

The British Species of the Chalcidid Genus *Harmolita* (Hymenoptera) as indicated by their Galls.

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Although the galls produced by members of the genus *Harmolita* (*Isosoma*) upon various grasses are often encountered in this country, but little time has been devoted to their study and our knowledge of their distribution and occurrence is consequently of the slightest. On the other hand, no plants are more difficult to work for galls of any sort than the grasses and sedges; results can only be obtained by close and constant search to the exclusion of all other interests, and the published results, however successful, can never convey the long and laborious nature of the investigations they represent.

In preparing a Text-book of British Cecidology for publication in the near future, we have been struck by our lack of knowledge of certain minor groups of gall-causers such as this, and we therefore propose to publish a series of short papers embodying the results of our researches in such restricted groups from time to time.

We believe that it will be found that all true members of the genus *Harmolita* are limited to species of the great family of grasses, and, bearing this in mind, it will be necessary to re-examine Westwood's *Isosoma orchidearum*, with a view of establishing its true generic position.

In the following list an asterisk denotes species new to Swanton's list (1912) and for the most part new to the British Fauna, of which, however, the galls of *Harmolita graminicola* were known to and described by the late Professor J. W. H. Trail, F.R.S.,* from both *Agropyrum junceum* and *A. repens*, whilst the "*Aulax hieracii*" from Couch Grass may prove to be referable to *Harmolita agropyri*.

The initial 'H' refers to Houard's Monograph of the European Zooecidia.

Harmolita hyalipenne, Walk. H. 211.—This species causes the well-known gall on the Sea Mat Grass (*Ammophila arenaria*) and is common along our shores.

**Harmolita airae*, Schl. H. 219.—On *Aira caespitosa* causing a scarcely perceptible stem swelling near a basal node and difficult to detect. Several Northumberland and Durham records and probably of wide distribution. Originally described from Germany.

**Harmolita poae*, Schl. H. 262.—On the Wood Meadow-Grass (*Poa nemoralis*) causing a glossy longitudinally striate fusiform stem swelling, which is yellowish at first and contains an orange-red larva. Isolated records from Northumberland and Durham. A very distinct gall but rare. Described from Germany and later recorded by Corti from Italy.

Harmolita depressum, Walk. H. 282.—Causing a well-known and common stem gall on the Sheep's Fescue grass (*Festuca ovina*) in the shape of an irregular yellowish to greenish yellow swelling, which is generally situated near the first or second node.

**Harmolita hieronymi*, Schl.—This species causes a strong regularly

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fusiform stem swelling in *Festuca* spp. of about 10 mm. in length and 5 to 6 mm. in diameter, and is recorded from *F. glauca* (H. 278), *F. ovina* (H. 6316), and with little doubt from *F. sciuroides* (H. 6317). It would seem to be a not uncommon species and we have seen it on *F. rubra*, *F. ovina* and *F. duriuscula* in the North of England.

**Harmolita giraudi*, Schl. H. 274.—Causing a very faint swelling near the second or third node in the Giant Fescue (*Festuca gigantea*) and very difficult to detect. Seen on two occasions in the Gibside woods, Co. Durham, July-August, 1923. Originally described from Germany.

**Harmolita graminicola* (Gir.). H. 308, 312, 6322.—A fusiform, or cigar-shaped, gall caused by the terminal internodes remaining short and the consequent bunching together of the imbricated leaves, which would appear to be hypertrophied, shortened or thickened to a greater or less degree according to the grass itself. It is common on *Agropyrum junceum* and *A. repens*, from which plants it was well-known to Trail, and we have observed what is almost certainly the same species on *A. acutum*, and *Lolium perenne*.

**Harmolita agropyri*, (Schl.) H. 316.—A globular or fusiform hard plurilocular gall situated near the spike which (according to Houard) is generally more or less deformed and remains enclosed in the sheath of the terminal leaf. We have only seen this gall on two occasions at Formby (Lancashire), September 11th, 1923, and Bomere Heath, near Shrewsbury, October, 1923, and believe that the species recorded by Cameron, Connold, etc., as *Aulax* (*Aulacidea*) *hieracii* from stem of Couch grass is this species.

**Harmolita brischkei*, Schl. H. 351.—A slight and not readily perceptible stem swelling caused by a small Hymenopterous larva in the stem of *Elymus arenarius*, is referable to this species originally described by von Schlechtendal from Germany. A few examples from the Teesmouth, Redcar (Yorks.), and Seaton Carew (Durham).

We have also noted several other Grass galls caused by species of *Harmolita*, of which the following appear to be important:

Harmolita sp.—On *Aira* (*Deschampsia*) *flexuosa*, L. Strong swelling in stem, often high up, either broadly fusiform or bellied.

Harmolita sp. On *Glyceria maritima*, L.—Irregular swelling well up in the stem: larva white. On the coasts of Northumberland, Durham and Yorkshire.

Harmolita sp.—On *Festuca rubra*, L. Scarcely perceptible swelling of the stem: larva white. Penshaw and Birtley (Co. Durham).

Harmolita sp. ? H. 276.—On *Festuca rubra*, L. Irregular swellings of the stem situated near the second or third node, often 30-40 mm. long and sometimes causing considerable torsion; larvae yellowish. Records from Northumberland, Durham and Yorkshire.

Harmolita sp. ? H. 321.—On *Agropyrum repens*, Palisot. A scarcely perceptible stem swelling.

Harmolita sp. H. 194.—On *Agrostis canina*, L. Recorded by Trail, and also occurs in N. Durham.



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