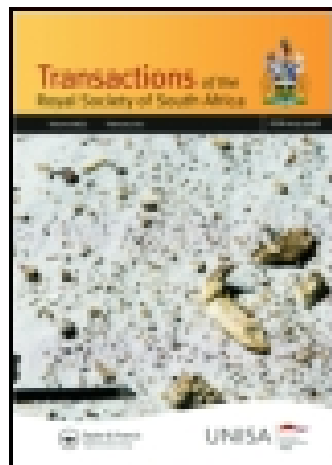


This article was downloaded by: [New York University]

On: 18 July 2015, At: 13:38

Publisher: Taylor & Francis

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: 5 Howick Place, London, SW1P 1WG



## Transactions of the Royal Society of South Africa

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/ttrs20>

### ON A FUNGUS—OVULARIOPSIS PAPAY Æ, N. SP.—WHICH CAUSES POWDERY MILDEW ON THE LEAVES OF THE PAWPAW PLANT (CARICA PAPAYA, LINN.)

Paul A. van der Bijl

Published online: 08 Apr 2010.

To cite this article: Paul A. van der Bijl (1921) ON A FUNGUS—OVULARIOPSIS PAPAY Æ, N. SP.—WHICH CAUSES POWDERY MILDEW ON THE LEAVES OF THE PAWPAW PLANT (CARICA PAPAYA, LINN.), Transactions of the Royal Society of South Africa, 9:2, 187-189, DOI: [10.1080/00359192109520208](https://doi.org/10.1080/00359192109520208)

To link to this article: <http://dx.doi.org/10.1080/00359192109520208>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

ON A FUNGUS—*OVULARIOPSIS PAPAYÆ*, N. SP.—WHICH  
CAUSES POWDERY MILDEW ON THE LEAVES OF THE  
PAWPAP PLANT (*CARICA PAPAYA*, LINN.).

BY PAUL A. VAN DER BIJL.

(With Plate X and one Text-figure.)

Along the coast of Natal, where the pawpaw is generally cultivated, we frequently find the under-surface of their leaves showing white powdery areas (Plate X). This is due to the growth of a fungus which may at times cover the greater portion of the under-surface of the leaves. The mycelium of the fungus creeps on the surface, and branches of the hyphae penetrate through the stomata and ramify in the intercellular spaces of the spongy parenchyma tissue of the leaves.

A "powdery mildew" does not appear to have been previously reported from the leaves of the pawpaw, and this fungus is held to be a new species, for which the name *Ovulariopsis papayae*, n. sp., is suggested. The genus *Ovulariopsis* was founded by Patouillard and Hariot\* in 1900, and is characterised by the following description: Sterile hyphae epiphytic and intercellular; fertile arising from sterile, erect, simple, bearing at their apices a single, large, hyaline, subclavate conidium.

In its subclavate conidia and having the sterile hyphae both epiphytic and intercellular the genus *Ovulariopsis* resembles the genus *Phyllactinia*, Lév., which latter belongs to the Erysibaceae—a family including a number of fungi responsible for "powdery mildews."

*Ovulariopsis* and *Phyllactinia* are on conidial fructifications and habit evidently closely related, and the former may be in part only the conidial fructifications of the latter.

Thus far only the conidial stage has been observed in the pawpaw fungus, and should the perithecial stage subsequently come to light and prove to belong to *Phyllactinia* then this name would replace *Ovulariopsis*, as it would represent the perfect stage in the life-cycle of the fungus. Salmon,† basing his conclusions on the size of the conidia, considers

\* Patouillard, N., and P. Hariot, "Enumeration des Champignons récoltés par M. A. Chevalier au Senegal et dans le Soudan occidentale," 'Journ. de Botanique,' xiv, p. 245 (1900).

† Salmon, E. S., "On the Identity of *Ovulariopsis*, Pat. and Har., with the Conidial Stage of *Phyllactinia*, Lév.," 'Ann. Myc.,' ii, p. 438 (1904).

*Ovulariopsis erysiphoides*, Pat. and Har., and *Ovulariopsis moricola*, Delacroix, as conidial stages of the almost cosmopolitan *Phyllactinia corylea* (Pers.), Karst. The measurements of the conidia of the above fungi are given below :

*Ovulariopsis erysiphoides*,  $48-55 \times 13-17 \mu$  (teste Salmon);  $60-70 \times 12 \mu$  (teste Patouillard and Hariot).

*Ovulariopsis moricola*,  $48-70 \times 15-23 \mu$  (teste Salmon).

*Phyllactinia corylea*,  $45-64 \times 13-16 \mu$  (teste Salmon).

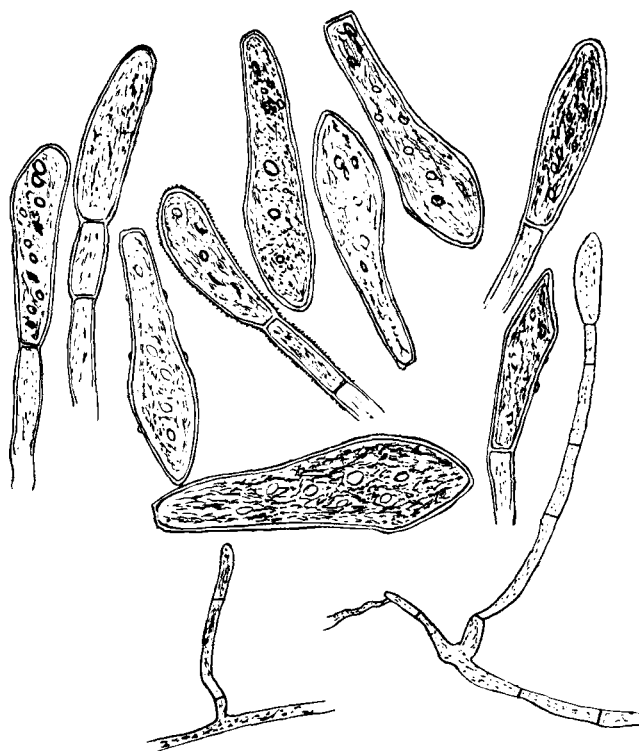


FIG. 1.

From a large number of measurements we find the conidia (Fig. 1) of *Ovulariopsis papayae* to vary considerably, and the extremes are  $60-90 \times 14-23 \mu$ . The majority are  $72 \times 14 \mu$ . They hence exceed in length the conidia of the fungi mentioned above. We have not tried inoculating our fungus into mulberry leaves, from which host *Ovulariopsis moricola* was named, but have not observed a similar fungus on mulberry leaves. On several occasions we found mulberry trees growing in close proximity to infected pawpaw plants, but not in a single instance had the fungus spread

from the latter to the former. *Phyllactinia corylea* has thus far not been recorded from the leaves of the pawpaw, though it has a large number of host-plants, and Salmon\* records it from mulberry (*Morus alba*) from Japan. In South Africa it has to date not been found on this host.

We give the following brief diagnosis of the pawpaw fungus :

OVULARIOPSIS PAPAYAE, n. sp.

Sterile hyphae hyaline, epiphytic, penetrating interior of leaf through the stomata and ramifying in the intercellular spaces of the spongy parenchyma; conidiophores arising from the sterile hyphae, erect, cylindrical, pluriseptate, up to  $200\mu$  long,  $7\mu$  diam.; conidia large, borne singly at apex of conidiophores, subclavate,  $60-90 \times 14-23\mu$ , majority  $72 \times 14\mu$ ; conidiophores and conidia usually smooth, rarely beset with fine projections.

*Habit.*—On under-surface of live leaves of *Carica papaya*, causing “powdery mildew.” Common along Natal coast. (Type in Natal Herbarium, P. v. d. B., No. 924.)

\* Salmon, E. S., “The Erysiphaceae of Japan,” ‘Bull. Torr. Bot. Club,’ xxvii, pp. 438-439, 445 (1900).

