



Original thinking... applied

Spodoptera



Spodoptera spp. (Noctuidae)

30 + species with 4 regulated species and 1 of current concern

Caterpillars all structurally the same, but vary in geographical distribution, and colour pattern

Spodoptera litura – Taro caterpillar

EU - IA1, EPPO - A1

Asia, Pacific Islands, Oceania

Intercepted on orchids and Rosa from the Far East

Spodoptera frugiperda – Fall armyworm

EU -IA1, EPPO - A1

Americas

Spread to Africa (2016) & India (2018), China (2019), Australia (2020).

Regularly intercepted on *Zea mays* from west Africa

Also intercepted on *Rosa*, *Eryngium*, *Gypsophila* and *Solidago* from Africa

Spodoptera littoralis – Cotton leafworm

EPPO - A2

Africa, Middle East, Southern Europe to Northern Italy.

Intercepted on *Aster*, *Eryngium* and *Rosa* from Africa

Spodoptera eridania – Southern Armyworm

EU -1AI , EPPO –A1

Southern USA, Central and South America and the Caribbean, reported in West Africa 2016/17

Yet to be intercepted

Spodoptera onithogalli – Yellow-striped armyworm

North America - an emerging threat?

Yet to be intercepted



Spodoptera litura & *Spodoptera littoralis*

- Geographical origin important but host less so
- Both highly polyphagous on many plant families: ornamentals, fruit and vegetables.
- *S. litura* the most regularly found 183 interceptions to date: *S. littoralis* - 97 interceptions to date.
- Caterpillars are variable and difficult to separate.
- If the origin is unknown, rearing or DNA sequencing may be needed.
- Eggs 0.6 mm in diameter – Characteristically laid in clusters on the undersides of leaves – covered in brown hair shed from the female moth.



Spodoptera litura & *Spodoptera littoralis*

Caterpillars

- Both species almost identical in early instars
 - Colouration very variable
- 5 pairs prolegs
- 35 – 45 mm max length
- Tapered towards a small head
- Smooth integument (skin)
- Dark spots above spiracles
 - Large spot on A1 & A8
 - Smaller on other segments
- Paired yellow/white dots
- Yellow/orange lines



Colour and structural variation in *Spodoptera* caterpillar instars -

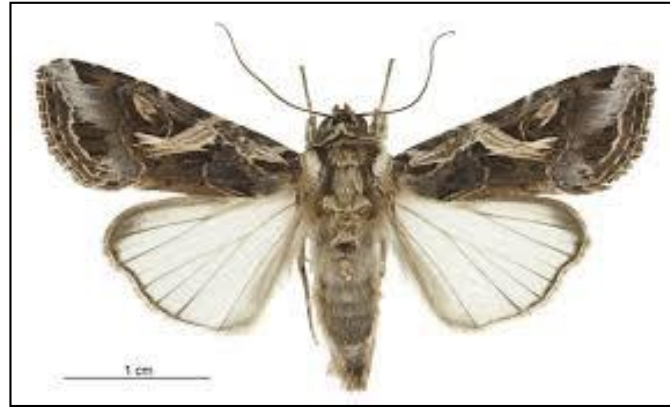


Spodoptera litura & *Spodoptera littoralis*

Adults

- Very unlikely to encounter adults
- Wingspan 30-38mm
- Two species visually indistinguishable – dissection required

Spodoptera litura



Spodoptera littoralis



Spodoptera frugiperda – fall armyworm

Native to tropical and subtropical regions of the Americas

Highly polyphagous, causes damages on several crops, most significantly maize and other Poaceae, but has more that 350 known hosts in 26 other plant families.

Virtually indistinguishable from other *Spodoptera* spp. in the field!

Remarkably rapid spread around the World



- 2016 - Reported in Africa for first time (Benin, Nigeria, Sao Tomé and Príncipe and Togo)
- 2017 - Spread throughout Africa.
- 2018 recorded in India
- 2019 recorded in China
- 2020 recorded in Australia & Papua New Guinea

EU interceptions increased from 2018 - mostly from Africa on maize, but also on cut flowers (rose, Eryngium, Gypsophila, Solidago)



Spodoptera frugiperda – fall armyworm

