

ESTIMATING PARASITISM RATES DATA SHEET

Monarch Larva Monitoring Project

| Year: Observers: | | Site Name: | | | |
|-----------------------|--------------------------------|--|--------------|---|--------------|
| City: | | State: | | | |
| Date of Collection | Larval Instar at Collection | Result: parasitized by fl wasp, dead from a (accidental or disease | nother cause | Notes :# of flies or wasp monarch, was other cau accidental, disease or | ise of death |
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Optional: Record parasitoids in caterpillars or chrysalises if you are rearing monarchs (Option B)

- While rearing caterpillars or chrysalises, observe them for signs of parasitoid flies or wasps:
 - O Caterpillars that have been parasitized by <u>tachinid flies</u> will usually either (a) never fully form a chrysalis, but will hang limply and die, or (b) form a chrysalis, but fly maggots will emerge from the monarch larva and pupate on the bottom of the container. In either case, you may see a white thread.
 - Caterpillars that have been parasitized by <u>wasps</u> may pupate successfully, but tiny adult wasps will emerge from the chrysalis instead of the adult monarch.
- If you detect parasitism in caterpillars or chrysalises:
 - O Discard diseased monarch and keep away from other monarchs.
 - o Return any flies (any stage) or wasps to your yard or monitoring area if possible.
- Complete the datasheet for "Monarch Larva Monitoring Project: Estimating Parasitism Rates."



Tachinid fly parasitism — The tachinid fly life stages you might observe include the larva (yellow/white maggo;, see photo), the pupa (brown and about 1 cm long; see photo), and the adult fly (which looks similar to a house fly). Tachinid fly pupae emerge from the monarch larva or chrysalis by dropping down on a white thread (see photo). The remaining thread is one indicator that the monarch was parasitized by a tachinid. (Photo courtesy of Charlie Gatchell)