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# Nomenclature and Authorship of White Pine Blister Rust

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**SUMMARY:** Some doubt exists regarding the proper authorship of *Cronartium ribicola*. The commonly accepted name, J. C. Fischer, and another possible name, Fischer v. Waldheim, are discussed and evaluated.

**Key Words:** authorship, *Cronartium ribicola*.

When I travelled to Europe to investigate pine stem rusts in 1967, my father (Dr. Naohide Hiratsuka) asked me to locate and photograph the type specimen of *Cronartium ribicola*, and to check the author citation of the fungus because he doubted the authorship of the rust. Although most modern authors accept J. C. Fischer as the author of the rust, I always remembered my father's concern on the subject. At the last IUFRO "Rusts of Pines" Conference in Banff, Canada, in 1989, Dr. Rich Hunt remarked in his presentation that some confusion exists in the authorship of the fungus *Cronartium ribicola*. In this presentation, I would like to discuss the results of my investigation and to express my opinion on the subject.

Examples of various authors' names used for *Cronartium ribicola* are as follows:

Dietr.

Saccardo (24)-includes report of *Ribes* rust from Russia by Fischer v. Waldheim  
Fischer, Ed. (9)  
Arthur (2) (Lasch.)  
Kuprevich & Tranzschel (16)

Fischer

Rabenhorst (21, 22)-original description  
Moir (18)  
Arthur (4)  
Peterson (20)

Fischer v. Waldh.

Arthur (1) (Lasch.)  
Savulescu (25)  
Hiratsuka (12)  
USDA Index of Plant Diseases in the United States (7)

J. C. Fischer

Sydow (26)

Hylander et al. (14)  
Gäumann (10)  
Wilson and Henderson (27)  
Ginns (11)  
Farr et al. (8)  
Hiratsuka et al. (13)  
Laundon and Rainbow (17)  
J. C. Fischer ex Rabh.  
Ziller (28)  
Azbukina (5, 6)  
(Lasch.) J. C. Fischer v. Waldheim  
Paclt (19)

At least five papers have been written regarding the authorship of the fungus, as follows:

Arthur, J. C. 1933. Authority of the name *Cronartium ribicola*. *Phytopathology* 23: 559-561.  
(*Cronartium ribicola* (Lasch.) Dietr.)  
Arthur, J. C. 1933. Correction in authority for *Cronartium ribicola*. *Phytopathology* 23: 841. (Fischer is the correct author's name)  
Klebahn, H. 1931. Der Autor des *Cronartium ribicola*. *Zeitsch. Pflanzenkr.* 41: 209-213.  
(Compared different Fischers and could not decide which one was correct, but no mention of J. C. Fischer)  
Spaulding, P. 1933. Dietrich preferable authority for *Cronartium ribicola*. *Phytopathology* 23: 203-204.  
Sydow, H. 1934. *Cronartium ribicola*: zur Autorfrage des Pilzes. *Ann. Mycol.* 32: 115-117.  
(J. C. Fischer is the right name)  
Among the names used by different authors, J. C. Fischer de Waldheim (19) is obviously wrong because J. C. Fischer and Fischer de Waldheim (Fischer v. Waldheim) are two different persons. J. C. Fischer ex Rabenhorst is

also not acceptable because Fischer was the author of the original description even though the description was published on the label of one of Rabenhorst's exsiccati and was also reprinted in a paper by Rabenhorst. Both were published in 1872.

Dietrich's transfer of *Uredo ribicola* Lasch to *Cronartium* was accepted by several authors because of the earlier date of publication (1854 or 1856). However, the names (Lasch) Dietrich should be abandoned because the original specimen of *Uredo ribicola* Lasch was found not to belong in the genus *Cronartium* (26). There are also no teliospore description in Lasch's original description. This narrows the possibilities to several Fischers. The original description of the fungus published in 1872 simply mentions Fischer, without an initial. The type specimen is a series of Rabenhorst's exsiccati (Fungi Europaei 1595) (21) (Fig. 1) and the same description was published in Hedwigia (22) in the same year (Fig. 2). In other words, in the original description this Fischer was not clearly identified. Farr et al. (8) lists the following Fischers as authors of fungi. Their ages when *C. ribicola* was described (1872) are in parentheses.

Fischer von Waldheim, Alexander Alexandrovitch-- A. Fisch. v. Waldh. 1839-1920 (33)

Fischer, Alfred--A. Fischer 1858-1913 (14)

Fischer, Eduard--E. Fisch. 1861-1939 (11)

Fischer, George William--G. W. Fisch. 1906- (0)

Fischer, Johann Carl--J. C. Fisch. 1804-1885 (68)

Rabenhorst (1806-1881) was 66 years old in 1872 (8). If no other Fischers are involved, J. C. Fischer and Fischer v. Waldeheim are the only possible authors because of their age at the time of the original description (1872).

H. Sydow seemed to settle the argument in his paper published in 1934 (26).

Following is a translation of a part of the paper:

"Who is then the real mysterious 'Fischer'? Klebahn wrote that he could not confirm this person's identity. Because the 'Fischer' collected the fungus in Stralsund, or near by, I searched for the information in that location. Thanks to the good cooperation from Professor O. Bürgener in Stralsund, it was not difficult to clarify the identity of Fischer. I therefore give following data of the his life:

Johann Carl Fischer was born on August 19, 1804 in Pasewalk, and was the son of the principle of a Latin school of the city (Lateinischen Stadtschule). He received private tutoring in Verchen near Demmin, in

*Inscribed from specimen in Farlow Herbarium by Dr. Linder, March, 1933*

**Rabenhorst, Fungi europaei**

**1595 Cronartium ribicola Fischer nov. sp.**

Die Entwicklung der Fruchttträger gibt eine Uredo-Form voran, vermittelt deren der Pilz sich zuerst schnell über vieler Blätter, doch meist nur auf demselben Strauch verbreitet. Die Uredo-Sporen sind goldgelb, etwas klebrig, die Reihensporen der Fruchttträger farblos.

**A. Anfangs October 1871**

Auf den lebenden oder etwas absterbenden Blättern von *Ribes aureum* Pursh. unterseits, heerdenweis auf meist gelbgrünen (auch oberseits sichtbaren), später verbleichenden Flecken.

**B. (vid. A.)**

Weniger gut als A., der Pilz öfters verkümmert oder von Wurmern und Insecten abgeweidet, oder zum Theil jugendlich. Stralsund, Anfangs October 1871 leg.

**Fischer.**

Fig. 1. Copy of the label of the type specimen (Rabenhorst, Fungi Europaei 1595, 1872) of *Cronartium ribicola* inscribed from the specimen in Farlow Herbarium by Dr. Linder, March 1933. (Obtained from Arthur Herbarium, Purdue University).

vel caulis semper tectae. Sporae infra epidermidem dense stipatae, pedicellatae, uniloculares, ovatae, clavatae, oblongae, cuneatae etc.; apice vel juxta apicem saepius processu mamilliformi praeditae.  $45-60/1000$  mill. longae,  $20-25/1000$  mill. latae, fuscescentes. Crescit in caule foliisque Sonchi arvensis L. prope Amstelodamum, m. Sept. ao 1871.

*Cronartium ribicola* Fischer nov. sp. — Der Entwicklung der Fruchträger geht eine Uredo-Form voran, vermittelt deren der Pilz sich zuerst schnell über viele Blätter, doch meist nur auf demselben Strauch, verbreitet. Die Uredo-Sporen sind goldgelb, etwas klebrig, die Reihen-Sporen der Fruchträger farblos. Anfangs October 1871. Auf den lebenden oder absterbenden Blättern von *Ribes aureum* Pursh. unterseits, heerdenweis auf meist gelbgrünen (auch oberseits sichtbaren), später verbleichenden Flecken. *Aecidium Glaucis* Rabenh. Die Uredo fand ich vor vielen Jahren in der Lausitz, die Teleutosporen sind nun noch aufzusuchen.

Vertreten sind in dieser Centurie England durch die Herren Broome und Cooke; Holland durch Herrn Oudemans; Deutschland durch die Herren A. Braun, de Bary, Delitsch, Fischer, Jack, Kemmler, J. Kunze, Magnus, L. Rabenhorst, Schneider, Stizenberger, G. Winter; Oesterreich durch die Herren Laurer, G. v. Niessl, Poetsch, Sauter, Schiedermayr, v. Thümen; Ungarn durch Herrn Thauscher; Italien durch die Herren v. Cesati, Pedicino; Griechenland durch Herrn v. Heldreich.

Fig. 2. Copy of the page of Hedwigia 11: 182, 1872, showing the original description of *Cronartium ribicola*.

which town his father had accepted the position of pastor. From 1821 to 1824 he attended the Gymnasium in Friedland (Mecklenburg-Strelitz), then studied in Halle till the spring of 1827 and became a tutor in Vorpommern and Mecklenburg. At Easter of 1832 he passed the examination in Berlin for the teacher's certificate (facultate docendi) and became a student teacher at a Gymnasium in Potsdam. From Easter of 1834 he was employed at a Gymnasium in Stralsund. From 1841 he became ill with pleurisy and needed to be absent from work often. As a consequence, he retired at Easter of 1854. He died on February 16, 1885 in Stralsund.

He published: A list of the vascular plants in Neu-vorpommerns and Rügens, Stralsund 1861. He was also mentioned in the preamble to Marsson's Flora from Neu-vorpommern (Leipzig 1869) as a contributor to the compilation of the flora.

From the above, it must be deduced that the *Cronartium* living on *Ribes* hence forth be called *Cr. ribicola* J. C. Fischer."

My investigation shows that since the publication of this paper, more authors started using J. C. Fischer. Most

modern authors use J. C. Fischer as the author of the fungus. Is this, then, the final proof of the authorship? Type locality is Stralsund, Germany, and there is a retired biology teacher - botanist in Stralsund. However, although J. C. Fischer lived in Stralsund, he was sick and retired. He had no mycological background or any publications on fungi.

How about Fischer v. Waldheim? He was a fairly well-known mycologist who studied smut fungi and published at least 30 papers including several papers in Hedwigia, which was edited by Rabenhorst when the fungus was described. He was young, 33 years old, in 1872, but he had published mycological papers as early as 1867, 5 years before the publication of *C. ribicola*. Two-thirds of his papers were written in German and the rest in Russian. In the article printing the original description of Fischer, cited in Rabenhorst (22) the author (Fischer) complimented both Fischer and Rabenhorst as contributors from Germany as if he was referring to another Fischer in Germany (see Fig. 2). Besides, there is an indication that Fischer v. Waldheim was associated with Warsaw University in Poland, fairly close to German cities. It is possible that J. C. Fischer could have collected the type specimen in Stralsund, but Fischer

v. Waldheim described the fungus and Rabenhorst included it in his *Fungi Europaei Exsiccati* series. To me, it is inconceivable that Rabenhorst would let an unknown retired biology teacher describe a fungus. I would prefer to think that, as the leading mycologist of the day, Rabenhorst let a young promising mycologist describe the fungus. I also found that Fischer v. Waldheim contributed at least one more specimen to the same Rabenhorst exsiccati series a few years later (*Fungi Europ.* No. 2381). However, I could not see the specimen. Klebahn (15) discredited Fischer v. Waldheim because this Fischer used another author's name (Dietrich) without mentioning Fischer. The fact that the original description did not have initials means that the Fischer must have been known among mycologists at the time. Saccardo (24) reported a collection of *Ribes* rust from Russia by Fischer v. Waldeheim.

It would be interesting if other papers written by Fischer v. Waldheim in German could be compared with his description for style and wording. Also, it would be beneficial if we knew more about Rabenhorst at that time, including his records of correspondence with other mycologists.

In summary, I am now more confused than before regarding the authorship of *Cronartium ribicola*. A. Fischer v. Waldheim looks to me more likely to be the author of *Cronartium ribicola* than J. C. Fischer. However, I would recommend continuing to use J. C. Fischer as the author for the time being until the situation is clarified.

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