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NOVA SCOTIAN FLESHY FUNGI: A NEW ALBINO VARIANT OF *HYPOMYCES LACTIFLUORUM* (SCHW. ex FR.) TULASNE

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A new albino color variant of Hypomyces lactifluorum (Schw. ex Fr.) Tulasne is reported for the first time. Both the white and normal bright orange forms were collected within an area of 16 m^2, and were sporulating at the time. Because the microscopic characters of both variants are the same, a new taxon is not proposed.

INTRODUCTION

Hypomyces lactifluorum (Schw. ex Fr.) Tulasne is a common hypocrealean ascomycete found as a parasite in North America on mushrooms belonging to the family Russulaceae. The appearance of diseased mushrooms is so changed that they cannot be recognized as to species; however, the bright orange-red color of the parasite makes the parasitized carpophores one of the more conspicuous large fungi commonly found in the forests of Nova Scotia during summer and autumn.

In mid-September 1977, in the Gaspereaux Valley, Kings County, a group of Russulaceae parasitized by this ascomycete was found consisting of the normal orange-red form closely associated with specimens that were "white", while others were white with orange-red streaks, and still others orange-red with white streaks. The specimens were found in an area 16 m^2 in a conifer forest of spruce, fir, and hemlock. The normal orange-red carpophores found in this area were comparable in every detail with Hypomyces lactifluorum growing abundantly throughout the same forest.

Fries (1821) validated Schweinitz's original description and defined the species as vermilion "--tenuis cinnabarina--", and there is no mention of a pallid or white color variant. Seaver (1910a,b) in two important papers on North American Hypocreales discussed only the normal orange-red form. Dr C. T. Rogerson, the present North American specialist for the Hypocreales (1970), did his doctoral dissertation on the genus Hypomyces (1950), and he did not report a white variant in H. lactifluorum. A recent paper by Hamlin (1963) which discussed the morphology of this species in detail does not mention color variants. The authors have collected in Nova Scotia for a total of 63 man-yr, and this is the first distinctive color variation found in this species. It is a rare form indeed.

RESULTS

All specimens from the group under discussion are placed in one collection, ACAD 11977, and are deposited in the E. C. Smith Herbarium, Acadia University. The parasitized mushrooms are infundibuliform with eccentric stipes, and can not be identified to species.

Eight carpophores were collected and the color variants are as follows: three entirely white specimens (10-12.5 x 10-12 cm), Figure 1; one white specimen with orange streaks (9.5 x 9.5 cm); one orange specimen with white streaks (12 x 10 cm), Figure 2; and three complete orange-red "normal" specimens measuring 8-12.5 x 7-12 cm, Figure 1. All the specimens produced ascospores that are 31 to 40(45) x 7 to 9(10) , hyaline, fusiform with acute apiculi, two-celled, verrucose, and slightly constricted at the septa. Other microscopic characters are in general agreement with Hanlin's published description (1963) excepting that no conidial stages were found. Macroscopic characters are in agreement with those published by Smith (1975).

DISCUSSION

Dr C. T. Rogerson was contacted and informs us that over the years he has received two single white specimens without adequate notes that had microscopic characters that fall within the ranges of H. lactifluorum. He did not report these because of lack of necessary details. It appears that careful search in other areas where this species occurs may yield additional material.

Our collection fortunately has specimens that are orange as well as white with the variegated intermediates which were all sporulating. The spores produced by the color variants were morphologically the same throughout the collection. Hanlin (1963) reported ascophores, 35 to 45 x 6 to 7.5 µm, that are smaller in width than those examined from our material; however, all other characters are the same. We are convinced that our specimens are H. lactifluorum, and show unexpected genetic color variants of the species. We feel that a new variety should not be established on a distinctive phenotypic expression of what may be a minor change in genotype.

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Fig 1. Hypomyces lactifluorum. Left, normal orange-red carpophore; right, albino variant. x 0.75.

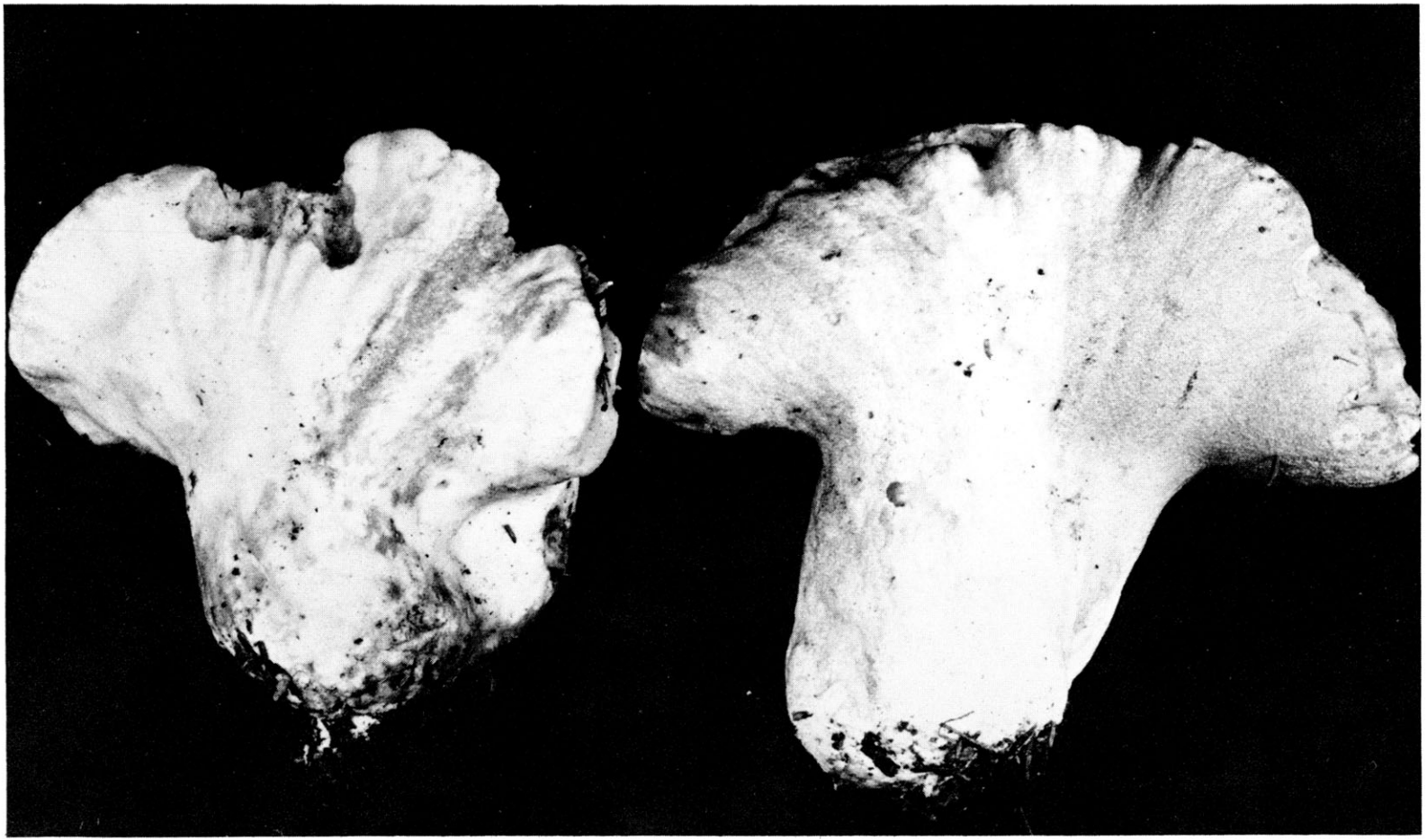

Fig 2. Hypomyces lactifluorum. Left, white variant with orange-red streaks; right, orange-red variant (lightest orange at the normal color range) with white portions x 0.75.

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