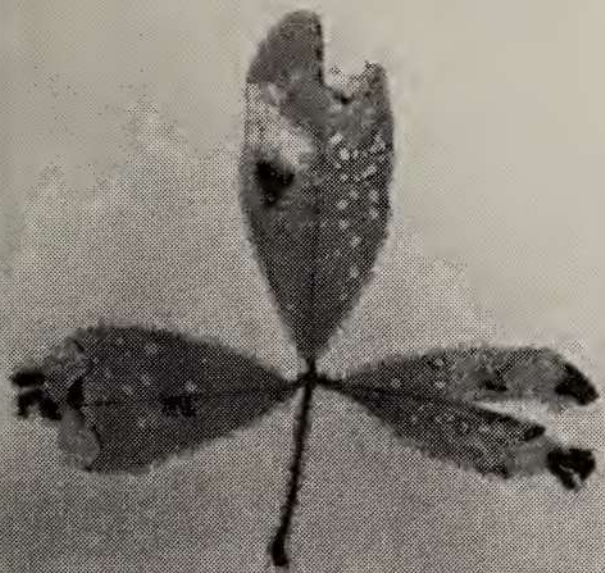


Note on the Occurrence of Apion flavofemoratum Hbst.,  
var. croceifemoratum Gyll. (Coleoptera: Curculionidae) in Israël  
 by  
 I. HARPAZ

Early in April 1951 the author found at Kiryath Anavim, 10 kms. north west of Jerusalem, trees of *Anagyris foetida* L. (Leguminosae: Papilionatae), the foliage of which was heavily infested with leafmining larvae. On certain trees the extent of infestation amounted to about 80% of the leaves. The larvae were reared in the laboratory at Rehovot and the subsequently emerged adults were identified as *Apion flavofemoratum* Hbst. var. *croceifemoratum* Gyll. (*nec croceifemoratum* Kiesenwetter), a new species to the fauna of Palestine<sup>1</sup>).

Each infested leaf (which botanically is actually a single leaflet of a compound, trifoliolate leaf) was found to be mined by 1 to 3, mostly 2, larvae burrowing in the mesophyll, leaving both transparent epiderms intact. The larva, which attains

the length of approximately 2 mms. upon completion of its development, pupates inside the leaflet within a dark capsule located at the border of the gnawn-off gallery. The latter being necrotic, obviously becomes very brittle and eventually withers away, as illustrated in the accompanying figure. The white spots seen on the infested leaves are the pecks nibbled out by the feeding adults. These pecks are not actual holes, since one epidermis of the leaf is left intact, thus giving it an appearance of a miniature glass pane.



Leaf of *Anagyris foetida* L. infested by *Apion flavofemoratum* Hbst. var. *croceifemoratum* Gyll. Notice the dark pupal capsule in the upright leaflet.

So far *Anagyris foetida* L. was found to be the only host-plant on which this *Apion* develops. However, the adults may be found on a variety of plants, whether Leguminous or non-Leguminous, as reported from other Mediterranean countries where this insect occurs.

Further observations, done during the subsequent years, revealed that the breeding season of this insect is limited to the spring only, namely from the end of March to the beginning of May. Since no other host has been found, it should be assumed that only one generation is raised by this insect during the year. The adults therefore endure the summer and winter (not necessarily in a dormant state, since winter is quite mild here) living till the following spring on various plants, preferably Papilionatae. This is in close agreement with the phenology of

<sup>1</sup>) The assistance of Mr J. BALFOUR-BROWNE of the British Museum (Nat. Hist.) in the identification is gratefully acknowledged.

its host plant in this country. *Anagyris foetida*, a Mediterranean perennial shrub, quite surprisingly sheds its foliage rather in the middle of summer and stands bare till December when it starts sprouting. Due to the slow growth during winter, it is not earlier than March when the leaves attain a stage of maturity suitable for *Apion* oviposition.

Three species of Hymenopterous parasites were reared *ex* this *Apion* species. One is a Braconid of the genus *Triaspis*, close to *T. striola* Ths., which is a parasite of the larvae; the second is a Pteromalid, *Spintherus leguminum* Ratz. (det. Ch. FERRIÈRE, Geneva, Switzerland), which is an egg parasite; and the third one a Eulophid of the genus *Tetrastichus*, which is probably a hyperparasite. At the present state of the taxonomy of the latter genus, no specific determination can yet be made. However, the incidence of parasitism amongst the population of this *Apion* is quite high, thus constituting an important ecological factor in the determination of the extent of *Apion* infestation on the leaves of *Anagyris foetida*.

#### References

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#### Literatuur

Hüsing, J. O., Einführung in die Bienenkunde. Ak. Verlagsgesellschaft, Leipzig 1954. 165 pp., 89 fig., 10 tabn.

Het is mijn ervaring, dat vele actieve leden van de N.E.V. maar weinig afweten van de honingbij en de bijenteelt. Hen kan lezing van dit boekje worden aanbevolen.

Het is op een wat plechtige wijze ingedeeld, die doet denken aan het anecdotische standaardwerk over „Das Kamel”, maar hier staat tegenover, dat de inhoud interessant en verantwoord feitenmateriaal biedt, geïllustreerd met dikwijls fraaie en overzichtelijke figuren.

Na een algemeen overzicht over de bijenteelt (72 pp.) volgt een redelijk goed hoofdstuk (70 pp.) over Anatomie en Biologie, dat naar de nieuwste gegevens is bewerkt. Het is bij het lezen van dit hoofdstuk, dat de kritische lezer enkele bedenkingen kan opperen.

Zo is het „ventiel” tussen proventriculus en middendarm volgens recente waarnemingen heel wat meer dan een afsluitklep alleen; het neemt actief deel aan de scheiding van vaste en vloeibare inhoud van de honingmaag.

Dat het zaadblaasje van de bijenkoningin 200 miljoen spermatozoïden zou bevatten is een fabel; zelfs bij de grote cypro-italiaanse koningin bedraagt het aantal volgens MACKENSEN 5 miljoen, wat toch nog veel is.

Dat bijen door behandeling met salpeterrook het geheugen verliezen, staat nog allesbehalve vast.

Er zouden nog meer opmerkingen van deze aard te maken zijn. Er blijft echter nog voldoende te waarderen over; vandaar aanbeveling in de aanhef van deze bespreking.

Het boekje besluit met een kort hoofdstuk (14 pp.) over angelgif, honing en was. —  
 J. DE WIIDE.