Just in what way the removal of cortex delays wilting in the cut shoot is yet to be determined, but that it does is evident from results secured. It seems reasonable to suppose that if the cortex is removed and more wood-cells exposed, the shoots should take up more water, provided the cells exposed by the cross-section are not able to supply all the stem can carry. If they can, however, then the delay in wilting must depend on the fact that the more wood-cells exposed, the more time required for them to choke and break down; and this leaves us with the problem as regards the "absorption of water by decorticated stems," either the supply is greater or the cells do not choke so soon.

Indiana Plant Rusts, Listed in Accordance with Latest Nomenclature.

By J. C. Arthur.

Stability in nomenclature is conceded by all to be important. In botany there should be one recorded name for each plant by which it can be identified, and none other should be valid. If this could be strictly maintained, the study of plants would be simplified, for not only would doubt be removed regarding the true application of a name, but when a name was once learned it would hold good for all time. How different the present status of botanical usage is has been brought to the attention of every one using the successive editions of Gray's Manual, a work that probably has introduced more American students of recent years to an acquaintance with the plants of field and highway than all others combined. Those of us who were brought up botanically on the fifth edition learned to call the pretty little white rue-anemone, so abundant in spring, *Thalictrum anemonoides*, but with the new edition in 1890 we were asked to forget that name—no, not to forget it, but to remember that it is not the right one—and to say, instead, *Anemonella thalictroides*. If one had but to relearn a few hundred names, and feel assured that no further demands would be thrust upon him, the task would seem less wearisome. But the new manual names are scarcely fixed in mind before the valuable work by Britton and Brown comes to us, a work so admirably conceived and executed, and so conveniently devised to assist the learner, that it must be recognized as the foremost manual of our flora, and we are again asked to put away the former names of our little rue-anemone and to rechristen it among our list of acquaintances as *Syndesmon thalictroides*. There are

many such instances; for example, the Canada thistle is changed from *Cirsium arvensis* to *Cnicus arvense*, and again to *Carduus arvensis*. If we should include the earlier editions of Gray's Manual, and also the works of other authors, the number of synonyms would be greatly increased, some plants, in fact, having as many as a score of Latin names. If we add to this the not infrequent application of the same name to two or more distinct kinds, the confusion becomes appalling.

All this unfortunate state of affairs in the botanical camp has been recognized for a long time, and various measures have been proposed from time to time, and more or less effectively applied, to bring about a reform. Of these efforts the most prominent are the DeCandolle principles of 1813, the Paris code of 1867, the ruling of the Genoa Congress of 1892, and the Rochester-Madison code of 1892-3. All the clearly defined measures are essentially in accord in recognizing as fundamental the statement made by DeCandolle (1813) in his Elements of Botany (p. 228), viz.: "In order that a nomenclature become universal it must be fixed, and the fixity of that of natural history is founded on this principle, that the first one who discovers an object, or who records it in the catalogue of science, has the right to give it a name, and that this name must be necessarily accepted, unless it already belongs to another object or transgresses the essential rules of nomenclature." The application of this principle of recognizing the first name applied to a plant as its only legitimate and correct name is known as the law of priority. But to disentangle the confusion of a hundred and fifty years or more since Linnæus established binomial nomenclature is a great task, and to promulgate unequivocal rules for the present and future naming of plants is almost equally difficult.

The first bomb that was fired so effectively that the botanical camp was stirred to its center and forced to become aggressive, may be said to be the publication in 1891 of Otto Kuntze's *Revisio generum plantarum*. This work discarded names in general use by the hundreds, almost by thousands, and substituted unfamiliar ones, on the ground of rigid priority. It was like an earthquake shaking the whole structure of the nomenclatorial palace, and threatening no end of disaster. But those who believe that the sooner the inevitable change from a policy of inaction to a fearless reconstruction is made have welcomed the efforts of Dr. Kuntze, and have set about to see in how far he is right and to aid as much as possible in establishing nomenclature upon a firm basis.

The class of plants to which I wish to call attention in this connection, the fungi, was not included in Dr. Kuntze's publication of 1891; but in a recent supplemental volume he has taken it up; and it is because some startling changes are proposed among the genera of rusts, a group of plants with which I have lately been working, that it occurred to me that the members of this Academy might be interested in seeing how the list of plant rusts (*Uredineæ*), which have been published from time to time in its Proceedings since 1893, would look when revised in accordance with what appears to be a rigid application of the law of priority. The time at my disposal has not permitted a thorough re-examination of the nomenclatorial history of every species of the list, yet such work as has been done appears to necessitate some changes, which in part were not contemplated by Dr. Kuntze. Some of these changes have been required in order to make the list conform to the Rochester-Madison code, especially in recognizing 1753 as the limit for priority, instead of 1737, as advocated by Dr. Kuntze, and in permitting specific names of any number of syllables, instead of limiting them to eight syllables. It has also been necessary to revive the genus name *Aregma*, established by Fries (*Obs. Myc.*, p. 225) in 1815, to replace the more familiar name of *Phragmidium*, published by Link in 1816.

The plant rusts of our region fall into two principal groups—the *Melampsoraceæ* and the *Pucciniaceæ*. The four genera of the first group are not affected by Dr. Kuntze's researches, but three of the seven genera of the second group are altered, and these are much the largest genera of all the *Uredineæ*. They are *Puccinia*, which is changed to *Dicæoma*; *Uromyces*, changed to *Cæomurus* and *Gymnosporangium*, which unfortunately is to be known as *Puccinia*. By these changes sixty-nine species of rusts belonging to the Indiana flora, out of a total of eighty species native to the State, are provided with unfamiliar names.

Puccinia first appears as a genus, subsequent to the priority limit of 1753, in a work published by Adanson in 1763, being adopted from a much earlier work by Micheli, who founded it to receive the common European Juniper rust, now called *Gymnosporangium juniperinum*.* Other authors,

*Since the manuscript of this paper went to the printer the correctness of Dr. Kuntze's interpretation of the generic use of *Puccinia* has been called in question by Professor Magnus, with Dr. Kuntze's subsequent approval. But the criticism does not apply, it seems to me, when 1753 is accepted as the limit of priority, instead of 1737, as held by the German writers.

in particular Willdenow, Gmelin, Schmidel and Persoon, added new species to the genus, and especially such rusts as had teleutospores of a similar shape, whether having one, two or many cells. These additions so overshadowed the original Juniper rust and its allies that the genus came to stand for these more abundant and more characteristic rusts. After a time there were gradually separated the one-celled forms, as *Cœomurus*, almost at once changed to *Uromyces*, the many-celled forms, as *Phragmidium*, and the forms with a gelatinous spore-bed, as *Gymnosporangium*, leaving the common two-celled forms under the old name *Puccinia*. We are now asked to restore the name *Puccinia* to its original use, although its misuse has extended over a full century.

The generic name of *Dicœoma*, which was first distinctively applied to the ordinary two-celled forms, appears to have been introduced by Nees von Esenbeck in 1816 as the name of a section, and was erected into a distinct genus by S. F. Gray in 1821. But it never came into general use, and soon disappeared from current books entirely. Of the rusts usually listed under *Puccinia*, there are forty-seven species in the Indiana flora, which are now to be transferred to *Dicœoma*.

The case of the third genus, *Uromyces*, embracing the one-celled rusts, is simpler but quite as annoying. The genus was named by Link in 1809; but not finding the name to his liking, he rechristened the genus seven years afterward, and now after all these years we are called upon to readopt the earlier name, dropping the name *Uromyces*, and to transfer our species to *Cœomurus*. For it was held by DeCandolle long ago that "an author, who has first established a name, has himself no more right than any one else to change it for the simple reason of impropriety," and recent rulings have held the opinion to be sound.

So it comes about that the names of the four largest genera of rusts must be changed, to make them conform to the law of priority, after having been in use almost from the first, and one of these changes is a transfer, which necessarily will cause some subsequent confusion. There appears but one question yet to be answered. We must know whether a thorough inspection of the literature will substantiate the claim that these are in fact the genuine first names for the genera. Feeling considerable confidence in the present conclusion, I here rewrite the Indiana list of *Uredineæ*, to more clearly call attention to the proposed and doubtless inevitable changes.

In the following list the name of the rust which is considered to be the correct first name is printed in small capitals, and when thought necessary for identification is followed by the name that is in more general use printed in italics. The names of the hosts on which the rust grows are given for each species, conforming to the nomenclature of Britton and Brown's "Illustrated Flora of the Northern States and Canada," with the more familiar name added in parenthesis, when a difference occurs. The references after each host are to the page and year of the Proceedings of the Academy, where additional information can be found. Both genera and species are arranged alphabetically.

The list does not include the unattached forms under the genera *Æcidium* and *Uredo*, of which there are about twenty kinds recorded for Indiana. Careful observation supplemented by cultures must finally decide where these belong. The only additions here made to the previous records for the State consist of a few host plants, which are clearly indicated. The species included by Miss Lillian Snyder in her paper before the present session of the Academy could not of necessity be cited.

MELAMPSORACEÆ.

1. CHRYSOMYXA ALBIDA *Kühn.* (*Coleosporium Rubi E. & H.*)
   On Rubus cuneifolius Pursh. 1893:50.
   On Rubus villosus Ait. 1893:50.

2. COLEOSPORIUM HYDRANGEÆ (*B. & C.*). (*Uredo Hydrangeæ* B. & C.)
   On Hydrangea arborescens L. 1893:56. 1896:218.

3. COLEOSPORIUM IPOMŒÆ (*Schw.*) *Bur.*
   On Ipomœa pandurata (L.) Mey. 1896:171, 218.

4. COLEOSPORIUM SOLIDAGINIS (*Schw.*) *Thuem.*
   On Aster azureus Lindl. 1893:50.
   On Aster cordifolius L. 1893:51.
   On Aster Novæ-Angliæ L. 1893:51.
   On Aster paniculatus Lam. 1893:51.
   On Aster puniceus L. 1893:51.
   On Aster sagittifolius Willd. 1893:51.
   On Aster salicifolius Lam. 1893:51.
   On Aster Shortii Hook. 1893:51.

On Aster Tradescanti L. 1893 : 51.

On Solidago arguta Ait. 1893 : 51.

On Solidago cæsia L. 1893 : 51.

On Solidago Canadensis L. 1893 : 51.

On Solidago flexicaulis L. (*S. latifolia* L.) 1893 : 51.

On Solidago patula Muhl. 1893 : 51.

On Solidago rugosa Mill. 1893 : 51.

On Solidago serotina Ait. 1893 : 51.

5. Coleosporium Vernoniæ *B. & C.*

On Vernonia fasciculata Michx. 1893 : 51.

On Vernonia Noveboracensis (L.) Willd. 1893 : 51.

6. Melampsora populina (*Jacq.*) *Lev.*

On Populus balsamifera L. 1893 : 51.

On Populus deltoides Marsh. (*P. monilifera* Ait.) 1893 : 51. 1896 : 218.

On Populus grandidentata Michx. 1893 : 51.

On Populus tremuloides Michx. 1893 : 51.

7. Melampsora farinosa (*Pers.*) *Schrœt.*

On Salix cordata Muhl. 1893 : 51.

On Salix discolor Muhl. 1893 : 51. 1896 : 218.

On Salix fluviatilis Nutt. (*S. longifolia* Muhl.) 1893 : 52.

On Salix nigra Marsh. 1893 : 51.

8. Pucciniastrum Agrimoniæ (*DC.*) *Diet.* (*Cæoma Agrimoniæ* Schw.)

On Agrimonia hirsuta (Muhl.) Bick. (*A. Eupatoria* Am. Auct.) 1893 : 50. 1896 : 218.

On Agrimonia parviflora Sol. 1893 : 50.

PUCCINIACEÆ.

9. Aregma disciflora (*Tode*) *nom. nov.* (*Phragmidium subcorticium* Wint.)

On Rosa Carolina L. 1893 : 52.

On Rosa humilis Marsh. (*R. lucida* Am. Auct.) 1893 : 52.

On Rosa setigera Michx. 1893 : 52.

10. Aregma Fragariæ (*DC.*) *nom. nov.*

On Potentilla Canadensis L. 1893 : 52. 1896 : 218.

11. Aregma speciosa *Fr.* (*Phragmidium speciosum* Cke.)

On Rosa Carolina L. 1896 : 219.

On Rosa humilis Marsh. Tippecanoe Co., 5, 1898 (*Arthur*).

12. Cæomurus Caladii (*Schw.*) *Kuntze.* (*Uromyces Caladii* Farl.)
On Arisæma triphyllum (L.) Torr. 1893 : 56. 1896 : 222.
On Arisæma Dracontium (L.) Schott. 1893 : 56. 1896 : 222.

13. Cæomurus caryophyllinus (*Schr.*) *Kuntze.*
On Dianthus Caryophyllus L. 1893 : 56.

14. Cæomurus Euphorbiæ (*Schw.*) *Kuntze.*
On Euphorbia dentata Michx. 1893 : 57. 1896 : 222.
On Euphorbia nutans Lag. (*E. hypericifolia* Gr.) 1893 : 57. 1896 : 222.

15. Cæomurus gaurinus (*Pk.*) *nom. nov.* (*Uredo gaurina* (Pk.) DeT.)
On Gaura biennis L. 1896 : 222.

16. Cæomurus graminicolus (*Burr.*) *Kuntze.*
On Panicum virgatum L. 1893 : 57.

17. Cæomurus Howei (*Pk.*) *Kuntze.*
On Asclepias incarnata L. 1893 : 57. 1896 : 222.
On Asclepias purpurascens L. 1893 : 57.
On Asclepias Syriaca L. (*A. Cornuti* Dec.) 1893 : 57. 1896 : 222.

18. Cæomurus Hedysari-paniculati (*Schw.*) *nom. nov.*
On Meibomia Canadensis (L.) Kuntze (*Desmodium C.*) 1896 : 222.
On Meibomia canescens (L.) Kuntze (*Desmodium c.*) 1893 : 57.
On Meibomia Dillenii (Darl.) Kuntze (*Desmodium D.*) 1893 : 57. 1896 : 222.
On Meibomia lævigata (Nutt.) Kuntze (*Desmodium l.*) 1893 : 57.
On Meibomia paniculata (L.) Kuntze (*Desmodium p.*) 1893 : 57.
On Meibomia viridiflora (L.) Kuntze (*Desmodium v.*) 1893 : 57.

19. Cæomurus Hyperici-frondosi (*Schw.*) *nom. nov.*
On Hypericum Canadense L. 1893 : 57.
On Hypericum mutilum L. 1893 : 57.
On Triadenum Virginicum (L.) Raf. (*Elodea campanulata* Marsh.) 1893 : 57.

20. Cæomurus Junci (*Schw.*) *Kuntze.*
On Juncus tenuis Willd. 1896 : 222.

21. Cæomurus Lespedezæ-procumbentis (*Schw.*) *nom. nov.*
On Lespedeza frutescens (L.) Brit. (*L. reticulata* Pers.). 1893 : 57.
On Lespedeza procumbens Michx. 1893 : 57.
On Lespedeza repens (L.) Bart. 1896 : 222.

22. Cæomurus perigynius (*Halst.*) *Kuntze.*
On Carex pubescens Willd. 1893 : 57.

23. Cæomurus Phaseoli (*Pers.*) *nom. nov.*
On Strophostyles helvola (L.) Brit. (*Phaseolus diversifolius* Pers.).
1893:56. 1896:172, 222.

24. Cæomurus Pisi (*Pers.*) *Gray.*
On Vicia Americana Muhl. 1896:222.

25. Cæomurus Polygoni (*Pers.*) *Kuntze.*
On Polygonum aviculare L. 1893:57. 1896:223.
On Polygonum erectum L. 1893:58.

26. Cæomurus Rudbecklæ (*Arth. & Holw.*) *Kuntze.*
On Rudbeckia laciniata L. 1894:152.

27. Cæomurus Terebinthi (*DC.*) *Kuntze.*
On Rhus radicans L. (*R. Toxicodendron* Am. Auct.). 1893:58.

28. Cæomurus Trifolii (*Hedw.*) *Gray.*
On Trifolium hybridum L. 1893:58.
On Trifolium medium L. 1893:58.
On Trifolium pratense L. 1893:58. 1896:223.
On Trifolium repens L. 1893:58.

29. Dicæoma Andropogi (*Schw.*) *Kuntze* (*Puccinia Andropogi* Schw.).
On Andropogon furcatus Muhl. 1896:219.
On Andropogon scoparius Michx. 1896:219.

30. Dicæoma Anemones (*Pult.*) *nom. nov.* (*Puccinia fusca* Relh.).
On Anemone quinquefolia L. (*A. nemorosa* Mx.). 1894:151.

31. Dicæoma Anemones-Virginianæ (*Schw.*) *nom. nov.* (*Puccinia solida* Schw.).
On Anemone cylindrica Gr. 1896:219.

32. Dicæoma angustatum (*Pk.*) *Kuntze.*
On Scirpus atrovirens Muhl. 1893:52. 1896:219.
On Scirpus cyperinus (L.) Kunth. 1893:52.

33. Dicæoma apocryptum (*E. & Tr.*) *Kuntze.*
On Hystrix Hystrix (L.) Millsp. 1893:52.

34. Dicæoma argentatum (*Schultz*) *Kuntze.*
On Impatiens biflora Walt. (*L. fulva* Nutt). 1893:52. 1896:220.

35. Dicæoma Asperifolii (*Pers.*) *Kuntze* (*Puccinia Rubigo-vera* (DC.) Wint.).
On Avena sativa L. 1893:55.
On Elymus Virginicus L. 1893:55. 1896:221.
On Secale cereale L. 1896:221.

36. Dicæoma asteris (*Duby*) *Kuntze.*
On Aster cordifolius L. 1893:52.
On Aster lateriflorus (L.) Brit. (*A. diffusus* Ait.). 1896:219.
On Aster paniculatus Lam. 1893:52.

37. Dicæoma Bolleyanum (*Sacc.*) *Kuntze.*
On Carex sp. 1893:52. 1896:219.

38. Dicæoma Circææ (*Pers.*) *Kuntze.*
On Circæa Lutetiana L. 1893:53. 1896:219.

39. Dicæoma Convolvuli (*Pers.*) *Kuntze.*
On Convolvulus sepium L. 1893:53. 1896:219.

40. Dicæoma Cyperi (*Arth.*) *Kuntze* (*Puccinia nigrovelata* E. & T. and *P. indusiata* D. & H).
On Cyperus strigosus L. 1893:53, 54. 1894:154, 157. 1896:219, 220.

41. Dicæoma Dayi (*Clint.*) *Kuntze.*
On Steironema ciliatum (L.) Raf. 1893:53.

42. Dicæoma dochmia (*B. & C.*) *Kuntze.*
On Muhlenbergia diffusa Schreb. 1893:53, 55.
On Muhlenbergia sylvatica Torr. 1896:221.

43. Dicæoma Eleocharidis (*Arth.*) *Kuntze.*
On Eleocharis palustris (L.) R. & S. 1893:53. 1896:219.

44. Dicæoma emaculatum (*Schw.*) *Kuntze.*
On Panicum capillare L. 1893:53. 1896:220.

45. Dicæoma epiphyllum (*L.*) *Kuntze* (*Puccinia Poarum* Niels.).
On Poa pratensis L. 1893:57.

46. Dicæoma flosculosorum (*A. & S.*) *Martius.*
On Carduus lanceolatus L. 1893:53.
On Taraxacum Taraxacum (L.) Karst. 1893:53. 1896:219.

47. Dicæoma galiorum (*Lk.*) *nom. nov.*
On Galium Aparine L. 1896:172.
On Galium asprellum Michx. 1893:53.
On Galium concinnum T. & G. 1893:53.
On Galium triflorum Michx. 1893:53.

48. Dicæoma Helianthi (*Schw.*) *Kuntze.*
On Helianthus annuus L. 1893:55.

On Helianthus divaricatus L. 1893:55.

On Helianthus grosse-serratus Mart. 1893:55. 1896:221.

On Helianthus strumosus L. 1893:55.

On Helianthus tracheliifolius Mill. 1893:55.

49. Dicæoma Heliopsidis (*Schw.*) *Kuntze.*

On Heliopsis scabra Dunal. 1893:54.

50. Dicæoma Kuhniæ (*Schw.*) *Kuntze.*

On Kuhnia eupatorioides L. 1893:54. 1896:220.

51. Dicæoma lateripes (*B. & R.*) *Kuntze.*

On Ruellia strepens L. 1893:54. 1896:218.

52. Dicæoma Lobeliæ (*Ger.*) *nom. nov.*

On Lobelia syphilitica L. 1893:54. 1896:220.

53. Dicæoma ludibundum (*E. & E.*) *Kuntze.*

On Carex sparganioides Muhl. 1896:220.

54. Dicæoma Menthæ (*Pers.*) *Gray.*

On Blephilia hirsuta (Pursh.) Torr. 1893:54. 1896:220.

On Cunila origanoides (L.) Brit. 1893:54.

On Mentha Canadensis L. 1893:54.

On Monarda fistulosa L. 1893:54. 1896:220.

On Koellia pilosa (Nutt.) Brit. 1893:54.

On Koellia Virginiana (L.) MacM. 1893:54. 1896:220.

55. Dicæoma obtectum (*Pk.*) *Kuntze.*

On Scirpus lacustris L. 1894:151.

56. Dicæoma Physostegiæ (*P. & C.*) *Kuntze.*

On Physostegia Virginiana (L.) Benth. 1894:151. 1896:220.

57. Dicæoma poculiforme (*Jacq.*) *Kuntze* (*Puccinia graminis* Pers. and *Æcidium Berberidis* Pers.).

On Agrostis sp. 1893:53.

On Avena sativa L. 1893:53. 1896:220.

On Berberis vulgaris L. 1893:49.

On Dactylis glomerata L. 1896:220, 223.

On Hordeum jubatum L. 1896:220, 224.

On Poa compressa L. 1893:53.

On Poa pratensis L. 1893:53.

On Triticum vulgare L. 1893:54.

58. Dicæoma Podophylli (*Schw.*) *Kuntze.*
On Podophyllum peltatum L. 1893:54. 1896:221.

59. Dicæoma Polygoni-amphibii (*Pers.*) *nom. nov.**
On Polygonum emersum (Mx.) Brit. (*P. Muhlenbergii* Wats.). 1893:55.
On Polygonum hydropiperoides Michx. Tippecanoe Co., 10, 1898 (*Stuart*).
On Polygonum lapathifolium L. Tippecanoe Co., 10, 1898 (*Arthur*).
On Polygonum Pennsylvanicum L. Tippecanoe Co., 10, 1898 (*Arthur*).
On Polygonum punctatum Ell. (*P. acre* H. B. K.). 1893:55, 57.

60. Dicæoma Polygoni-Convolvuli (*Hedw.*) *nom. nov.*
On Polygonum Convolvulus L. Tippecanoe Co., 10, 1898 (*Arthur*).
On Polygonum scandens L. 1896:223.

61. Dicæoma Prenanthis (*Pers.*) *Kuntze.*
On Nabalus albus (L.) Hook. 1893:55. 1896:221.

62. Dicæoma Ranunculi (*Seym.*) *Kuntze.*
On Ranunculus septentrionalis Poir. 1893:55.

63. Dicæoma Rhamni (*Gmel.*) *Kuntze* (*Puccinia coronata* Cda. and *Æcidium Rhamni* Gmel.).
On Avena sativa L. 1896:219.
On Calamagrostis Canadensis (Mx.) Beauv. 1893:53.
On Rhamnus lanceolata Pursh. Tippecanoe Co., 5, 1897 (*Arthur*).

64. Dicæoma Saniculæ (*Grev.*) *Kuntze.*
On Sanicula Canadensis L. 1893:55.

65. Dicæoma Silphi (*Schw.*) *Kuntze.*
On Silphium sp. 1893:55.

66. Dicæoma Sorghi (*Schw.*) *Kuntze.*
On Zea Mays L. 1893:54.

67. Dicæoma tenue (*Burr.*) *Kuntze.*
On Eupatorium ageratoides L. 1893:55. 1896:221.

68. Dicæoma Thalictri (*Cher.*) *Kuntze.*
On Thalictrum dioicum L. 1893:55.

* Teleutospores have been seen only on the first host named. The other four hosts show an abundance of uredospores, but the lack of teleutospores leaves the correctness of the determination somewhat in doubt.

69. Dicæoma Urticæ (*Schum.*) *Kuntze** (*Puccinia Caricis* Reb. and *Æcidium Urticæ* Schum.)

On Carex bullata Schk. 1893:52.

On Carex Frankii Kunth. (*C. stenolepis* Torr.) 1893:55.

On Carex fœnea Willd. 1893:52.

On Carex lurida Wahl. 1893:52.

On Carex Pennsylvanica Lam. 1896:172.

On Carex straminea Willd. 1893:52.

On Carex virescens Muhl. 1893:52.

On Dulichium arundinaceum (L.) Brit. 1893:52.

On Urtica gracilis Ait. Tippecanoe Co., 5, 1897 (*Arthur*).

70. Dicæoma Vernoniæ (*Schw.*) *Kuntze.*

On Vernonia fasciculata Michx. 1893:55.

71. Dicæoma Vilfæ (*A. & H.*) *nom. nov.*

On Sporobolus asper (Mx.) Kunth. 1896:221.

72. Dicæoma Violæ (*Schum.*) *Kuntze.*

On Viola obliqua Hill (*V. cucullata* Ait.) 1893:56.

On Viola striata Ait. 1893:56.

73. Dicæoma vulpinoidis (*D. & H.*) *Kuntze.*

On Carex vulpinoidea Michx. 1893:56. 1896:221.

74. Dicæoma Windsoriæ (*Schw.*) *Kuntze.*

On Sieglingia seslerioides (Mx.) Scrib. (*Triodia cuprea* Jacq.). 1894:154. 1896:221.

75. Dicæoma Xanthii (*Schw.*) *Kuntze.*

On Ambrosia trifida L. 1893:56. 1896:222.

On Xanthium Canadense Mill. 1893:56. 1896:222.

On Xanthium strumarium L. 1893:56.

76. Gymnoconia interstitialis (*Schl.*) *Lagh.* (*Puccinia Peckiana* Howe and *Æcidium nitens* Schw.).

On Rubus occidentalis L. 1893:54.

On Rubus villosus Ait. 1893:54. 1896:220.

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*This name is made to cover more than one species, but the different forms can not be separated without more study than it is possible to give at the present time. The form on *Carex Frankii*, which has been erroneously referred to *Puccinia Schroeteriana* P. & M., is especially distinct, and probably an undescribed species. Part of this material, however, is without doubt correctly referred as above.

77. Pileolaria brevipes *B. & Br.*

On Rhus radicans L. (*R. Toxicodendron* Am. Auct.) 1893 : 58. 1896 : 223.

78. Puccinia globosum (*Farl.*) *Kuntze* (*Gymnosporangium* Farl. and *Rœstelia lacerata* Fr.).

On Cratægus coccinia L. 1893 : 56.

On Cratægus Crus-Galli L. 1894 : 153.

On Cratægus mollis (T. & G.) Scheele (*C. subvillosa* T. & G.). Tippecanoe Co., 7, 1898 (*Arthur*).

On Cratægus punctata Jacq. 1893 : 56.

On Juniperus Virginiana L. 1893 : 51.

79. Puccinia Juniperi-Virginianæ (*Schw.*) *nom. nov.* (*Gymnosporangium macropus* Lk. and *Rœstelia pyrata* Thax.).

On Malus coronaria (L.) Mill. (*Pyrus coronaria* L.) 1893 : 56. 1896 : 218.

On Malus Malus (L.) Brit. (*Pyrus Malus* L.) Floyd Co., 8, 1890 (*Latta*).

On Pyrus communis L. 1893 : 56.

On Juniperus Virginiana L. 1893 : 51. 1896 : 218.

80. Uropyxis Amorphæ (*Curt.*) *Schroet.*

On Amorpha canescens Pursh. 1893 : 58.

The Uredineæ of Madison and Noble Counties, with Additional Specimens from Tippecanoe County. By Lillian Snyder.

In preceding papers over a hundred species of *Uredineæ* have been reported from the State. Various counties are represented. The largest collection is reported from Tippecanoe, Montgomery and Putnam, while there are a number of counties from which no report has been made. Among the latter are Noble and Madison.

During my collecting in Madison county I have found nine species. Most of these are abundant. Several rusts on leaves of *Caricees* were collected, but, with the exception of one, they are not listed here because the hosts have not been determined. The one species on *Carex* given, is classed as *Puccinia carices*, though somewhat different from typical specimens of that species.

The following is a list of the Madison county *Uredineæ*: Following the name of the host is the collector's name, and the date of collection.