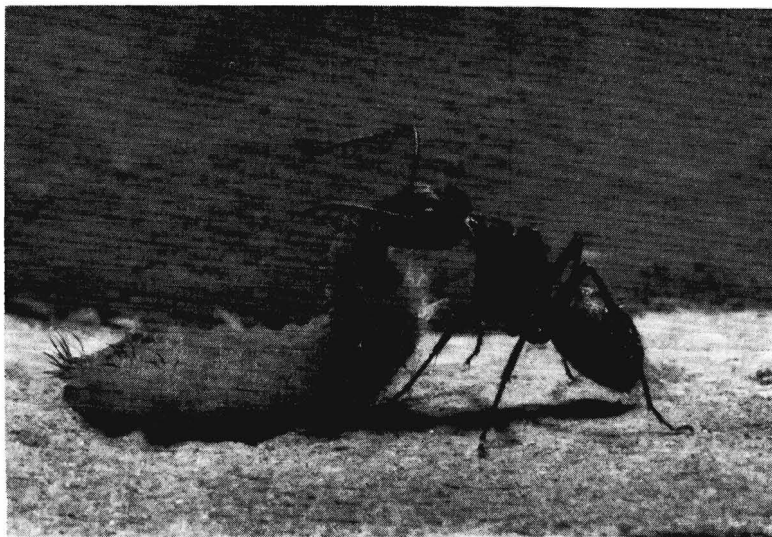


THE SIXTH ABERRANT FEEDER IN JAPAN
—*SPINDASIS TAKANONIS* (LYCÆNIDÆ)

by TARÔ IWASE

On p.45 of the *Lepid. News* (vol. 7; 1953) after having enumerated five aberrant feeders among Japanese lycænid larvæ, I added that the sixth, if any, and probably the last, aberrant feeder might be *Spindasis takanonis* Mats., of which the younger stages had been only partially studied.

In May 1954, A. KAWAZOE discovered many mature larvæ and pupæ of *Spindasis* on and under the bark of the "red pines", *Pinus densiflora* Sieb. & Zucc., among the small brown "cocktailed" ants, *Crematogaster laboriosa* Smith. The larvæ are fed mouth to mouth by the ants, like Japanese *Niphanda fusca* Brem. & Grey (see figure) or African *Lachnocnema bibulus* Fab. I confirmed this dietary habit in a glass jar. The larva has a dorsal honey-gland or glands, and a pair of lateral retractile tubercles.



Larva of *Niphanda fusca* being fed by host ant by regurgitation.
(Photo kindly provided by SAKAE TAMURA.)

Mr. KAWAZOE pointed out that the larvæ in a wild state nibbled some lichens and sphagna coating the trunks of the pines and even had a snack of a decayed cortex. He also induced the captive larvæ to imbibe a solution of honey. The pupæ were detected under the loose cocoon formed in cracks of the bark, attached by a cremaster, head downwards, without any cincture around the middle. When the colonies were disturbed, the ants were said to become so excited that they cut off the silken pad at the anal end of the pupæ, and carried them away or let them fall down on the ground.

In June the same year, quite independently of the above discovery, I. MORI and M. FUTO succeeded in finding the larvæ and pupæ of *Spindasis* lurking in the nests of the same "cocktailed" ants, under the bark and at the foot of *Pinus thunbergii* Parl. ("black pine"), *Prunus yedoensis* Mats. (cherry tree), and *Elæagnus umbellata* Thunb. (silverberry). Another kind of ant, *Camponotus herculeanus* ssp., the large black patron of *Niphanda*, destroyed a pupa of *Spindasis*, they stated.

Earlier, in July 1952, Mr. MORI observed females ovipositing on the sprigs of the "red pine" trees which the ants and their cows were frequenting. He bred the young larvæ that hatched in July by a solution of honey for a few days until they died. Since this insect is single-brooded it seems to hibernate as a halfgrown larva.

The life-histories of *Spindasis* spp. (the "Silverlines" in India; the "Barred Blues" in Africa) have been described by various authors such as DE NICÉVILLE, MOORE, GREEN, KERSHAW, TAKAHASHI, and JACKSON. They are unanimous in that the larvæ are associated with ants, mostly of genus *Crematogaster*. The larvæ are often found on the bark of the formicated boles. They sometimes live in the cells spun for themselves, but usually in the ant-runs or under the sheds made by the ants. Most of the writers depicted *Spindasis* larvæ as normally phytophagous:

S. vulcanus (India) on *Plectronia* (Rubiaceæ), *Zizyphus* (Rhamnaceæ), *Allophylus* (Sapindaceæ), *Clerodendron* (Verbenaceæ).

S. lobita (India, Ceylon, Hongkong) on *Terminalia* (Combretaceæ), *Psidium* (Myrtaceæ), *Xylia*, *Acacia* (Leguminosæ), *Grevillea* (Proteaceæ), *Convolvulus* (Convolvulaceæ), *Henslowia* (Santalaceæ), *Loranthus*, *Viscum* (Loranthaceæ), *Dioscorea* (Dioscoreaceæ).

S. nyassæ (Africa) on *Entada*, *Acacia* (Leguminosæ).

S. natalensis (Africa) on *Vigna*, *Mundulea* (Leguminosæ).

S. mozambica (Africa) on *Vigna* (Leguminosæ).

S. ella (Africa) on *Mundulea* (Leguminosæ).

The sole exception to this is JACKSON (1937), who alluded to the aberrant feeding habit of *Spindasis nyassæ* as follows: "The mouth-parts are small and I am inclined to think fitted best for absorbing a secretion and that although it is able in the early stages to feed on the shoots (of *Acacia*) and even does so with some advantage, it is not the main source of food supply."

The vegetation listed as the larval fare is extraordinarily promiscuous and includes many trailing, climbing, or parasitic plants. This appears to be a proof that some of them are not the real foodstuff, but mistaken as such by the observers, or at least the casual ones. The adult *Spindasis* may on most occasions select the host plants not as their larval foods, but as the habitats of the associated ants. The larvæ of this genus are not only attended by ants, but dependent on the latter. They are probably brought up by their nursing ants in many cases as in the case of the Japanese congener.

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