

## EPISTOLAE BOTANICAE

**TAMBAHAN DUA JENIS *CERCOSPORA*  
YANG MEMARASIT *ASTERACEAE*  
INDONESIA**

Dalam mengenumerasi jamur-jamur *Cercospora* yang terdapat di Indonesia, Boedijn (dalam *Nova Hedwigia* 3: 411–438, 1962) mendaftarkan adanya 3 jenis yang hidup sebagai parasit daun tumbuhan *Asteraceae* di Bogor. Ketiga jenis itu adalah *Cercospora bidentis* Tharp pada *Biden spilosa*, *Cercospora eupatorii* Peck pada *Chromolaena odorata* (= *Eupatorium odoratum*), dan *Cercospora lactucae-sativae* Sawada pada *Lactuca sativa*. Pengamatan dan eksplorasi lebih lanjut terhadap gulma *Asteraceae* yang dilakukan di daerah sekitar Bogor (Serpong, Cigudek, dan Citeureup) menunjukkan adanya dua jenis lain lagi, yang dilaporkan berikut ini.

Selain oleh *Cercospora eupatorii* Peck, daun *Chromolaena odorata* ternyata juga diparasit oleh *Cercospora eupatorii-formosani* Sawada. Jamurnya membentuk bercak-bercak nekrosis berwarna coklat kehitaman yang tidak beraturan bentuknya, dan berukuran 2.5–4 mm diameternya. Koloninya membentuk stroma membundar hitam kecokelatan. Konidiofornya beragregat, pendek, berwarna coklat pucat. Konidiumnya lebih pucat dari konidiofornya, berbentuk silinder, menirus keujung, agak melengkung, bersekat 3–10, berukuran 57.5–67.5 x 2.5 um. Jenis ini memiliki persebaran luas karena selain di Indonesia ditemukan juga di India, Thailand, Malaysia, dan Brunei Darussalam.

Gulma *Mikania micrantha* yang menjelang tua, permukaan bawah daun-daunnya diserang oleh *Cercospora mikaniae* Ellis & Everhart yang membentuk bercak kecil yang sering tidak begitu jelas, dan tak membentuk stroma. Konidiofornya yang coklat pucat tumbuh memberkas, dan bersekat rapat. Konidiumnya menggada sungsang tetapi ramping, agak melengkung, meruncing keujungnya, bersekat 3–5, berukuran 55–85 x 5–6.3 um.

Dengan demikian pada tumbuhan *Asteraceae* di Indonesia sekarang tercatat adanya lima jenis *Cercospora*. Perlu ditambahkan disini bahwa semua gulma *Asteraceae* yang menjadi inang *Cercospora* tersebut merupakan jenis-jenis pendatang dari Amerika. — **L. Soeratman & O.S. Dharmaputra**, Jurusan Biologi FMIPA IPB Bogor.

**THE CHANGING CLIMATE AND THE  
CHANGING MYCOFLORA AROUND  
BOGOR**

Twenty five years ago, in expounding the astounding tropical fungal phenomena I lamented then diminishing diversity of larger fungi from our surroundings due to the extensive and very destructive timber extractions from Indonesian forests (Rifai in Lim & Katsuya, *Proc. JSPS–NUS Inter-Faculty Seminar on Interactions between Plants and Microorganisms*, Nat. Univ. Singapore 1989: 1–8). In that occasion I hinted that many plant parasitic species and the ectomycorrhizal fungi would perish because they lost their corresponding hosts plants, even before science had a chance to know about their very existence. Similarly at that time one could easily predict that a large number of saprophytic fungi would disappear forever because of the dramatic changes of their habitats, seeing that large tracts of forest lands were being converted into oil palm plantations, industrial sites, as well as new settlement areas.

If at that period we were already witnessing the alarming rapid process of the changing mycoflora, presently the situation is becoming even more frightening. This is largely due to the fact that the harmful effects of the previously forecasted global-warming induced climatic changes are already being felt *here*, and *now!* Casual observations on some common species of plant parasitic fungi growing in our surroundings—the ones very familiar to some of us because they have been used daily as teaching materials in the classrooms or lecture theatres—seem to indicate that their disappearance does not wait for the hosts to vanish first as generally predicted. Obviously, some other factors—among others the drier and warmer whether—now seem to interfere severely in regulating the life of microbes. As a naturalist, it is indeed with a very sad feeling—largely because we seem to be at our wits end in finding out what to do next to alleviate the disheartening phenomena now being observed—that I present a sample of the mycofloristic situation taking place in the field.

Wilting flowers of many species *Hibiscus* used to be a good place to look for colonies of *Choanephora infundibulifera*, a member of *Mucorales* which represents an excellent example to demonstrate the nature of the single spore and sporangiole to students. In the morning, these conidial

clusters are simultaneously formed, at first appear white and gradually becoming black, but some hours later (about 10:00 am) all of them are black coloured. Nowadays, it is very difficult indeed to find this species in Bogor.

Formerly, the leaves *Oxalis barrelieri* growing in the garden surrounding the Bogor Herbarium building were always harbouring colonies of *Oidiopsis sicula*. This species is a special kind of powdery mildew, whose branching conidiophores emerge from the stomata to produce hardly catenate ovoid conidium which becomes mature one by one. In the past five years the weed have been seen growing very healthily and not suffering from any attack from the parasitic mildew.

Some years ago, it was common sight to observe that the inflorescences of the grass *Sporobolus diander* appear like brownish-black whips, because they do not develop properly due to the attack by the dematiaceous hyphomycete *Drechslera ravenelii*. Nowadays the paniculate nature of the inflorescence of this grass can be witnessed, because there is no fungus parasitizing and forming blackened spongy colonies on them.

In the past few years it has been becoming very difficult to observe the presence of the pyrenomycete *Parodiella perisporioides* covering the whole upper leaf surface of *Crotalaria*, *Indigofera*, and other legumes with its carbonaceous ascostromatic perithecia. Formerly the occurrence of this parasitic species is rather common in several places where the host plants grow.

Indonesian school biology text books written before the Second World War used *Ustilago scitaminea* as a teaching material, because in those by-gone days this smut species was very common to be found attacking the inflorescence of sugarcane *Saccharum officinarum*. Since a long time ago this fungus has disappeared from Indonesian sugarcane plantations, because people has been using smut resistant cultivars. As its substitute for teaching purposes, it has been suggested to use *Ustilago*

*overeemii* commonly found parasitizing the inflorescence of the ubiquitous grass *Panicum repens*. Unfortunately in the past few years this smut fungus has not been seen in the vicinity of Bogor, and it also has disappeared from my home garden where a colony of *Panicum repens* is especially cultivated!

One of the astounding tropical fungal phenomenon alluded to above is the unique *Septobasidium bogoriense*, because of its lichen-like symbiotic association with scale insect parasitizing cassava *Manihot esculenta*, 'dadap' (*Erythrina variegata*; the Dutch called this fungus *de grijse-dadapschimmel* or 'the gray coloured dadap fungus'), and other plant species which become their common host plant. The colony of the fungus lives in good harmony with the cooperating colony of scale insects for their mutual benefit, since only a small number of the insects are parasitized but not killed outright by the fungus. In recent years this formerly very common species is becoming rare, and it disappeared completely from my home garden.

From this short note prepared from very casual observations, it is clear that all major taxonomic groups are represented in the list of fungi suffering from the same threat. Like some other areas in Indonesia, Bogor is becoming drier and warmer, so that one has to go to areas with higher altitudes to be able to observe these fungi in nature. In the long run, therefore, the situation will necessitate the changing of approach and strategy in presenting them to students attending a mycology class. It is obvious that more careful, thorough, systematic observations and studies are needed, especially to plan and develop possible adjustments which have to be made in future activities which maybe affected by this changing mycoflora now going on. — **Mien A. Rifai**, Indonesian Academy of Sciences AIPI c/o "Herbarium Bogoriense" Puslit Biologi-LIPI, Jalan Juanda 22, Bogor.