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Nomenclatural novelties : Hira Bashir

*Agaricus badiosquamulosus* H. Bashir & Khalid, sp. nov.

IF 903270

Holotype: LAH 35751

Etymology: The specific epithet 'badio' means in Latin brown and 'squamulosus' means scales, 'badiosquamulosus' referred to the brown colored squamules on the pileus.

Diagnosis: Bashir, Asif, Ghafoor, Niazi, Khalid, Parveen, Harun, Afshan, Bibi & Callac, PLoS ONE 19 (7/e0302222): 6-21 (2024).

Specimens examined: Pakistan, Punjab, Lahore, solitary on rich loamy soil along Pak. Motorway (M3) near *Eucalyptus camadulensis*, 217 m a.s.l., 01 September 2016, Hira Bashir, M28 (holotype LAH 35751), (GenBank # ON137221(nrITS); Punjab, Lahore, solitary on rich loamy soil along Pak. Motorway (M3) near *Eucalyptus camadulensis*, 217 m a.s.l., 14 August 2016, Hira Bashir, M4 (LAH 35752), (GenBank # ON137222); Punjab, Lahore, solitary on rich loamy soil along Pak. Motorway (M3) near *Eucalyptus camadulensis*, 217 m a.s.l., 14 August 2016, Hira Bashir, M6 (LAH 35753), (GenBank # ON137223); Punjab, Lahore, solitary on rich loamy soil along Pak. Motorway (M3) under *Eucalyptus camadulensis*, 217 m a.s.l., 1 September 2016, Hira Bashir, M22 (LAH 35754), (GenBank # ON137224); Punjab, Lahore, solitary on rich loamy soil along motorway *Eucalyptus camadulensis*, 217 m a.s.l., 4 August 2015, Hira Bashir, F3 (LAH 35755), (GenBank # ON137225); Punjab, Lahore, solitary on rich loamy soil along Pak. Motorway (M2) under *Eucalyptus camadulensis*, 217 m a.s.l., 4 August 2015, Hira Bashir, F4 (LAH 35756), (GenBank # ON137226); Punjab, Lahore, solitary on rich loamy soil along Pak. Motorway (M2) near *Eucalyptus camadulensis*, 217 m a.s.l., 4 August 2015, Hira Bashir, F5 (LAH 35757), (GenBank # ON137227); Punjab, Lahore, solitary on rich loamy soil along Pak. Motorway (M2) near *Eucalyptus camadulensis*, 217 m a.s.l., 4 August 2015, Hira Bashir, F11 (LAH 35758), (GenBank # ON137228); Punjab, Lahore, gregarious on rich loamy soil along Pak. Motorway (M2) near under *Eucalyptus camadulensis*, 217 m a.s.l., 6 August 2015, Hira Bashir, F53 (LAH 35759), (GenBank # ON137229); Punjab, Toba Tek Singh, solitary in grassy ground near *Dalbergia sissoo*, 183 m a.s.l., 30 June 2017, Hira Bashir, TS57, (LAH 35760), (GenBank # ON137230). Punjab, Kasur district, Changa Manga forest, scattered on decomposed matter under deciduous trees, 218 m a.s.l., 2 September 2021, Aneeqa Ghaffor and A.R. Niazi, CM09 (LAH 02921), (GenBank # ON137231).

Ecology and distribution: Gregarious on grassy grounds, some under *Eucalyptus camaldulensis* Dehnh. trees along Pak. Motorway (M2 & M3) and TS57 found near *Dalbergia sissoo* trees along the roadside in sandy soil. It is only known from the Punjab province of Pakistan so far.

Notes: *Agaricus badiosquamulosus* was published under this name by Bashir, Asif, Ghafoor, Niazi, Khalid, Parveen, Harun, Afshan, Bibi & Callac, PLoS ONE 19 (7/e0302222): 6-20. (2024), nom. inval., ICNafp Shenzhen Code Art. F.5.1. (no citation of an identifier issued for the name by a recognized repository was included). The name is formally validated here.

*Agaricus dunensis* H. Bashir & M. Asif, sp. nov.

IF 903271

Holotype: LAH 35747

Etymology: 'dunensis' in Latin referred to sand dune area from where the type specimen was recorded for the first time.

Description: Bashir, Asif, Ghafoor, Niazi, Khalid, Parveen, Harun, Afshan, Bibi & Callac, PLoS ONE 19 (7/e0302222): 21-26 (2024).

Specimens examined: Pakistan, Punjab, Lal Suhanra National Park, Cholistan desert, Bahawalpur, scattered on sandy soil under *Acacia nilotica* trees, 140 m a.s.l., 23 June 2017, Hira Bashir, L99 (holotype LAH 35747), GenBank # ON137217 (nrITS); Punjab, Lal Suhanra National Park, Cholistan desert, Bahawalpur, scattered on sandy soil near *Acacia nilotica* trees, 140 m a.s.l., 30 August 2016, Hira Bashir, L2, (LAH 35748), (GenBank # ON137218); Punjab, Lal Suhanra National Park, Cholistan desert, Bahawalpur, scattered on sandy soil near *Acacia nilotica*, 140 m a.s.l., 7 August 2013, Hira Bashir and Muhammad Usman, LS4, (LAH 35749), (GenBank # ON137219); Punjab, Toba Tek Singh, solitary in grassy ground near *Dalbergia sissoo*, 183 m a.s.l., 30 June 2017, Hira Bashir, TS56, (LAH 35750), (GenBank # ON137220). Punjab, District Bahawalpur, from loamy soil along the canal bank under *Acacia nilotica*, 163 m a.s.l, 5 September 2020, Aneeqa Ghafoor and A.R. Niazi, BWL 01 (LAH 21719), (GenBank # ON158598). Punjab, District Bahawalnagar, from loamy soil along the canal bank under *Acacia nilotica*, 163 m a.s.l, 31 July 2019, Muhammad Asif, BWN 34 (LAH 36808), (GenBank # ON158597). Punjab, District Bahawalnagar, from loamy soil along the canal bank under *Acacia nilotica*, 163 m a.s.l, 11 August 2019, Muhammad Asif, BWN 64 (LAH 36807) (GenBank # ON158596). Punjab, District Bahawalnagar, from nutrient rich loamy soil along the canal bank under *Acacia nilotica*, 163 m a.s.l, 11 August 2019, Muhammad Asif, BWN 67, (LAH 36805), (GenBank # ON158600). Punjab, District Bahawalnagar, from muddy soil along the canal bank under *Acacia nilotica*, 163 m a.s.l, 04 October 2019, Muhammad Asif, BWN 85, (LAH 36806), (GenBank # ON158599).

Ecology and distribution: Growing solitary and in groups on sandy soil under *Acacia nilotica* trees in the desert and its surrounding areas. The distribution of this species is known from arid regions of Pakistan until now.

Notes: *Agaricus dunensis* was published under this name by Bashir, Asif, Ghafoor, Niazi, Khalid, Parveen, Harun, Afshan, Bibi & Callac, PLoS ONE 19 (7/e0302222): 21-26. (2024), nom. inval., ICNafp Shenzhen Code Art. F.5.1. (no citation of an identifier issued for the name by a recognized repository was included). The name is formally validated here.

*Agaricus violaceopunctatus* H. Bashir, sp. nov.

IF 903272

Holotype: LAH 35767

Etymology: 'violaceo' originate from Latin meaning of violet color and 'punctatus' means condensed at some point, which referred that our species has violet-colored squamules condensed at disc of pileus.

Diagnosis: Bashir, Asif, Ghafoor, Niazi, Khalid, Parveen, Harun, Afshan, Bibi & Callac, PLoS ONE 19 (7/e0302222): 31-34 (2024).

Specimens examined: Pakistan, Punjab, University of the Punjab, Lahore, solitary on rich loamy soil on the grassy grounds of the University, 217 m a.s.l., 11 July 2016, Hira Bashir, PU125 (holotype LAH 35767); Punjab, University of the Punjab, Lahore, solitary on rich loamy soil on the grounds of the University, 217 m a.s.l., 13 July 2016, Hira Bashir, PU234 (LAH 35768). Punjab, Kasur district, Changa Manga forest, scattered on ground, 218 m a.s.l., 21 July 2019, Aneeqa Ghaffor and A.R. Niazi, CM16 (LAH 21719).

Ecology and distribution: In groups, on grassy grounds of Botanical Garden, University of the Punjab, near Eucalyptus trees. This species is known only from Lahore, Pakistan until now.

Notes: *Agaricus violaceopunctatus* was published under this name by Bashir, Asif, Ghafoor, Niazi, Khalid, Parveen, Harun, Afshan, Bibi & Callac, PLoS ONE 19 (7/e0302222): 31-34. (2024), nom. inval., ICNafp Shenzhen Code Art. F.5.1. (no citation of an identifier issued for the name by a recognized repository was included). The name is formally validated here.