

A METHOD OF PREPARING FRESH MICROLEPIDOPTERA FOR SPREADING

The summer of 1958 was spent collecting Microlepidoptera. At the beginning of this period the method used for relaxing fresh specimens, preparatory to spreading them, was to place them in a relaxing jar four or more hours, depending on the size of the specimen. Two difficulties arose with this process: minute specimens become waterlogged within three days (due to the large number of specimens collected it was impossible to spread each night's material immediately), and small nepticulids could not be spread because the wing muscles appeared to remain tight thus not allowing the wings to be drawn into proper position.

Previously, I had placed specimens in the freezing compartment of a refrigerator so they would retain their body moisture until I had the opportunity of spreading them. This method was used again, and it was found that the nepticulids were easy to spread after four hours in the freezing compartment. The other difficulty was obviated by using this process because it is possible to hold the specimens in a nearly fresh condition for at least two weeks. I have not tried to hold them any longer than two weeks, but it should be feasible.

The procedure which I used during the second half of the summer prior to spreading the specimens was to place them in a cyanide jar for six to ten hours, then to put them on a layer of cotton in a salve tin which was placed in the freezing compartment. When I was ready to spread the specimens, I removed them from the freezer and placed them into a relaxing jar for a minimum of two hours before spreading. It is obvious that a large catch would have to be subdivided so the small specimens (nepticulids, Lyonetiids, etc.) would not remain in the relaxing jar for more than two days. The reason for stressing that micros should be spread while they are fresh is that this is the only time when they can be spread to give good-looking specimens.

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REVIEW

NORDENS DAGSOMMERFUGLE [The Butterflies of Scandinavia]. By Torben W. Langer. 1958. 344 pp., 20 col. pls., many text-figs. Quarto (8½" × 11½"). Publisher: Ejnar Munksgaard Ltd., 6 Nørregade, Copenhagen, Denmark. Price: 125.- kroner.

The principal recent Scandinavian books covering butterflies are an excellent and inexpensive manual of Danish species (Hoffmeyer & Knudsen, *De danske Storsommerfugle*; 1938) and a portion of a large work on all the groups of the Swedish Macrolepidoptera (Nordström & Wahlgren, *Svenska Fjärilar*; 1941). The range of Mr. LANGER's volume, under review, includes

Denmark, Norway, Sweden, and Finland, and there is a brief chapter discussing the butterflies of the Færø Islands (4 Temperate European Nymphalidæ only) and of Greenland (5 circumpolar high Arctic species and races). The colored plates are of an elegance and beauty not exceeded in any entomological volume known to me and are the outstanding feature of the volume. The plates are from superbly reproduced photographs showing the 135 resident species known from Scandinavia and 13 others which may eventually be found. The underside is usually shown as well, and in species with conspicuous sexual differences in color both sexes are included. There are also four spectacular plates, of *Pieris napi*, *Inachis io*, *Hesperia comma*, and *Vanessa atalanta*, each showing in natural position a living individual. This volume not only supports my view that no hand-painting can approach the faithfulness of a fine photographic color-plate, but also proves that the esthetic beauty of photographic plates can equal that of plates from paintings. The use of photographs for scientific illustrations in color of Lepidoptera (except for very small moths) deserves to replace paintings completely.

The text is in Danish. For each species there is a discussion of nomenclature, localities and flight-periods in Scandinavia, general comments on imaginal characters and the more striking variations, known food plants, characters of the egg, larva, and pupa, and the distribution outside Scandinavia. Most of the black-and-white text-figures show aberrations; others show two or more distinct races within Scandinavia, genitalic differences, and specimens of *Danaus plexippus* and *D. genutia* taken in Denmark. An unusual feature of the volume is the citation of precise locality and date of the specimens figured in both color-plates and text-figures. This will be of great value to lepidopterists interested in geographic variation. I regret that MR. LANGER adopted the unreasonably extreme generic splitting of various European authors, and I doubt that the near future will support him.

At the end of the book are: 1) a checklist of species arranged in their higher categories; 2) a very complete index of Latin names; 3) a short bibliography; and 4) a 24-page summary in English of the Scandinavian distribution and flight-periods of the 148 actual and potential species.

The Scandinavian species are found elsewhere in Europe and Asia, and at least 32 occur in North America. Any serious butterfly worker of the Northern Hemisphere will need this book, and anyone collecting richly illustrated books on Lepidoptera will want it. The English summary minimizes the language barrier, and even slight language facility will allow one to pick out the distribution, seasons, foodplants, etc. in the Danish text. MR. LANGER is well known to readers of the *Lepidopterists' News*; his recent paper (vol.11: pp.162-166) compared the Danish and North American butterfly faunas.

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