

## A new Species in Plant Rusts.

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A new species of plant rust was encountered with on leaves of *Millettia auriculata* Baker (Family Leguminosae). *M. auriculata* which is a large climber of sal (*Shorea robusta* Gaertn.) and is required to be cut periodically during routine cultural practices. The rust is named as *Chaconia milletiae* and described.

### *Chaconia milletiae* Singh n. spec.

Maculae in hypophyllo griseo-brunneae vel ligni colore, circa soros accrescentes, in epiphylo obscurae, zonula necrotica, rutilo-brunnea cinctae; sori uredosporiferi subepidermales, erumpentes, secus nervos vel per totam folii superficiem dispersi, solitarii vel bini compluresve aggregati et tunc plus minusve confluentes, 0.1—0.4 mm diam.; uredosporae brunneolae vel luteo-brunneae, subglobosae piriformes vel irregulares, laxe et minutissime echinulatae, in maturitate leves  $21-28 \times 17-22 \mu$  episporio irregulariter incrassato, usque  $1 \mu$  crasso; paraphyses desunt; sori teleutosporiferi interdum in soris uredosporiferis evoluti, eis similes sed pallidiores, lanei sub oculo nudo; teleutosporae hyalinae vel pallide brunneae, cylindraceae, clavatae vel fusiformes, antice attenuatae, sessiles, singulatim vel 2—4 in glomerulis congesti, in cellulis basalibus iterum iterumque ortae, tunc concatenatae, ad latera liberae,  $30-60 \times 11-17 \mu$ ; cellulae basales hyalinae, furcatae; teleutosporae statim promycelio  $6-8 \mu$  crasso, 4-celluloso, sterigmatibus 4 praedito germinantes; basidiosporae hyalinae vel luteolae, globosae vel subglobosae, usque ad  $7 \mu$  diam.

Infection spots on lower side of leaves, fawn colour to woodbrown, colour diffusing round sori, with corresponding dark spots below the sori and reddish-brown necrotic area around the dark spots on reverse; uredia hypophyllous, subepidermal, erumpent, scattered along the veins or all over leaf surface, solitary or two or more adjacent sori coalescing together, 0.1—0.4 mm diameter; uredospores pale brown to yellowish-brown, subglobose, pearshaped to irregular, minutely and sparsely echinulate, spines disappearing in mature spores, then wall irregularly thickened,  $21-28 \times 17-22 \mu$ , wall deeper in colour, upto  $1.0 \mu$  thick; paraphyses lacking. Telia like uredia but lighter in colour, developing within uredia or independently, cottony in appearance when observed

with unaided eye; teliospores hyaline to pale-brown, cylindrical, clavate to fusiform with attenuated apex, sessile, borne on basal cells singly or in groups of 2—4 spores on each cell, produced in succession so that the young spores push the older ones to one side as they develop, laterally free,  $30-60 \times 11-17 \mu$ ; basal cells hyaline, branched, sometimes discharged along with teliospores giving the stalked appearance. Teliospores germinate immediately by prolongation of apex to give rise 4-celled promycelium bearing 4 stout sterigmata, each bearing a basidio-



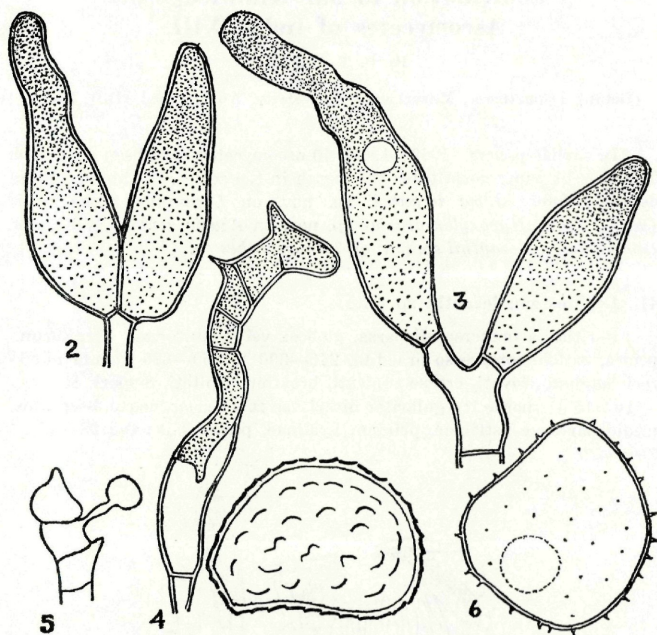
Fig. 1. *Millettia auriculata* leaf showing rust sori, ca.  $\times 4$ .

spore at the apex. Promycelium  $6-8 \mu$  wide; basidiospores hyaline to pale-yellow, globose to subglobose, upto  $7 \mu$  diameter. — Pycnia and aecia not found.

On leaves of *Millettia auriculata* Baker, Jhajra (Dehra Dun Forest Division, Uttar Pradesh). Type specimen: FRI Herb. No. 7779.

Only a few species of *Chaconia* are recognized. *C. coaetanea* (Syd.) Cumm. is recorded on *Millettia rhodantha* in Njala Sierra leone (Sydow, 1937). The present species differs from *C. coaetanea* in the absence of paraphyses in Uredia, colour of uredia and much thinner and echinulate wall of uredospores. In *C. coaetanea*, uredia are surrounded by a sheath of paraphyses joined at the base and uredospore wall is upto  $7.5 \mu$  thick at the apex and upto  $6 \mu$  thick elsewhere while in the present species, uredospores are uniformly thickened with upto  $1 \mu$  thick wall.

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Figs. 2—6. 2. Two teliospores on a basal cell, ca.  $\times 1250$ . — 3. Germinating teliospores, ca.  $\times 1250$ . — 4. Teliospore with promycelium, ca.  $\times 750$ . — 5. Promycelium with attached basidiospore, ca.  $\times 750$ . — 6. Uredospores, ca.  $\times 1500$ .

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