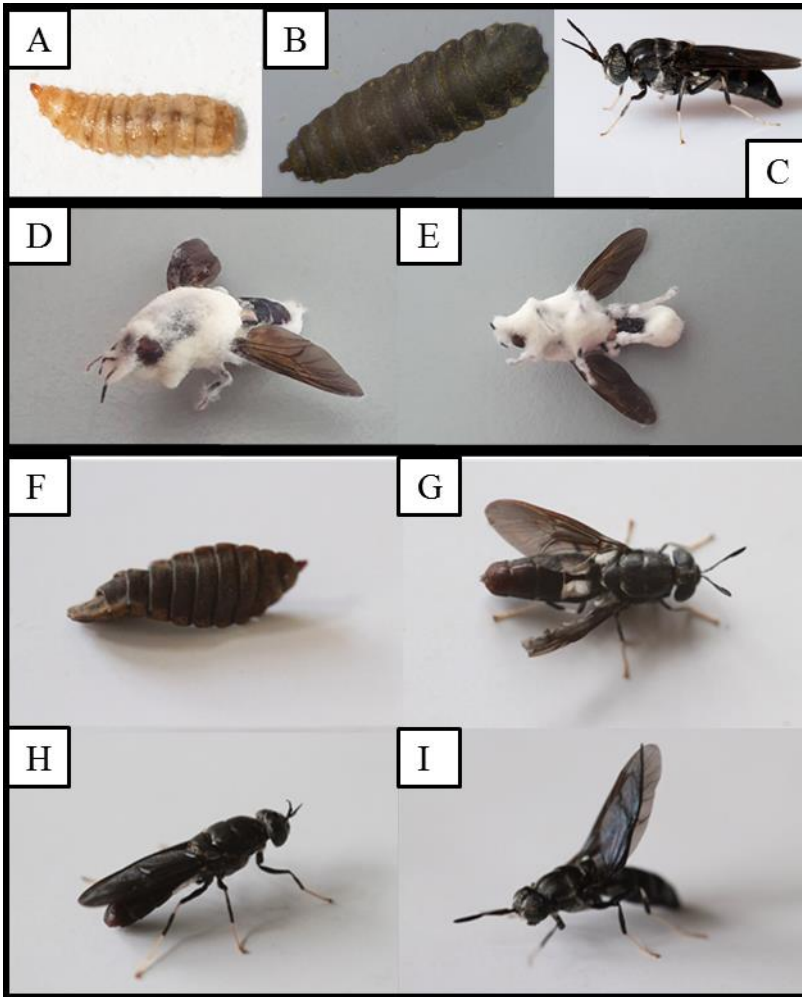


Diseases and disorders in the Black Soldier Fly (BSF), *Hermetia illucens*



Healthy BSF

A-C) An example of a healthy larva (A), pupa (B) and adult (C)

Fungal infections in BSF (Lab inoculation)

D) and E) Outgrowth of fungus from adult flies. In this case caused by the generalist entomopathogen *Beauveria bassiana*

Examples of disorders in BSF, causes unknown

F) Twisted pupa with no successful emergence or resulting in a twisted adult

G) Adult with malformation of one or both wings

H) Adult with reduced or malformed antennae

I) Adult with curved wings or wing-tips

Up to now, not a single serious case of a disease outbreak caused by an insect pathogen in a black soldier fly production unit has been reported. However, both pupae and adults have shown signs of disorders and while there are indications that larvae seem to be rather resistant to insect diseases, adults can be more susceptible (D and E). Diseases and disorders can induce both lethal and sub-lethal effects to BSF populations. Should a production show signs of infection, carrying out basic stereo microscopy and developing in-house dissection skills is a very important low cost step to having the ability to independently perform such early diagnoses, and take measures. Furthermore, we recommend that the producer gets in contact with an insect pathology laboratory for continued assistance. In most cases, live insect samples can be sent to a research lab for diagnosis and specific advice.

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Photos: A-C & F-I: Protix B.V.
D & E: Univ. Cph.

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