

***Acanthonitschkea amarkantakensis* sp. nov. from India**U.S. Patel¹, A.K. Pandey² and R.C. Rajak²¹Department of Botany, N.E.S. Science College, ² Department of Biological Science, Rani Durgavati, Jabalpur 482 001, Madhya Pradesh, India

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During periodic survey of tropical, moist and mixed forests in Shahdol, Madhya Pradesh, India, the authors collected a species of *Acanthonitschkea* Spegazzini. A review of literature (Clements and Shear, 1957; Nannfeldt, 1975; Subramanian and Sekar, 1990; Barr, 1993) indicates that this species differs from the ones reported so far and is new to science.

Materials and Methods

The standard techniques were used to collect and maintain fungus (Ellis, 1960; Hawksworth, 1974; Agarwal and Hasija, 1986). The colour terminologies used in the text are as per Rayner (1970). The type specimens have been deposited at Herbarium Cryptogamiae Indiae Orientalis, Indian Agricultural Research Institute, New Delhi, India and C.A. B. International Mycological Institute, Kew, Surrey, England, as indicated in the text by HCIO and IMI, respectively.

Results and Discussion***Acanthonitschkea amarkantakensis* sp. nov. Patel, Pandey & Rajak**

Subiculum exhyphis pallide brunnae, ramose, septatis, laevis, 5–8 µm crassi compositum Mycelium immersum hyphae similes subiculum. Perithecia superficialia, episubicula, cupulata, turbinata at aqua, caespitosa, nigra, non-ostiolata, setosa, crassitunicata: externus pariete brunnae, textura angularis, 5–8 stratosus in parte laterali plus crassus ad basim, Munk pores ca. 2 µm dia; cellulae crassitunica 10–14 X 8–26 µm; internus pariete textura oblita, pallide-subhyalina, 3–4 stratosus, cellulae 3–5 µm dia, mucilaginous tunica presentes inferne ostiolatus regionis, 400–560 X 400–560 µm. Asci clavati, brevis, unitunicati, tenuitunicatae, octospori, evanescentes, constrictae intersporae, 30–45 X 8–11 µm. Paraphyses none. Ascospores subglobosae, ovalis, reniformis, oblongoellipsoideae, hyalineae, laevis, aseptatis, 1–5 guttulate, cito germinatae, plus minus biseriatae, 5–9 X 4–5 µm. Setae presentes ad uterque

perithecia et subicula, subuliformes, aseptatis, praeter modum 1–2 septatis ad basim, laevis, recte, atrobrunnae, enatae circa perithecia, usque ad 320 longae et 9–15 µm crassi suprabasim. Anamorph none.

Subicle present, hyphae of subiculum pale brown, branched, septate, smooth, 5–8 µm thick. Mycelium immersed, hyphae like those of subicle. Perithecia superficial on subiculum, cupulate, turbinata in water, collapse, caespitose, black, non-ostiolate, setose, thick walled: outer wall composed of dark brown, angular, thick walled cells, 5–8 layers thick, more thick at the base, cells 10–40 X 8–26 µm; Munk pores present ca. 2 µm dia; inner wall composed of flattened cells 3–5 µm in dia, pale-subhyaline; mucilaginous sheath present below the ostiolar region; 400–560 X 400–560 µm. Asci clavate short stalked, unitunicate, thin walled, 8 spore, evanescent, constricted between spores, 30–45 X 8–11 µm. Ascospores subglobose reniform, oval broadly oblong elliptical, hyaline, smooth, aseptate, 1–5 guttulate, soon germinate, more or less biseriate, 5–9 X 4–5 µm. Paraphyses absent. Setae present on both perithecia and subicle, subulate, aseptate to 1–2 septate at the base, smooth, straight, dark brown, around the perithecia except ostiolar region, up to 320 µm long and 9–15 µm thick just above the base. No anamorph observed.

Dead standing and 5–6 years old wood of *Psidium guajava* Linn., about 20 feet away from Kapildhara (a waterfall of about 100 m down), Amarkantak, March 1991, Leg. U.S. Patel, IMI 350 054 Holotype; HCIO 415 11 isotype.

The genus *Acanthonitschkea* is characterised by the presence of setae on both the subicle and the perithecia and 8 spored asci. All the earlier described species of the genus viz., *A. argentinensis*, *A. foveolata*, *A. pulchella*, *A. tristis* (Nannfeldt, 1975; Dennis, 1978; Subramanian and Sekar, 1990) and *A. horrida* (Barr, 1993) possess allantoid ascospores which is not true of the present collection. However, the present collection is more close

to *A. foveolata* but differs from it in having typical non-striate ascospores, which are faintly striated in the latter. Moreover, some setae are septate in the present collection but typically aseptate in *A. foveolata*. Hence, the present collection is described as a new species. The specific epithet is given after the place of collection.

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References

Agarwal, G.P. and S.K. Hasija. 1998. *Micro-organisms in the Laboratory*. A Laboratory Guide for Mycology,

Microbiology and Plant Pathology, Print House, Lucknow. 155 pp.

Barr, M.E. 1993. *Mycotaxon* 46: 75-76.

Clements, F.E. and C.L. Shear. 1957. *The Genera of Fungi*. Hafner Publishing Company, New York, 496 pp.

Dennis, R. W. G. 1978. *British Ascomycetes*. J. Cramer, Vaduz, Germany 786 pp.

Ellis, M.B. 1960. *Collection of Materials*. In : CMI herb. I.M.I. Handbook, pp 24-36.

Hawksworth, D.L. 1974. *Mycologist's Hand Book*. C.A.B. Kew, Surrey, England, 232 pp.

Nannfeldt, J.A. 1975. *Svensk Bot.Tidskr.* 69: 49-66.

Rayner, R.W. 1970. *A Mycological Colour Chart*. C.A.B., International Mycological Institute, Kew, England, 37 pp.

Subramanian, C.V. and G. Sekar. 1990. *Kavaka* 18: 19-90.