

Notable records of leaf-mining moths in East Yorkshire, 2019 and 2020

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In contrast to the familiar butterfly and macromoth caterpillars, a significant proportion of micromoth larvae feed *within* their favoured food plants and, in doing so, create distinctive and often diagnostic mines (Smart, 2017; Langmaid *et al.*, 2018). As described previously, moths with leaf-mining larvae have historically been under-recorded in East Yorkshire (VC61) but the

situation is gradually being addressed (Nunn, 2015, 2017, 2019; Nunn & Warrington, 2016). This article documents my most notable leaf-mining moth records from 2019 and 2020 and attempts to predict which species are most likely to be added to the VC61 list in the future. The species codes in the systematic list follow Agassiz *et al.* (2013).

Eriocraniidae

2.005 *Eriocrania salopiella*. The first and second VC61 records occurred on 29 May 2020 and 2 June 2020, when I found tenanted mines in Silver Birch *Betula pendula* leaves in North Cliffe Wood. There are few Yorkshire records and the species is apparently scarce, but this is likely partly due to difficulties in separating both the adults and mines of the birch-feeding Eriocraniidae. *Eriocrania sparrmannella* is the most likely confusion species in the larval stage but that species generally mines later in the year (June-August) than *E. salopiella* (May-June).

Nepticulidae

4.006 *Stigmella sakhalinella*. The third VC61 record occurred on 11 September 2019 when I found a vacated mine in a Silver Birch leaf at Skipwith Common, and the fourth and fifth, respectively, occurred in Skidby on 20 October 2020 and at Eastington Ponds on 3 November 2020. The first two records were from North Cliffe Wood in 2014 and Sledmere in 2018. The mines of *S. sakhalinella* are usually straightforward to distinguish from those of the other birch-feeding *Stigmella* species, so is unlikely to have been overlooked.

4.009 *Stigmella alnetella*. The third VC61 record occurred on 25 October 2019 when I found a tenanted mine in a Common Alder *Alnus glutinosa* leaf in Cottingham. The first two records were from Howsham in 2016 and North Cliffe Wood in 2018. The status of this species in Yorkshire is still unclear owing to confusion with *Stigmella glutinosae* in the past, but it is likely more common and widespread than records suggest. Only tenanted mines can be distinguished from those of *S. glutinosae* as it is necessary to see the larva to confirm the identification; *S. glutinosae* has a distinct prothoracic spot, whereas *S. alnetella* does not.

4.019 *Stigmella viscerella*. The first VC61 record occurred on 15 October 2020 when I found a vacated mine in an English Elm *Ulmus procera* leaf at North Cave Wetlands. Elms are not particularly common in VC61 and this is evidently the rarest of the elm-feeding *Stigmella* species, with the majority of Yorkshire records being from VC63. *Stigmella viscerella* produces a distinctive mine and is unlikely to have been overlooked, but the elm hedgerows at North Cave Wetlands suffer heavy feeding damage from *Coleophora serratella* (Coleophoridae) larvae, which increases the difficulty of locating the mines of other elm-feeding species.

4.022 *Stigmella regiella*. The third VC61 record occurred on 15 October 2020 when I found tenanted mines in Common Hawthorn *Crataegus monogyna* leaves at North Cave Wetlands. The first and second records were from Walkington in 2017 and Sledmere in 2018. Hawthorn is widespread and *S. regiella* produces a relatively distinctive mine, so appears to be scarce in VC61.

4.053 *Stigmella incognitella*. The first VC61 record occurred on 3 September 2019 when I found vacated mines in Crab Apple *Malus sylvestris* leaves at North Cave Wetlands. The second, third and fourth records occurred on 11 July, 15 and 25 October 2020 when I again found mines at North Cave Wetlands (twice) and in Skidby. This moth is uncommon in Yorkshire with the

majority of records being from VC63.

4.074 *Ectoedemia sericopeza*. The third and fourth VC61 records occurred on 19 July and 7 September 2019 when I found mines in Norway Maple *Acer platanoides* samaras in Hull. The first and second records were from Hull and Skidby in 2018. This micro is possibly limited by the distribution of the food plant but I have found mines even on single isolated trees. *Ectoedemia sericopeza* mines are inconspicuous and, in my experience, the easiest way to find them is to check fallen samaras following strong winds.

4.088 *Ectoedemia heringella*. The first VC61 record occurred on 8 September 2019 when I found vacated mines in Holm Oak *Quercus ilex* leaves in Hessle, and the second and third occurred on 13 March and 14 December 2020, respectively, when I found tenanted mines at the same site and in North Ferriby. This moth was first recorded in Yorkshire in 2019 in VC63. I have been monitoring Holm Oaks in approximately 15 locations, including some <10 km from Hessle and North Ferriby, since 2015, and it appears that *E. heringella* is a recent arrival in VC61; no mines were observed on the Hessle Holm Oaks in 2017.

4.091 *Ectoedemia heringi*. The first VC61 record occurred on 3 November 2020 when I found a tenanted mine in an oak leaf at Eastrington Ponds. There are relatively few Yorkshire records, probably at least partly due to difficulties in separating *E. heringi*, *E. albifasciella* and atypical *E. subbimaculella* mines, but I inspected oaks in various locations in 2018 and 2019 and it does appear that *E. heringi* is currently scarce in VC61. Only tenanted mines can be distinguished from those of *E. albifasciella* as it is necessary to see the larva to confirm the identification; *E. heringi* has a dark brown head, whereas *E. albifasciella* has a pale brown head.

4.096 *Ectoedemia arcuatella*. The first VC61 record occurred on 7 November 2020 when I found mines in Wild Strawberry *Fragaria vesca* leaves (Fig. 1, p132) at Low Hunsley. There are few Yorkshire records and this moth is apparently rare which, at least in VC61, is probably due partly to the limited distribution of the food plant. It is unlikely to be confused with any of the strawberry-feeding *Stigmella* species as the initial gallery is contorted and contains coiled frass.

4.097 *Ectoedemia rubivora*. The second VC61 record occurred on 8 October 2019 when Charles Fletcher and I found tenanted mines in bramble leaves near Wharram Le Street. The first record was from Thorpe Bassett in 2015. Brambles are widespread and *E. rubivora* is unlikely to be confused with any of the other bramble-feeding micros, so appears to be rare in VC61.

Heliozelidae

6.001 *Antispila metallella*. The first VC61 record occurred on 11 July 2020 when I found tenanted mines in Dogwood *Cornus sanguinea* leaves at North Cave Wetlands. Dogwood is not uncommon in Yorkshire and *A. petryi* (unrecorded in Yorkshire) is the only potential confusion species, so *A. metallella* appears to be genuinely scarce.

Gracillariidae

15.012 *Caloptilia semifascia*. The second VC61 record occurred on 27 August 2020 when I found a larval cone on a Field Maple *Acer campestre* leaf (Fig. 2, p132) in Little Weighton. The first record was at Tophill Low Nature Reserve in 2018. The literature is somewhat unclear, but *C. semifascia* larvae can also occasionally feed on Norway Maple, along with potential

confusion species, whereas larval cones on Field Maple are apparently diagnostic (Beaumont *et al.*, 2020).



Figure 1 (top left) *Ectoedemia arcuatella* mine on Wild Strawberry.

Figure 2 (top right) *Caloptilia semifascia* larval cone on Field Maple.

Figure 3 *Euspilapteryx auroguttella* mine on St. John's-wort. Images: Andy D. Nunn.

15.016 *Euspilapteryx auroguttella*. The third VC61 record occurred on 17 October 2019 when I found tenanted mines in St. John's-wort *Hypericum* leaves (Fig. 3) at Humber Bridge Country Park. The first two records, of adults, were in Hessle and North Ferriby in 2015. St John's-worts are not uncommon in VC61 but *E. auroguttella* mines are inconspicuous and could easily be overlooked, even when specifically searching the plants for leaf mines (e.g. of *Fomoria* [*Ectoedemia*] *septembrella*).

15.019 *Acrocercops brongniardella*. The first VC61 record occurred on 14 December 2020 when I found two vacated mines in Holm Oak leaves in North Ferriby. Despite the larval food plants being widespread, this moth is uncommon in Yorkshire, with most records from VC63. There is a possibility, however, that it has been overlooked as it mines early in the year (May-June), before the traditional 'leaf-mining season', and could potentially be confused with *Tischeria ekebladella* (Tischeriidae) or *Profenusa pygmaea* (a hymenopteran).

15.037 *Phyllonorycter tenerella*. The second Yorkshire record was confirmed on 20 March 2020

when I reared adults from mines in Hornbeam *Carpinus betulus* leaves collected near Market Weighton on 11 November 2019. The first record was from the same location in 2016. On both occasions the mines were collected from small trees in a plant nursery's car park, but it is impossible to know whether or not the moth arrived in the county naturally.

15.057 *Phyllonorycter dubitella*. The first VC61 record was confirmed on 18 March 2020 when I reared adults from mines in Goat Willow *Salix caprea* leaves collected from Cottingham on 25 October 2019. There are relatively few Yorkshire records but this micro could be more common and widespread as the mines of the willow-feeding *Phyllonorycter* species are extremely difficult to distinguish; it is necessary to rear adults from putative *P. dubitella* mines to rule out the possibility of *P. hilarella*.

15.090 *Phyllocnistis saligna*. The first VC61 record occurred on 13 September 2019 when I found vacated mines in White Willow *Salix alba* leaves in Cottingham. This moth was first recorded in Yorkshire in VC63 in 2019. It is unclear whether *P. saligna* is a recent colonist or an overlooked, albeit rare, resident in the county.

Elachistidae

38.001 *Perittia obscurepunctella*. The second VC61 record occurred on 15 July 2020, when Ian Marshall and I found a tenanted mine in a honeysuckle leaf in North Cliffe Wood. The first record was at Skipwith Common in 1894. It is possible that *P. obscurepunctella* is scarce but overlooked in VC61, as honeysuckles are widespread but the larvae occur in the summer (June–August), so could be missed during searches for leaf mines in the autumn.

The majority of the common leaf-mining moths that were absent from the VC61 list have been added in recent years (see Nunn, 2015, 2017, 2019; Nunn & Warrington, 2016). Notwithstanding, there are still several that have been recorded in Yorkshire in VC62–VC65 but not VC61, including *Stigmella tiliae*, *S. magdalenae*, *S. myrtillella*, *Ectoedemia weaveri*, *Bucculatrix cidarella* (Bucculatricidae), *Phyllonorycter roboris* and *P. junoniella*. It is probable that *S. tiliae* occurs in VC61 but is restricted by the distribution of its preferred food plant, Small-leaved Lime *Tilia cordata*. I am yet to find Small-leaved Lime in VC61 but have searched other limes, which are occasionally used as food plants, in various locations and did record *S. tiliae* on a Large-leaved Lime *Tilia platyphyllos* in Lincolnshire (VC54), approximately 13km south of VC61. Most of the few Yorkshire records of *S. magdalenae* are a considerable distance to the west of VC61 but Rowan *Sorbus aucuparia*, the larval food plant, is widespread and it is likely that it exists somewhere in East Yorkshire. Similarly, Common Alder is widespread and it is likely that *B. cidarella* occurs in VC61; I have recorded it on four occasions during opportunistic searches in VC63 but more concerted efforts elsewhere have so far been unsuccessful. By contrast, it is unlikely that *S. myrtillella*, *E. weaveri* and *P. junoniella* are resident in VC61, due to the suspected extirpation and absence, respectively, of Bilberry *Vaccinium myrtillus* and Cowberry *Vaccinium vitis-idaea* (Middleton & Cook, 2015). Any VC61 records of these moths are therefore most likely to be of adults that have dispersed from elsewhere in the county. Oaks, conversely, are widespread in Yorkshire, but recent records of *P. roboris* are confined to VC63. It is possible, however, that it occurs in VC61, perhaps at Skipwith Common, Allertorpe Common, North Cliffe Wood or Houghton Moor. There will be others that reside undetected in East Yorkshire, no doubt including numerous Coleophoridae, the adults of which can invariably only be identified to species level by dissection.

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