

Information: OPM setae, monitoring and control

Setae

Do not touch!



What?

- Cylindrical, hollow structures (“urticating hairs”)
- Length ca. 50-250 µm
- Equipped with spikes at the distal end (**Fig. 1**)
- Contain chitin and special proteins

When?

- Formation by the larval stages L3-L6 from mid-spring to early summer
- Aerial dispersion favoured by warm and dry weather
- Persist and keep harmful potential for years

Where?

- Produced on the back of the larval abdominal segments in pads (“mirrors”)
- Come loose from their sockets during larval motion and disturbance, released into the air
- High amounts on exuviae (remains of the exoskeleton) in moulting and pupation tents
- Tents in the tree crown and on the trunk, rarely on the trunk base in litter

Health hazards?

- Penetrate skin and mucosa of humans/animals (particularly thin and moist skin parts, eyes, respiratory tract)
- Cause mechanical injury and/or toxic and/or allergic reactions
- Symptoms vary individually ranging from local inflammation to anaphylactic shock
- Symptoms occur directly or several hours after contact
- Local reactions (e.g., itching) usually decline after ca. 7 days

Immediate aid?*

- Rinse skin carefully with water without soap, do not rub!
- Cool affected skin parts, do not scratch!
- Severe and long-lasting symptoms: **Seek medical advice!**
- Wash contaminated clothes with extra centrifuging and rinsing!

*Information without liability, in case of uncertainty, seek medical advice.

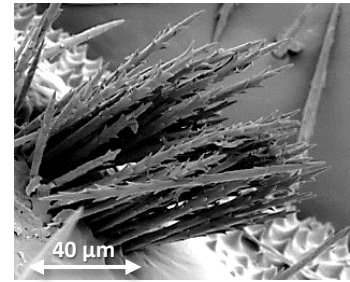


Fig. 1: OPM setae (scanning electron microscope photo: Fischer & Halbig)

Population density assessment

Counting of pupation tents

Fresh pupation tents (**Fig. 2**) per tree (assessment of number and size)

- Timing: beginning/mid-July
- Recommended, most reliable

Counting of egg batches

Fresh egg batches (**Fig. 3**) on twigs in the periphery of oak crowns

- Timing: December – February
- Time-consuming method

Monitoring of adults

Pheromone traps (attracting only male moths), installation in the upper crown of oaks

- Start: ca. 2 weeks after pupation
- Collection: (bi-)weekly
- End: after 2 weeks of no catch
- Interpretation of time series requires expert knowledge



Fig. 2: Fresh (red arrow) and old (black arrow) OPM pupation tent on the trunk (photo: FVA)



Fig. 3: Fresh OPM egg batch with closed eggs (egg diameter ca. 1 mm, photo: FVA)

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Control guidance

Necessity: Depending on population density

Timing: Depending on the phenological development of OPM and oak

- Preventive application of **plant protection agents** and **biocides** (effective in the current year)
- **Mechanical** removal of OPM moulting and pupation tents
 - Population reduction in the following year
 - Setae source reduction all year
 - Torching of OPM tents is not recommended due to hazards of raising and aerial dispersion of the setae.
- Measures only by professionals
- No unprotected persons in the vicinity
- Consider weather and wind conditions

Personal protective equipment - PPE (Fig. 4)

- ✓ Protective suit
 - ✓ Breathing protection
 - ✓ Eye protection
 - ✓ Protective gloves
 - ✓ Gumboots
- Rinse vegetation under the treated tree with water without high pressure after removal of pupation tents.
 - After finishing the measures, rinse PPE thoroughly with water.



Fig. 4: Personal protective equipment (photo: FVA)

Monitoring, prediction and control of OPM require expert knowledge.

Further information

- Updated information on OPM, supplied by FVA, Dept. of Forest Protection:
 - <https://www.fva-bw.de/publikationen/schriftreihen>
 - <https://www.waldwissen.net>
- Subscription to the OPM newsletter provided by FVA, Dept. of Forest Protection:
<https://www.fva-bw.de/top-meta-navigation/fachabteilungen/waldschutz/newsletter-bestellung>
- Databases of approved agents, provided by:
 - Plant protection agents: BVL – Bundesamt für Verbraucherschutz und Lebensmittelsicherheit (Federal Office of Consumer Protection and Food Safety)
 - Biocides: baua – Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (Federal Institute for Occupational Safety and Health)

Contact

Regarding **OPM in southwest German forests** and usage of the early warning system **PHENTHAUproc**, contact FVA:

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