



RUST ON *DUCHESNEA*

Robert D. Raabe, Professor, Department of Plant Pathology,
Berkeley



Duchesnea indica (Andre) Focke, a plant native to southern Asia, is a common groundcover in California. It is very similar to wild strawberry, *Fragaria chiloensis* Duchesne, which is also used as a groundcover. *Duchesnea* differs in that it has yellow flowers instead of white. Also, the calyx of *Duchesnea* is five-parted and the lobes alternate with large, three- to five-toothed bracts. The fruit is dry and mealy as contrasted with the edible fruit of *F. chiloensis*. However, the form of this species used as a groundcover produces only male flowers and rarely sets fruit.

In 1934, Arthur (1) described a rust on *D. indica* as *Frommea obtusa* var. *duchesneae*. He listed it as occurring in many eastern and southern states, where *Duchesnea* has apparently naturalized and sometimes is considered a weed.



Several years ago, the rust was found on a *Duchesnea* planting in Berkeley. Since then, the rust has been found throughout the San Francisco Bay Area and in other parts of

California. Because it is becoming widespread and because *Duchesnea* looks so much like strawberry, there is some concern that this rust might spread to strawberry. Greenhouse inoculations using rust spores from *Duchesnea* on the commercial fruiting strawberry, *F. chiloensis* Duchesne var. *ananassa* Bailey, have not been successful. Also, in observations of *Duchesnea* and wild strawberry growing together, the rust has not been found on the *Fragaria*, even though the *Duchesnea* has been heavily infested.

Other evidence that this rust probably will not go to strawberry is that the rust on *Duchesnea* is listed as a form of a rust that occurs on *Potentilla canadensis* L., suggesting that physiologically, at least, *Duchesnea* is more closely related to the genus *Potentilla* than to the genus *Fragaria*. However, intergeneric hybrids between some *Potentilla* and *Fragaria* species have been made, indicating relationships between these two genera. The rust reported on *Potentilla* was on only a single species native to central and eastern United States and, as far as can be

determined, no rust has been found on *Potentilla* species in California.

All this evidence, along with the fact that no rust has been reported on *Fragaria* species in the United States, indicates that there is little chance of the rust spreading from *Duchesnea* to strawberry. Those working with wild or commercial fruiting strawberries, however,

might watch for bright-orange rust spores that cover the undersides of the leaves.

LITERATURE CITED

1. Arthur, J. C. 1934. *Manual of the Rusts in United States and Canada*. Lafayette, Indiana: Purdue Research Foundation.