

On *Uromyces Inocarp* Raciborski.

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Uromyces Inocarp was described by Raciborski (5) after material collected in Java and growing on leaves and fruits of *Inocarpus edulis* Forst. (= *I. fagiferus* Fosb.).

Some years later Patouillard (4) got a similar fungus from Roruru, French Polynesia, also parasitizing the fruits of *Inocarpus edulis*. As he seems to have been unaware of the work of Raciborski, he named the species *Mapea radiata*, placing it as a new genus in the *Uredinales*.

From the description however it is quite evident that we have to deal with one and the same species.

Discussing the genus *Mapea*, Von Höhnel (1) considers this to be no rust at all, but an early stage of development of an Agaric, most probably of a *Marasmius*. His opinion was chiefly based on the pictures given by Patouillard and not on the study of original material.

Maire (3) who restudied the type material shows that the mycelium and spores are binucleate and therefore maintains the species in the *Uredinales*.

In a second note Von Höhnel (2) returns to our subject. He has since examined material of our species and though he not wholly rejects the idea of *Mapea* being a rust, he thinks it nevertheless very improbable. In his opinion *Mapea* may be a fungus imperfectus, related to the genus *Hymenula*.

Part of the original collection of Raciborski present in the Herbarium of the Botanic Gardens at Bogor and ample fresh material show our species to be indubitable one of the rusts.

It also enables me to draw up a new description.

As can be seen from this there are some small discrepancies with the diagnoses as given by Raciborski and Patouillard. Moreover it becomes clear, that our species cannot be retained in the genus *Uromyces*. It shows much resemblance with the genus *Mara-valia*. It has the same thinwalled teliospores, which germinate directly when mature, and it grows also on one of the *Leguminosae*. But the urediospores do not possess germ pores and the pedicels are provided halfway with a whorl of thin parallel side branches. Furthermore capitate paraphyses are present in the sori, which are formed within the epidermis.

So the genus name *Mapea* will be the correct one. Even if the characters mentioned are not considered to be of generic rank, the name *Mapea* stands first as it precedes the name *Maravalia* by many years.

***Mapea Inocarpi* (R a c) B o e d i j n nov. comb.**

Syn.: *Uromyces Inocarpi* R a c i b o r s k i Paras. Algen u. Pilze Java's, 3. 9. 1900.

Mapea radiata P a t o u i l l a r d Bull. Soc. Myc. France 22. 46. 1906.

Aecia and pycnia not found. Uredia on leaves and especially on the fruits of the host. On leaves only on the young, still soft ones; very inconspicuous, $\frac{1}{2}$ —1 mm in diam. On the fruits often up to 2 mm in diam. They may be scattered over the surface, but more often are coalescing and covering almost the whole fruit. The protruding powdery spores give the fruits a striking orange-yellow color, about apricot yellow till light cadmium, light orange-yellow till deep chrome, or between deep chrome and cadmium yellow. R i d g w a y (6).

The mycelium within the host is intercellular but near the surface also intracellular. After staining it shows the cells to be neatly binucleate. The hyphae are producing small coralloid haustoria within the host cells.

In the epidermis the threads are forming a kind of pseudoparenchyma from which the sporophores are arising, which in due time will rupture this layer. They are sometimes branched near the base, 25—30 μ long, 4—6 μ broad. Halfway, usually near a septum, they bear a varying number of thin side branches, more or less arranged in a whorl and parallel with the main stem. Those threads are 1—2 μ broad and form a very dense pallisade layer. At the top the sporophores are bearing the urediospores singly. Urediospores pear-shaped, often more or less elongated, sometimes even subglobose, 16—20 μ \approx 12—16 μ , pale orange-yellow, wall finely echinulate. Germ-pores not present, but they germinate easily, mostly with a lateral germtube.

In all sori, scattered between the sporophores, a rather small number of capitate paraphyses 38—60 μ long is to be found. They are sometimes arising as sidebranches from the base of the sporophores. The stalk is $5\frac{1}{2}$ —8 μ broad, usually thickwalled near the top and sometimes provided with a septum. The head is globose till subglobose 16—24 μ in diam., rather thinwalled and often collapsing in a toadstool-like shape in old specimens.

In the same sori or sometimes in separate sori the teliospores are originating. They are stalked, the stalk 3—5 μ broad, without side branches. The spore-body is more or less cylindrical, 25—32 μ \approx

11–15 μ , thinwalledd, colorless and broadly rounded at the apex. When mature they germinate immediately at the top with a basidium. In our material the basidia were either too young or too old, but according to Raciborski they are fourcelled 60–110 \approx 6 μ , with sterigmata 6–12 μ long and basidiospores globose till subglobose 6–8 μ in diam.

Literature.

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