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A new myrmecophilic Hyphomycete, *Aegeritella maroccana* sp. nov.

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A new myrmecophilic Hyphomycete, *Aegeritella maroccana* sp. nov. *Mycological Research* **94** (2): 273–275 (1990).

Aegeritella maroccana is proposed as a new epizoic species on the ant *Aphaenogaster baronii* (Hymenoptera: Formicidae) from Middle Atlas, Morocco. The presence of single, thick, conical unbranched conidiophores composed of short thick-walled cells of toruloid shape differentiates it from related *Aegeritella* species. This is a first African record of the genus.

Key words: *Aegeritella maroccana*, Epizoic fungus, Ants.

Although epizoic fungi of the genus *Aegeritella* Bałazy & Wiśniewski were discovered not long ago (Wiśniewski, 1967) they seem to be relatively common in populations of different ant species. The most widespread in Europe is *A. superficialis* Bał. & Wiś., whereas three further species have only been recorded from single localities in Europe (Bałazy, Lenoir & Wiśniewski, 1986; Espadaler & Wiśniewski, 1987) and in South America (Bałazy & Wiśniewski, 1977). Recently a new species of this genus of fungus was found on worker ants of *Aphaenogaster baronii* Cagniant (Formicidae, Myrmicinae) from Tazerkount Mt, near Beni-Mellal (Middle Atlas, Morocco) on 11 May 1987. The ants nested under big rocks in a dry sclerophyllous forest (*Quercus ilex, Juniperus oxycedrus, Pistacia lentiscus, Arbutus unedo, Cistus albidus, Phyllirea* sp.). Several myrmecophilous beetles (*Sternocoelis* sp., Histeridae) were recovered from the nest. Samples of ten other ant species present in the zone were not affected by the fungi. This is the first non-formicine ant found with *Aegeritella* and a first African record for the genus.

The collections were examined and compared with previous material, using methods described by Bałazy *et al.* (1986).

The fungal warts occurring singly on particular sclerites of the body of the ant *Aphaenogaster baronii* (Fig. 1) were circular, *ca* 150 µm diam, flat, thickness not exceeding 40 µm, with radially protruding, relatively stout, setose, unbranched conidiophores (Figs 2–3), visible under higher magnification of the stereomicroscope.

Their colour when dry was conspicuously lighter than that of the ant's exoskeleton, whereas when moistened with water or alcohol solution it became almost indistinguishable. The general microscopic view was analogous to other species belonging to this genus. The cells in the central part were subglobose or ellipsoid, 11–16 × 6–11 µm and in the peripheral layers were smaller, subspherical, obtuse multiangular or elongate, 3·1–10·1 × 3·1–6·2 µm. They were arranged into conspicuous, catenulate series. Conidiophores grew from the cells of the superficial layer and their total length varied between 19–57 µm, with the thickness at the base 5·1–10·9 µm, and at tips 3·1–4·3 µm. They were unbranched, irregularly conical, consisting of thick-walled cells in linear, toruloid arrangement, except at their distal end which was thin-walled and almost hyaline. Conidia were formed apically and holoblastically, easily detached from the conidiophores. They were smooth, thin-walled, colourless, short-cylindrical or somewhat clavate, with both ends obtuse or sometimes with a truncate base, 6·2–10·1 × (3·1–) 3·5–4·3 (–4·7) µm.

Though the size of the conidia lies within the range of those of *A. superficialis*, they are, however, more uniform. Moreover,

Fig. 1. (*a*) Distribution of the fungus warts on ant's gaster. (*b*) More highly magnified parts.

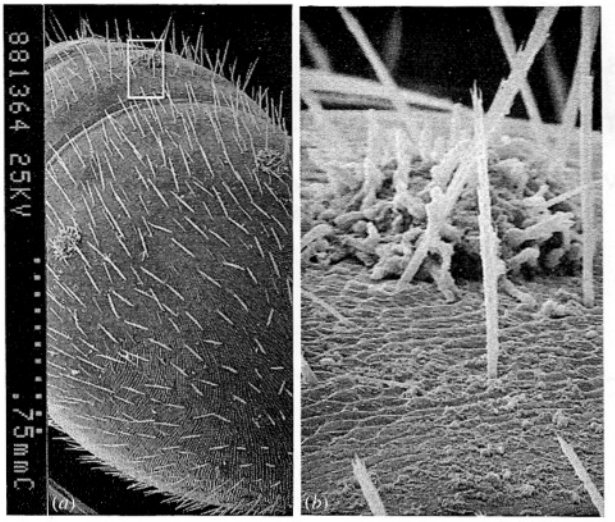
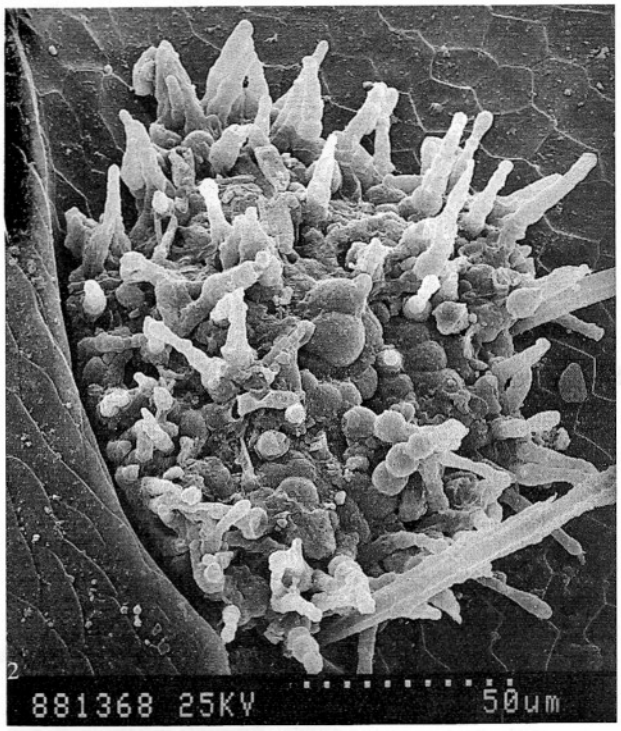
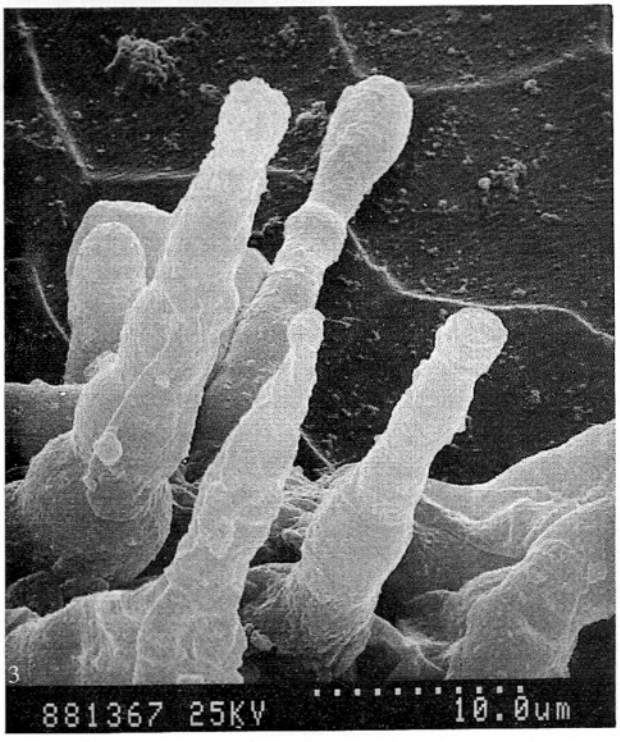


Fig. 2. General view of a fungus wart on *Aphaenogaster baronii* worker: arrangement of cells and protruding conidiophores. **Fig. 3.** Close-up view of conical, toruloid conidiophores, one with a conidium still attached.





the lack of hyphal elements in the warts as well as the lack of small, budding cells in their superficial layer and distinctly different, toruloid arrangement of the cells in the conidiophores differentiate this species both from *A. superficialis* and from other species hitherto described.

Aegeritella maroccana Bałazy, Espadaler & Wiśniewski, sp. nov. (Figs 1–3)

Thalli plani irregulariter orbiculares *ca* 150 µm diam, crassitudine 20–40 µm, pallido-brunnei. *Cellulae* basis et centralis partis subglobosae vel ellipsoideae dimensionibus 11–16 × 6–11 µm, in partibus marginalibus subglobosae, obtusae multiangulae vel elongatae, 3·1–10·1 × 3·1–6·2 µm, in catenulis indistinctis aggregatae. *Conidiophora* simplicia sine ramis, 19–57 µm longa, ad basim 6–11 µm crassa, attenuata apicibus 3·1–4·3 µm e cellulis crassiparietalibus instar toruloidea successionis ex superficiale strata supercrescentia. *Conidia* apicalia tenuiparietalia, levia, hyalina, brevi-cylindrica, rarissime clavata, apicibus obtusa, dimensionibus 6·2–10·1 × (3·1–) 3·5–4·3 (–4·7) µm.

In corporibus formicarum vivantium *Aphaenogasteri baronii*, Atlas Centralis, Marocco, die 11 mensis Maii, anno 1987, X. Espadaler. Holotypus: specimen in praeparatione microscopica conservatum, numero 1975 in collectione mycologica Instituti Biologiae Agrorum et Silvarum Academiae Scientiarum Polonorum, Posnaniae designatum. Isotypi: specimina in hospitis corpore, conservata in solutione alcoolica, numero 1975 designata, partim in collectione entomologica Laboratorii Zoologici Universitatis Autonomicae Barcelonae (Hispania) deposita.

In relation to the key for identification of hitherto known species of *Aegeritella* (Bałazy *et al.*, 1986), the above described fungus represents a number of features intermediate between *A. roussillonensis* and other species. In particular it does not form conical, dome-like or granular bulbils and the catenulate arrangement of cells forming its thallus is rather indistinct. Its most important characteristic is the presence of single, unbranched, thick, conical conidiophores composed of short thick-walled cells of toruloid appearance.

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Paravalsa indica gen. et sp. nov. from India

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Paravalsa indica gen. et sp. nov. from India. *Mycological Research* **94** (2): 275–276 (1990).

Paravalsa indica gen. et sp. nov., a member of Valsaceae is described and illustrated. Its relationships with *Valsa*, *Gnomoniella* and *Xenotypa* are discussed.

Key words: *Paravalsa*, Ascomycetes, New genera.

Paravalsa Ananthapadmanaban, gen. nov.

Stroma absens. *Perithecia* solitaria, immersa in textu hospitis, cum collis prominentibus, ostiolata. *Peridium* in duplici strato: stratum externum cellularum brunnearum cum pariete tenui et stratum internum cellularum hyalinarum cum pariete tenui. *Asci* unitunicati, cum pariete tenui, clavati, liberati in cavo peritheciali, non-amyloides, 8-sporati. *Ascosporae* allantoides, 1-cellulatae.

Sp. typ.: *Paravalsa indica* sp. nov.

Stroma absent. *Perithecia* solitary, immersed within the host tissue, with prominent necks, ostiolate. *Peridium* two-layered: an outer layer of thin-walled brown cells and an inner layer of thin-walled, hyaline cells. *Asci* unitunicate, thin-walled, clavate, becoming free in the perithecial cavity, non-amyloid, 8-spored. *Ascospores* allantoid, 1-celled.

Paravalsa indica Ananthapadmanaban, sp. nov. (Figs 1–7)

Stroma absens. Perithecia solitaria, immersa in cortice, globosa vel planate globosa, ostiolata, brunnea, 375–420 × 270–315 µm. *Peridium* pseudoparenchymatosum, constans e duobus stratis; stratum externum 14–18 µm crassum, compositum 4–5 seriebus cellularum pallide brunnearum, tangentialiter elongatarum, conferte ordinatarum; stratum internum 3–4 µm crassum formatum 2–3 seriebus cellularum hyalinarum, laxe dispositarum, cum pariete tenui. Collum centrale, prominens, usque 1·0–1·5 mm longum et 90–105 µm latum. *Asci* unitunicati, cum pariete tenui (paries evanescens ad maturitatem), cylindrati vel clavati, non-amyloides, liberati in cavo peritheciali, 8-sporati, 19·0–25·0 × 5·0–9·0 µm. *Ascosporae* irregulariter biseriatae, cum pariete tenui, hyalinae, allantoides, 1-cellulatae, 5·0–6·5 × 1·5–2·0 µm. Paraphyses absentes.

In cortice anonymo in Chengeltheri, Tirunelveli Dt, Tamil Nadu State, India, collectis a D. Ananthapadmanaban, 30 Aug. 1980: FSI no. 4722, holotypus.

Perithecia are immersed within the substratum, vertically orientated and with prominent free necks, solitary, non-stromatic, brown, globose to flattened globose, smooth, 375–420 × 270–315 µm. The perithecial wall is 18–21 µm thick, pseudoparenchymatous and consists of distinct outer and inner layers. The outer layer is 14–18 µm thick and composed of 4–5 tiers of tangentially elongated, light brown cells. The inner layer is 3–4 µm thick and composed of 2–3 tiers of thin-walled, hyaline cells. The perithecial neck is central, straight, stout, 1·0–1·5 mm long and 90–105 µm in width, its wall is 20–26 µm thick and is composed of compactly arranged, dark-brown cells 10–12 deep. The ostiole is simple and lined with short, slender and upwardly projecting periphyses. *Asci* are unitunicate, thin-walled (the wall evanescent at maturity), cylindrical to nearly clavate, non-stalked, non-amyloid, becoming free in the perithecial cavity, 8-spored 19·0–25·0 × 5·0–9·0 µm. *Ascospores* are irregularly biseriate, thin-walled, hyaline, allantoid, with round ends, 1-celled, 5·0–6·5 × 1·5–2·0 µm. *Paraphyses* absent.

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