## Monarch Larva Monitoring Project

ESTIMATING PARASITISM RATES DATA SHEET

Year: $\qquad$ Observers: $\qquad$ Site Name: $\qquad$

City: $\qquad$ State:

| Date of <br> Collection | Larval Instar at <br> Collection | Result: parasitized by fly, parasitized by <br> wasp, dead from another cause <br> (accidental or disease), healthy adult | Notes :\# of flies or wasps, gender of <br> monarch, was other cause of death <br> accidental, disease or unknown |
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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:
- Caterpillars that have been parasitized by tachinid flies 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 wasps 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:
- Discard diseased monarch and keep away from other monarchs.
- 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)

