specific locality ('about rural dwellings')
in agro <i>Locopolitano</i> (216)	Locopolis	Škofja Loka (formerly Bischoflack), 46°09'N 14°19'E
circa aquæductus <i>Fodinarum</i> <i>Idriensium</i> in <i>Struk</i> (264, 360)	Struk	not identified, presumably, from the 'aqu. <i>Fod. Idr.</i> ', in the immediate vicinity of Idria
in <i>M. Nanas</i> , supra <i>Prewald</i> (224)	<i>M. Nanas</i> Prewald	Nanos [ <i>M. Re</i> ], 45°47'N 14°03'E Razdrto [Prawald, Prevallo], 45°45'N 14°04'E

in agro Vipacensi (26, 53)	Vipacum	Vipava (formerly Wippach, anc. Vipacum), 45°51'N 13°58'E
circa Goritiam [Wulfen]	Goritia	Gorizia (formerly Görz) 45°56'N 13°37'E
circa Idriam, &c	Idria	Idrija, 46°00'N 14°05'E

The intermediate scale maps found most useful for the area concerned – several of the above names will not be found in maps at atlas scales – are listed following the References.

### Acknowledgements

The author is indebted, for access to literature, to the librarians of the General, Entomological and Botanical Libraries, The Natural History Museum, London, and of the Linnean Society of London; and, for reading an early version of the text, and for helpful comments, to Dr P. H. B. Baker, FCO, and Dr A. C. Pont, Oxford University Museum of Natural History. Univ.-Doz. Dr Ulrike Aspöck, Naturhistorisches Museum Wien, kindly clarified certain points concerning Denis & Schiffermüller's *Schmetterlinge der Wienergegend*.

### Notes

- <sup>1</sup> The mines at Idria, referred to by Scopoli (p. 61, under *Mordella Rustica*: '*Idriae in intimis cuniculis Fodinarum Hydrarg: dicta ab operariis Schpanischa mucha*'), were an important European source of mercury.
- <sup>2</sup> Bibliographies have been provided by, *inter alios*, Voss (1881), Tomaselli (1973) and Violani & Giordano (1983). An autobiography was included, under the title *Vitae meae vices*, in Scopoli's *Deliciae* (3, 1788: 79–87). Portraits have been reproduced by Conci & Poggi (1996).
- <sup>3</sup> Ebmer (p. 113) invalidly (ICZN Art. 75(d)(5)) designated as neotype of *Apis calceata* Scopoli, 1763, a specimen from Zell Pfarre in Carinthia. Further, to support his identification of Scopoli's insect, Ebmer hypothesized that Scopoli employed, as a basis for his measurements, a *Linie* of 'mindestens 2,50 mm'. In reality, Scopoli's *Linie* was the Paris *ligne* and not some imaginary larger measure: on p. [xxxii] of the *Entomologia* he supplied a scale, with subdivisions, of '*Tres unciae Parisinae*' (in which, as printed, the *Linie* measured 2,24 mm). Scopoli gave the length of his *calceata* as 3<sup>1</sup>/<sub>3</sub> lines, or ca 7,5 mm, which would suggest that Ebmer's identification of Scopoli's species, for which he gave (1971: 79) a size-range (♂) of 8–10 mm, was erroneous.
- <sup>4</sup> R. P. Franc. Xav. Wulfen, SJ.
- <sup>5</sup> The *Monitum* was probably not printed until a considerable time after the book was first published, which would explain its absence from the majority of copies. In any event, Scopoli would hardly have been in a position even to consider the feasibility of providing plates until a substantial number of entreaties had been received. The anonymous reviewer of the *Commentarii* (Anonymous, 1766: 428), who did see the *Monitum*, referred to the plates

und der Baum krank ist. Im trocknen Wetter giebt man Achtung, ob sich auf der Erde, um den Stamm herum etwas, wie ein weißes Mehl findet. Außer dem bemerkt man, ob der Baum viel Harz am Stamm fallen läßt, welches ein Zeichen ist, daß der Saft nicht auf seine gewöhnliche Art aufsteigen kann, sondern zurück fällt, und durch die Rinde heransläuft.



### III.

## Entomologische Fragmente

von

Herrn Dr. D — — s. in Florenz.

Daß zu Scopoli Entom. carniol. wirklich Kupfer vorhanden sind, schienen nur wenige Entomologen zu wissen. Gewiß ist es, daß die Kupfer deren Anzahl so viel ich weiß sich auf einige 40 erstreckt, niemals in die Buchladen gekommen. Von einigen Exemplaren findet man hinten an gebunden, Monumentum Auctoris, in welchem der Verfasser eben diese Kupfer ankündigt, bei vielen Exemplaren aber fehlt dieses Blatt. Die Ursache, daß dieses Unternehmen liegen geblieben, war die übel angewandte Karaktheit des Verlegers, welcher zu denen von Herrn Verrucchi ihm gelieferten, ungemein saubern und getreuen Zeichnungen, die aller wohlfeilsten und natürlichsten Weise schlechtesten Kupferstecher in Wien erhalten hatte,



## Entomologische Fragmente.

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hatte, und dadurch ward, um die Welt mit keinem elenden Werke mehr belm zu suchen; der Hr. Berg-rath gezwungen, diesen gut gemeinten Voratz aufzugeben. Bey allem dem daß die vorhandenen Kupfer sich als Kunst-Produkt eben nicht sehr empfehlen, so sind doch selbige, so gar in Wien nicht mehr für Geld zu haben. Sie sind im ganzen genommen schlecht, bey weitem nicht so gut als Frisch etc., und beson-ders würden mehrere von den Phalänen gar nicht zu errathen seyn, wenn nicht die Nummer die bey je-dem Insect gestochen ist, (denn die Tafeln selbst sind nicht nummerirt) mit der Nummer im Buch überein-käme. Die Zahl der vor mir liegenden Kupfertafeln ist 43, ob noch einige mehr vorhanden, habe ich nicht erfahren können. Die Käfer, Fliegen, und Wanzen sind am erträglichsten, einige so gar gut, und ich bin daher auf den Gedanken gekommen, daß vermuthlich ein mittelmäßiger, und mehrere schlechte Künstler zu dieser Arbeit sind gebraucht worden; wie wohl bey einigen Exemplaren, auf der ersten Kupfer-tafel X. Winkler sc. und auf den übrigen kein Name steht. Abgebildet sind überhaupt 85 Insecten, das letzte ist *Apis terrestris*. So schlecht die Kupfer sind, so würde doch manches Insect, das bey der oft ängst-lichen Genauheit des Herrn Berg-raths im Beschrei-ben, dunkel wurde, durch die Bekanntmachung der-selben deutlicher geworden seyn.

In Unter-Steiermark, drauchen die Bauern das Gespinst der Phal. Pavon. maj. beim (Pau-ritum) Fingervurin, so nehmlich, daß sie in die

Pl. 3

auf-

Fig. 2. Dr. D-s's *Entomologische Fragmente* in Fuessly's *Neues Magazin* (1785). Der Herr Bergrath [mining councillor]: Scopoli.

'quae jam meditatur', which, if 'meditatur' is read as 'contemplated', would indicate that drawing and engraving had not at that date commenced. [One must wonder whether Higgins (1963) ever saw the *Commentarii* in the original, since he gave a wrong date (1764) and a wrong volume number (3 for 13).

- <sup>6</sup> 'Auch Schäfer's *Icon. und Scopoli's Icon. ad Entom. Carniol. habe ich zu vergleichen Gelegenheit gehabt ...*' (Moll, 1785, 1: 149).

## References

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- Anonymous [Deschamps, P.]** 1870 [1922]. *Dictionnaire de Géographie ancienne et moderne à l'usage du libraire et de l'amateur de livres*. Pp. [i]-viii, [1]-1592 [main text in two columns numbered as pp.]. Berlin [reprint of original Paris edition]; Josef Altmann.
- Conci, C. & Poggi, R.** 1996. Iconography of Italian entomologists, with essential biographical data. *Memorie Soc. ent. ital.* 75: 159-382.
- D--s, Dr.** 1785. Entomologische Fragmente. *Neues Mag. Liebh. Ent.* 2: 364-365.
- The article (III) 'Entomologische Fragmente von Herrn Dr. D--s. in Florenz' (Figure 2) was immediately followed (pp. 370-387) by an article (IV) 'Bemerkungen, Berichtigungen, und Zusätze zu dem Wiener systemat. Verz. der Schmetterlinge [i.e., J.N.C.M. Denis & I. Schiffermüller's *Systematisches Verzeichniß der Schmetterlinge der Wienergegend* (Wien, 1776; Augustin Bernardi), a subsequent edition of the same authors' *Ankündigung eines systematischen Werkes von den Schmetterlingen der Wienergegend* (Wien, 1775)] von Ebendemselben'. Percheron (1837: 83) identified the author of the latter article, and consequently also, indirectly, the author of the *Fragmente*, as Denis himself. Hagen (1862: 167), referring to the *Bemerkungen*, suggested that the attribution was incorrect ('Percheron und Carus haben sie wohl irrig Denis zugeschrieben, da Denis seit 1759 in Wien lebte') and Rogenhofer and Dalla Torre (1882: 593), referring to the *Fragmente*, indicated some doubt ('angeblich Dr. Denis!') but no other ascription suggests itself. (The contents-list of vol. 2 of the *Neues Magazin* gave only the cryptonym.)
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Heilprin, A. & Heilprin, L. (Eds) 1922. *A complete pronouncing gazetteer or geographical dictionary of the World*. Pp. [i]–[x], [1]–2105. Philadelphia & London.

Higgins, L. G. 1963. *Entomologia Carniolica*: J. A. Scopoli, 1763. *J. Soc. Biblioph. nat. Hist.* 4: 167–169.

Moll, K. E. Ritter von 1785. Achter Brief. Zell im Zillerthall, den 15. Dec. 1783 [Reise von Salzburg nach Reichenhall. Ueber die vielspizigen Wetterableiter. Fernere Reise nach Zell. Vorläufige entomologische Erinnerungen. Die salzburgischen Schröterarten.], pp. 134–152. In Schrank, F. von Paula & Moll, K. E. Ritter von, *Naturhistorische Briefe über Oestreich, Salzburg, Passau und Berchtesgaden* 1, pp. [i–iv], [1]–332, [i–iii (errata)], engraved frontisp.; 2 [Oesterreich for Oestreich], pp. [i]–[xxxii], [1]–460, 2 engr. pl. Salzburg; Joh. Jos. Maier's seel. Erbin Buchhandlung. [Collation: [1]  $\pi^4$ , A–I<sup>8</sup>, K–U<sup>8</sup>, X<sup>6</sup>, two leaves unsigned; [2]  $(-)(-)([sic!])^8$ , A–I<sup>8</sup>, K–U<sup>8</sup>, X–Z<sup>8</sup>, Aa–Ee<sup>8</sup>, Ff<sup>6</sup>.]

Rogenhofer & Dalla Torre (1882: 593, footnote (<sup>2</sup>)) quoted this work as noticing (p. 149) the existence of plates for the *Entomologia* but gave a false reference.

—— [as Moll, K. E. Ritters von] 1789. Entomologische Nebenstunden. *Schr. berl. Ges. naturf. Fr. Berl.* 9: 257–301.

Moll dealt with the *Entomologia* on pp. 286–296 under the heading 'Icones ad Scopoli Entom. Carniol.'

Percheron, A. 1837. *Bibliographie entomologique, comprenant l'indication par ordre alphabétique de noms d'auteurs 1° des ouvrages entomologiques publiés en France et à l'Étranger, depuis les temps les plus reculés jusques et y compris l'année 1834; 2° des monographies et mémoires contenus dans les recueils, journaux et collections académiques Françaises et Étrangères; accompagnée de notices sur les ouvrages périodiques, les dictionnaires et les mémoires des sociétés savantes; suivie d'une table méthodique et chronologique des matières*. 1, pp. [i], [v]–xii, [1]–326; 2, pp. [i], [1]–376. Paris & London; J. B. Baillière.

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It was clearly not the author's original intention to publish illustrations, but in the *Monitum Auctoris* (Figure 3) issued with copies supplied subsequently to the work's first becoming available<sup>5</sup> it was announced that, in response to public demand, illustrations of all the species described would be published:

Cum fama de vulgando hoc libello, typo pene jam absoluto, ad nostrates Entomologiae cultores permanasset; petiere vehementer, ut ad expeditiorem ejus usum icones omnino omnes descriptorum entomorum adjicerentur. Horum itaque incitamento, favore, & forsitan auspiciis, icones descriptorum in hac Entomologia Insectorum brevi dabo iis numeris distinctas, quibus superius Insecta ipsa enumeravi. Poterunt igitur Tabulae iconum vel ad calcem opusculi hujus adjici, vel cum supplementis. quae meditor, partem Entomologiae alteram facere.

## MONITUM AUCTORIS.

Cum fama de vulgando hoc libello, typo pene jam absoluto, ad nos rates Entomologiae cultores peruenisset; petiere vehementer, ut ad expeditiorem ejus usum icones omnino omnes descriptorum entomorum adjicerentur. Horum itaque incitamento, favore, & forsan auspiciis, icones descriptorum in hac Entomologia Insectorum brevi dabo iis numeris distinctas, quibus superius Insecta ipsa enumeravi. Poterunt igitur Tabulae iconum vel ad calcem opusculi hujus adjici, vel cum supplementis, quae meditor, partem Entomologiae alteram facere.



Fig. 3. The *Monitum Auctoris* issued with late copies of the *Entomologia*.

For the purposes of figuring, Scopoli placed his collection in the hands of the publishers, Trattner, but they were dilatory in proceeding with the work and by the time, some years later, the firm sought further specimens for the completion of some plates they could not be provided (Moll, 1789; Higgins, 1963) and the full complement of plates was therefore never completed. The print-run of the *Entomologia* was probably small, and, although Trattner presumably printed at least an equal number of sets of the plates, few purchasers of the *Entomologia* would seem to have acquired them: early purchasers of the work would not, of course, have seen the *Monitum* and may never have learned of the existence of plates [not, apparently, recorded until some twenty years later, when they were noticed by D--s (1785: 364) and by Moll (1785: 149)<sup>6</sup>], while others may, in view of the delay in their production, have lost interest in acquiring them or for some other reason did not do so. In any event, very few copies of the work with the original plates are known. [The plates were reproduced by photolithography by Friedländer in 1880, in an edition of about fifty sets. All had been sold by 1892: Higgins to Townsend, 2 November 1957.] The quality of the engraving, although the original drawings had apparently been excellent (D--s, 1785), was uneven but in general bad.

Scopoli's insects were reviewed by a succession of 19th C. authors, the Odonata and Neuroptera by Hagen (1854), the Lepidoptera by Zeller (1855, revised by Werneburg, 1858), the Diptera by Schiner (1856: Schiner did not know the plates), the Orthoptera by Fischer (1857), the Hymenoptera by Rogenhofer & Dalla Torre (1882) – the last-named paper appears to have been unknown to Warncke and other more recent authors.

——— 1786–88. *Deliciae florae et faunae insubricae seu novae, aut minus cognitae species plantarum et animalium quas in insubria austriaca tam spontaneas, quam exoticas vidit, descripsit, et aeri incidi curavit Ioannes Antonius Scopoli*. Pars I (1786), engraved frontispiece, t.p., pp. [i]–viii, 1–[86], [i, numbered ix], pll.; Pars II (1786), engr. frontisp., t.p., pp. [i–ii], 1–115, pll.; Pars III (1788), engr. frontisp., t.p., pp. [i–ii], 1–87, pll. Ticini; ex Typographia Reg. & Imp. Monasterii S. Salvatoris.

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——— 1970. Die unter dem Gattungsnamen *Apis* beschriebenen *Andrenae* (Apoidea Hymenoptera) und Fixierung von Lectotypen weiterer von Fabricius beschriebener *Andrena*-Arten. *NachrBl. bayer. Ent.* 19: 28–32.

Werneburg, A. 1858. Bemerkungen über die Lepidopteren in Scopoli's *Entomologia Carniolica*, unter Berücksichtigung der Arbeit des Herrn Prof. Zeller über das genannte Werk in der entomologischen Zeitung, Jahrgang 1855. pag. 233. *Stettin. ent. Ztg* 19: 148–162.

**Zeller, P. C.** 1855. Die Lepidopteren in Scopoli's Entomologia Carniolica. *Stettin. ent. Ztg* 16: 233–257.

### Maps

Italy, 1 : 250,000, Sheet 7B, Trieste:

GS GS 4230 (AMS Series M591, 3rd edn, 1951) or

GS GS 4230 (MDR 300/9853, 1st edn, Army/Air, 1943).

Yugoslavia, 1 : 100, 000, Sheet 10, Bled, GS GS 4396, 1st edn, 1943.

## Notes on the biology of *Cryptocephalus coryli* (Linnaeus) (Coleoptera: Chrysomelidae)

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The larvae of *Cryptocephalus* species are vegetarian, each characteristically developing in a portable shell formed from faecal material. When the larvae are full-grown, they seal the shell, pupate and the adults emerge in due course.

The life-history of *Cryptocephalus coryli* is known to conform to this in essence but some details do not appear to have been recorded or confirmed, such as what do the larvae eat or how is the shell enlarged as the larva grows. An opportunity to investigate some of these questions arose when my friend Peter Hodge generously gave me some eggs which he had obtained from a wild caught female.

### Studies on feeding

In Britain, adults of *C. coryli* are usually to be found on young birch trees (*Betula* spp.) or, more rarely, hazel (*Corylus avellana*). Larvae obtained from eggs laid by captive females have been reared on birch or hazel leaves picked from the shrub (I. S. Menzies, pers. comm.). Encumbered by their shells, however, the larvae have very limited climbing ability and, in the wild, are almost certainly ground feeders. The feeding studies described here were designed to try and confirm that larvae of *C. coryli* can develop normally by eating only plant material available at ground level.

The eggs were obtained in August 1996 from a female beaten from birch-hazel scrub. They and, subsequently, the larvae were kept in squat, 2-litre plastic containers with perforated lids, set out of doors on a shelf in an open, rain-proof shelter with winter temperatures occasionally falling below 0°C. Each container held a 2 cm layer of sand kept moist by the addition of small amounts of water at intervals. To facilitate observations on feeding and moulting, the surface of the sand was covered with a disc of filter paper which was renewed at intervals.

Three different feeding regimes were used initially, each involving plant material picked up from the ground. Larvae from 16 eggs were given in succession fresh leaves of various plants which grow immediately under young birch trees in an area where the beetle has been recorded (see Table 1). A second group (from 8 eggs) were given fallen birch leaves and a third group (from 8 eggs) were given fallen hazel leaves.

**Table 1.** Plants growing under birch trees in the Mickleham (Surrey) area which proved unpalatable to young *C. coryli* larvae.

*Achillea millefolium*  
*Cirsium acaule*  
*Galium verum*  
*Hieracium* sp.  
*Inula conyza*  
*Lotus corniculatus*  
*Origanum vulgare*

*Plantago lanceolata*  
*Polygala vulgaris*  
*Poterium sanguisorba*  
*Prunella vulgaris*  
*Ranunculus repens*  
*Teucrium scorodonia*  
*Viola hirta*





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