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Спорові рослини та гриби

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TO REVISION OF MIDDLE ASIAN MATERIAL OF THE «*TELOSCHISTES BREVIOR*» COMPLEX (*TELOSCHISTACEAE*)

Key words: lichen, Teloschistaceae, Xanthoanaptychia kotovii, *sp. nova*

Summary A new lichen species, *Xanthoanaptychia kotovii* S. Kondr. & I. Kudratov sp. nov. which differs from *X. villosa* ssp. *brevior* by very wide anastomosing lobes almost undifferentiated on main and terminal fragments forming rigid multi-stored network almost spherical thallus with numerous apothecia (from several Middle Asian countries, i.e. Kirghizia, Tadjikistan, Turkmenistan, and Afghanistan) hitherto included in the «*Teloschistes brevior*» complex, is described and illustrated. Comparative tables with taxa mentioned and *Xanthoanaptychia villosa* ssp. *brevior* and *X. contortuplicata* are included. Additional data on blastidious propagules of *X. villosa* ssp. *brevior* and *X. contortuplicata* are provided. Key to Asian representatives of the genus *Xanthoanaptychia* is provided.

Introduction

The lichen genus *Teloschistes* Norman is characterized by a foliose to fruticose growth habit and a prosoplectenchymatous cortex [10, 11, 14]. Furthermore, it has the other characteristic shared by the most members of Teloschista-

ceae: *Teloschistes* type of ascus, polarilocular spores (except *T. hypoglaucus* (Nyl.) Zahlbr.) with quadrilocular spores), and presence of anthraquinones.

Secondary metabolites in Teloschistaceae have primarily been studied by Santesson [15] who used Lichen Mass Spectrometry, and Sщchting [16—18] who used HTCL. Nine chemosyndromes were found by S∅chting & Frödén [18] on the basis of the study of 150 specimens belonging to 29 species of *Teloschistes*.

Teloschistes villosus group is segregated from the genus *Teloschistes* to separate genus *Xanthoanaptychia* S. Kondr. & Kärnefelt [13]. During special study of the representatives of the Teloschistaceae in connection of the preparation of «*Handbook of the lichens of Russia*» [4] a new species of the genus *Xanthoanaptychia* was found in collections from the Middle Asian countries.

This taxon is selected among specimens which were previously identified as *Xanthoanaptychia villosa* ssp. *brevior*. However latter taxon includes lichens growing on soil and wooden substrate and characterizing mainly by sterile flat bulk thallus with well developed, distinctly elongated lobes, which bring several much narrower cilia-like lobules in their terminal portions.

Material which is characterized by almost spherical thallus growing mainly on thin twigs of shrubs and characterized by lack of well developed lobes (thallus formed by entire network where it is very difficult to recognize separate lobe) and which is described here as *Xanthoanaptychia kotovii*, was selected firstly only from Kotov's collection from Kirghizia. The further revision of numerous specimens of «*Teloschistes brevior*» aggregation from the Middle Asian countries shown *Xanthoanaptychia kotovii* to be rather common species in several countries (Turkmenistan, Kirghizia, Tadjikistan and Afghanistan).

Material of *X. kotovii* is presented in several herbaria (*KW*, *LE*, *TAD*).

Material & Methods

For comparative analysis the following specimens were used:

Xanthoanaptychia villosa* ssp. *lacunosa (Rupr.) S. Kondr. & Kärnefelt

Ukraine: Kherson oblast, Churjuk peninsula, western part near Solenoje Lake and Petrovka [settlement], plump salt-marsh, among *Halocnemum strobilaceum*, 10.IX.1927 M. Kotov (*KW* 33709); Genichesk district, Chongar peninsula, between Chongar and Sywash railway stations, at lake banks among *Halocnemum strobilaceum*, on salt-marsh, 08.IX.1927 M. Kotov (*KW* 33712); Chongar peninsula, 2 km N of Sywash railway station, on soil, 07.V.1995 A.Ye. Khodosovtsev (*KW* 65741 and *KW* 65740).

Xanthoanaptychia contortuplicata (Ach.) S. Kondr. & Kärnefelt

Tadjikistan: Pamir, Bartang River basin, right bank of Kudara River, Saj Boshur-Dara, between Rokhch and Pasor settlement, 3300 m alt., VII.1961 R.Kh. Akramova 302 (*KW* 65456). — **Uzbekistan**: Northern slopes of Alajsky ridge, Uchkurgan Mts., 28.XI.1946 N. Shafeev (*KW* 2702 — as *Teloschistes brevior* (Nyl.) Hillm. F. *nanum* Tomin — isotype).

Xanthoanaptychia villosa* ssp. *brevior (Nyl.) S. Kondr. & Kärnefelt

[**Kyrghizia**]: Central Tjanj-Shanj: Valley of Kaindy River, left slope, Jon-Kulon locality, spruce forest (of *Picea schrenkiana* Fisch et Mey.) at 3100 m alt., 31.VIII.1933 M. Kotov (*KW* 2705); Chon Teskej locality, left slope of Kaindy River, slide-rocks of chloride shale, 2900 m alt., 31.VIII.1933 M. Kotov (*KW* 2710); Chon Teskej locality, left slope of Kaindy River, slide-rocks of chloride shale, 31.VIII.1933 M. Kotov (*KW* 2709); Central Tjanj-Shanj: Bajrak-Talysh locality, left bank of Kaindy River, *Artemisia*-graminal steppes, above mosses together with *Physcia muscigena*, 24.VII.1933 M. Kotov (*KW* 2707); Bajrak-Talysh locality, N slope of the left bank of Kaindy River, on soil, growing together with *Psora* sp., 31.VIII.1933 M. Kotov (*KW* 2708).

Description & Discussion

Xanthoanaptychia kotovii S. Kondratyuk & I. Kudratov sp. nova. Figure, *a*, *b*, *c*, *d*.

(= *Teloschistes kotovii* S. Kondratyuk & I. Kudratov sp. nova = *Teloschistes brevior* sens. auct. Med. Asia).

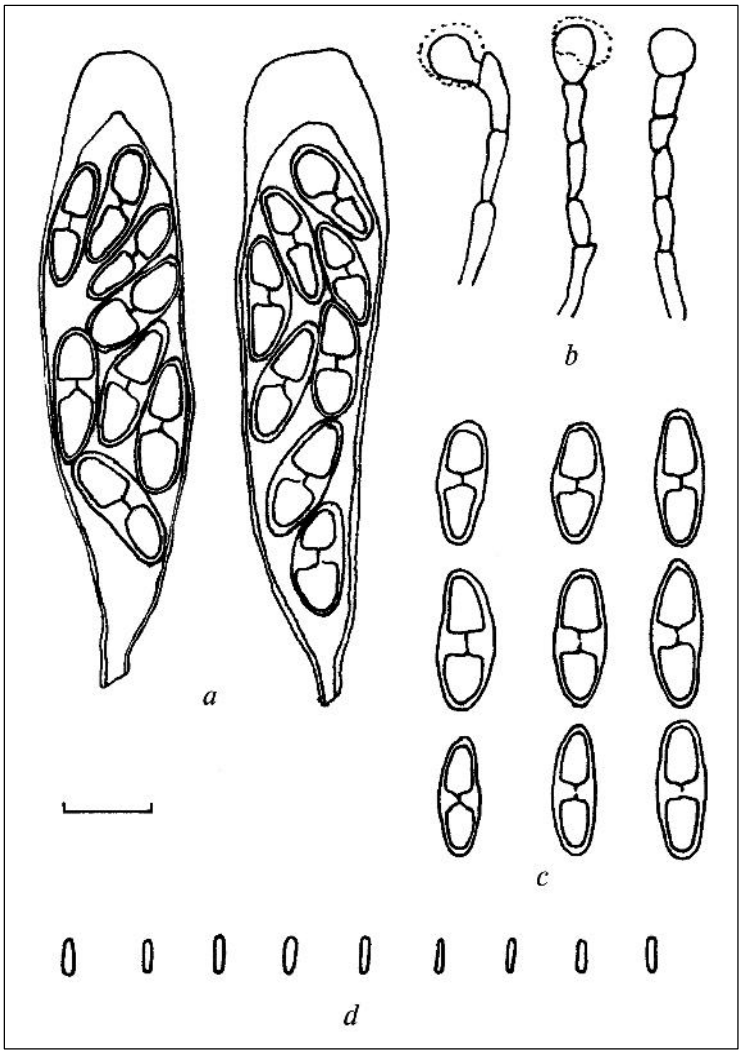
Thallus foliaceus vel fruticosus subsphericus 2.5—4.0(—6) cm diam. Lobi (5—)7—15(—20) mm longi and to (1.5—)2—7(—20) mm crassi, anastomosantis. Fragmenti terminalis erecti, 0.2—0.4(—0.5) mm longi, (0.08—0.2—0.3(—0.4) mm diam./crassi. Macroblastidia terminalis vel microblastidia nulla. Apothecia numerosa, 1—5(—10) mm diam. Ascosporae (11—)13.3—15.5 × (—3.8—)4.8—6(—6.7) μm. Septum 1.9—2.8(—3.8) μm. Spermatia bacilliformis, 2.9—3.8 × 0.9—1.0 μm.

Type. TURKMENISTAN: Kjurin-Dagh Mts., vicinity of Danaty settlement, [on twigs of *Pistacia*], 30.X.1966 O.B. Blum (*KW* 65269 — holotype, *KW* 65270, *KW* 65269, *KW* 65267 — isotypes).

Thallus foliose with horizontally orientated wide lobes with abundant apothecia and narrow dissected marginal zone to mainly in shape of almost spherical or subspherical formations to 2.5—4.0(—6) cm across, with usually badly developed lobes richly anastomosing and forming bulk multistoried network, greyish-white or whitish, grey (in shaded conditions), greish-brown to dark grey, greenish-brown or greenish-grey, with numerous orange or orange-brownish apothecia.

Lobes mainly not developed, if present (5—)7—15(—20) mm long and to (1.5—)2—7(—20) mm wide, mainly horizontally orientated, richly anastomosing and forming bulk (volumetric) multistoried rather rigid network, if present as flat ((0.5—)3—5(—7) mm wide/across) often with hollows (perforations) and brining several (to 14) apothecia per lobe; often present as belt-like, vallate or valleculate formations a. 1.5—2.0(—5) mm across/diam. and to (1—)3—5(—7) mm long which support apothecia 2—3 mm diam./across; as juvenile belt-like, narrow 0.4—0.7 mm wide and 2—3 mm long richly anastomosing, with several apothecia; sometimes with well developed terminal fragments.

Terminal fragments usually erect, flat single 0.2—0.4(—0.5) mm long, (0.08—)0.2—0.3(—0.4) mm diam./wide slightly widened towards tips or branched to (0.5—)1.0—1.5(—2) mm long and (0.2—)0.3—0.8(—1.2) mm wide richly anastomosing, forming network often with juvenile apothecia, with distinct pimples or tomentum; without



Xanthoanaptychia kotovii (holotype): *a* — asci, *b* — apical portions of paraphyses, *c* — ascospores, *d* — spermatia. Bar 10 мм

macroblastidia. Pimples with acuminate tips, a. 50—110 μm long, and (36—)45—90 μm diam./wide at the basis and 5—12(—19) μm diam./wide at tips, richly covered by crystals 12—17 × 4.5—12.0 μm.

Thallus in section 140—160 μm thick; upper cortex scleroplectenchymatous, 50—60(—70) μm thick, algal zone a. 50 μm thick. Upper cortex with numerous pimples, or well developed tomentum. Lower cortex usually absent, only rare developed in places, often with numerous perforations.

Microblastidia on underside (as in *Xanthoanaptychia contortuplicata*) absent. Underside with network-like remnants of vens (or lower cortex), whitish or slightly brownish, usually deeply eroded and dusted. Lower cortex usually undeveloped.

Distinguishing characters of *Xanthoanaptychia kotovii, X. villosa* ssp. *brevior,* and *X. contortuplicata*

Characters	*Xanthoanaptychia kotovii*	*X. villosa* ssp. *brevior*
THALLUS cm cross	2.5-4(-6)	1.5-2.5(-3)
	rare foliose to subfruticose, subspherical formations	foliose to subfruticose
LOBES (main)	Badly developed, richly anastomosed in network	Well developed, mainly erect, lax
mm long	7-15(-20)	5-15(-20)
mm wide	(1.5-)2-7(-20)	1-1.5(-2)
SECONDARY LOBULES	Absent	Abundant, well developed, inversely valleculate
mm long		4-5(-8)
mm wide		0.4-0.5
TERMINAL FRAGMENTS	Single or branched	Abundant, fen-like with bended downwards uppermost portions and dissected on macroblastidia
mm long	0.2-0.4(-0.5)	1-1.5
mm wide	(0.08-)0.2-0.3(-0.4)	0.2-0.4
MACROBLASTIDIA	Absent	At tips of terminal portions
μm diam.		(80-)100-150(-230
MICROBLASTIDIA [on underside] μm diam.	Absent	Absent
CONBLASTIDIA	Absent	Absent
μm diam.		
APOTHECIA	Always numerous	Very rare
μm diam.	1-5	1.5-3(-4)
PARAPHYSES	Swollen at tips	Not swollen at tips
μm diam. at tips	5	2.8
ASCOSPORES μm	(11-)13-15 x 3.8-4.8	(11.4-)12.4-15.6 x (3.8-)4.3-5.7
SEPTUM of spore μm thick	1.9-3	2.85
CONIDIA μm	2.8-3.8 x 0.9-1	2.8-3.3 x 0.9-1
SUBSTRATE	On bark of trees and twigs	On mosses, on rocks or soil outcrops
SOURCE	Present paper	[4]: 297 with additions in present paper

Underlined data ([in descriptions of the *Xanthoanaptychia villosa* ssp. *brevior*and *X. contortuplicata*])

Terminal macroblastidias (as in *Xanthoanaptychia villosa* spp. *brevior* or *X. contortuplicata*) absent.

Apothecia usually very numerous, to 1—5(—10) mm diam., on both main lobes and terminal fragments, rounded to irregular shape of mutual pressure, without fibrils and with/without tomentum. Thalline margin concolorous with thallus, usually

	X. contortuplicata
	(1-)1.5-3 subfruticose
	Erect
	3-5(-8)
	(0.3-)0.5-1(-1.5)
	Absent
	Abundant
	(0.2-)0.4-0.5(-1)
	(0.15-)0.2-0.3
	Very abundant, covering whole thallus
	(58-)69-84 [incorrectly in [4]: 20-50]
	To 28.8
	Usually
	(28-)40-48(-55)
	Rare
	1.5-3(-4)
	10.5-12 x 6-7.5
	3-4 x 1.2-1.8(-2)
	On rocks or soil above rock
	[4]: 292 with additions in present paper

are provided in present paper.

smooth, sometimes with pimples (the same as on upper surface of thallus), a. 0.2—0.3 mm wide; disc concave to plane, orange, orange brown to brownish, K+ violet. Cortex of thalline margin scleroplectenchymatous (36—)48—96(—120) μm thick. True exciple developed only in lateral portion, 12—24 μm thick. Algal layer below medulla with hollow, to 36—48 μm thick, sometimes with clusters to 72 μm across. Algal cells spherical to 13—19(—22) μm diam. Hymenium to (48—)57—65(—72) μm high. Epihymenium brightly yellow, to 12 μm thick. Paraphyses 1.9 μm diam. at the basis, ramified, rarely anastomosing, uppermost cells swollen to 4.8—5.2 μm diam. (Fig., *b*). Asci 8-spored, (all 8 ascospores equal, or 6 of them well developed and 2 slightly smaller), (38—)42.7—57.0(—66.5) × (12—)14—19 μm (Fig., *a*). Ascospores elongated ellipsoid, sometimes slightly thickened at the septum, (11—)13.3—15.5 × (—3.8—)4.8—6.0(—6.7) μm. Septum narrow 1.9—2.8(—3.8) μm thick (Fig., *c*).

Pycnidia often almost unvisible, only top portion slightly yellowish, to 0.4—0.45 mm diam./across. Spermatia bacilliform, 2.9—3.8 x 0.9—1.0 μm (Fig., *d*).

Ecology: on bark of various trees and especially on thin twigs of shrubs (*Picea schrenkiana* Fisch et Mey., *Ephedra canisetina*, *Acer pubescens*, *A. regalis*, *Acer* sp., *Juniperus* sp., *Rhantnus sintenisii* Koeb., pistachio-tree *Pistacia vera* L., *Sageretia lactevirens*, *Amygdalus bucharica*, etc.), usually at 1100—2100 m alt.

General distribution: Asia (Kirghizia, Tadjikistan, Turkmenistan, Afghanistan). Majority of references of records of *Xanthoanaptychia villosa* spp. *brevior*, especially in Russian lichenological literature (Bredkina, Kudratov, Dzjuraeva etc) probably belongs to *X. kotovii*. *Lichenodiplisiella makareviczae* S. Kondr. & Kudratov described from Tadjikistan from *X. brevior* [12], is without any doubts is associated with *X. kotovii* as well.

Etymology: this species is named after a prominent Ukrainian botanist, specialist in vascular plants Prof., Dr. Sci. M.V. Kotov (Kiev, Ukraine) who provided collection of this taxon for *KW* collection and provided description of plant cover of sites where lichens were collected [5—8].

Taxonomic remarks. According to abunbant apothecia almost completely covered thalli and forming almost spherical aggregations *X. kotovii* may resemble

Xanthoria polycarpa (Hoffm.) Rieber or *Xanthoanaptychia chrysophthalma* (L.) S. Kondr. & Kärnefelt.

From *X. chrysophthalma X. kotovii* differs by lack of numerous marginal cilia on lobes and on apothecia as well as by larger almost spherical rigid thalli with network of anastomosing lobes, lack of yellow colour of thallus etc.

From *Xanthoria polycarpa Xanthoanaptychia kotovii* differs by many characters of thallus (presence of lower paraplectenchymatous cortex) as well as apothecia.

According to wide lobes and short terminal fragments *X. kotovii* is much closer to *X. contortuplicata* than to *Xanthoanaptychia villosa* ssp. *brevior* to which this material traditionally was hitherto included. Some juvenile thalli of *X. kotovii* may resemble *X. contortuplicata*. However *X. contortuplicata* has mainly 2 mm wide lobes, and even wider (to 3 mm wide) towards tips. Terminal portions of *X. contortuplicata* lobes are often erect to 2—3 mm wide. Furthermore *X. contortuplicata* in contrast to *X. kotovii* is abundantly macroblastidious (macroblastidia with acicular suface along the lobe margins), as well as with microblastidias on underside.

There are the following diagnostic characters of *X. kotovii* distinguishing this taxon from *X. villosa* ssp. *brevior* (see also Table): lobes mainly horizontally orientated, terminal fragments of which may be orientated vertically (erect), lobes usually bring several (to 14!!) apothecia per lobe; terminal fragments much shorter than in *Xanthoanaptychia villosa* ssp. *brevior* (1.0—1.5(—2) mm long and wider (0.2—)0.4—0.8(—1.2) mm wide and richly anastomosing, forming network; lobes and terminal fragments mainly flat (margins not bent downwards as in *Xanthoanaptychia villosa* ssp. *brevior*) only lobes supporting large apothecia (more than 2—3 mm diam.); apothecia usually very abundant (several per lobe) in *X. kotovii* in contrast of rarely fertile *Xanthoanaptychia villosa* ssp. *brevior*); substrate [growing on alive and dead twigs of various trees and shrubs]. Terminal fragments almost undeveloped (not dissected on narrow cylindric, half-tubular or inversely valleculate secondary lobules to 1—4 mm long as in *Xanthoanaptychia villosa* spp. *brevior*).

Xanthoanaptychia kotovii is probably new lichen species endemic to the Middle Asian region, which is characterized by rather high level of endemism [2, 3, 9]. So, endemic species includes to 25,6 % of lichen species of the Central Tjianj-Shanj Mts. [2], to 23,6 % of lichen flora of Tadjikistan [9] etc.

The further special collections of the representatives of *X. kotovii* will allow to clarify as its distribution within Middle Asia region as well as ecological and geographical differencies of this taxon and previously known from this region *X. villosa* ssp. *brevior*. However our data shows that endemic taxa are represented by not only by desert or steppe species high number of neoendemics among which is stressed by Bredkina [2] and Bajbulatova [1]. *X. kotovii* as well as *Xanthoria sogdiana* [4] show that there are endemic representatives among forest epiphytes as well.

Other specimens examined. KIRGHIZIA: northern part of Moldatau ridge, Menkush River Valley, 2000—2100 m alt., mossy spruce forest, on bark of *Picea*, 06.VII.1970 L.I. Bredkina 430 (*LE*). — **TADJIKISTAN**: North Tadjikistan, northern

slope of Kuraminsky Ridge, Oltyn-Topkan settlement, the nearest secondary valley, on bark of *Juniperus* branches, 4.VI.1974 I. Kudratov 1501 (*TAD*); South Tajikistan: Khodzha Mumin Mt., 1250 m alt., on bark and on twigs of *Amygdalus bucharica* (very abundant), 23.IV.2003 I. Kudratov 13547 (*KW*); Khodzha Mumin Mt, 1250 m alt., on dead branches of *Acer regelii* damaged by *Camarosporium* sp. growing together with *Caloplaca polycarpoides* and *Lecanora*, 23.IV.2003 I. Kudratov 13549 (*TAD*); Khodzha Mumin Mt., 1250 m alt., on bark and twigs of *Amygdalus bucharica* (abundant), apothecium of *Xanthoanaptychia* damaged by *Epicladonia* sp., 23.IV.2003 I. Kudratov 13549 (*TAD*); South Tadjikistan: south of Kuraminsky Ridge, Utghansaj valley, Karavulkhona locality, 1500—1800 m alt., at the basis of dry branch of *Atrofaxis*, 02.VI.1974 I. Kudratov 1362 (*TAD*); Gazimalik Ridge, to North of Khodzhabokhoj spring, 1300—2000 m alt., on dead branches, 14.V.1990 I. Kudratov 11885 (*TAD*); «in jugo Gissar. Ad corticem *Juglandis* in angustio Zanczurut, ca 1100 m s.m.», [date unmentioned], R. Akramova (*KW* 2703); «regio Leninabadensis. Kolkhozchyn district, Nofin-Saj, Rosina valley, Dashti-Kozy Valley, Veshist-saj, NE slope on twigs of *Ephedra* (rare)», 28.IX.1957 E.A. Gintovt (*LE*); Dashti-Kozy Valley, NE slope, on twigs and rarely on the bark of *Pistacea vera* trunk, 03.X.1956 E.A. Gintovt (*LE*); Koktash district, W slope of Gordany-Ushty ridge, 1100 m alt., on *Sageretia lactevirens*, 10.VI.1949 E.A. Varivtzeva & G.N. Nepli (*LE*); Western uplands of Gordany-Ushty ridge, speckled stones, on dead branches of *Pistacea vera*, 25.VI.1949 E.A. Varivtzeva & G.N. Nepli (*LE*); western uplands of Gordany-Ushty ridge, pistachio on Western slope, at 1200 m alt., on shrubs of *Pistacea vera*, 09.VI.1949 E. Shtukenberg (*LE*); Gordany-Ushty ridge, Mundy locality, open *Juniperus* with *Acer* and shrubs on eastern slope, on *Acer pubescens*, 25.VI.1949 G.N. Nepli (*LE*); Dashty-Kozy Valley, on brunches of tree, 04.X.1957 E.A. Gintovt (*LE*); Nofin-Sai district, RosinaValley, Kshut-Saj locality, Dashty-Kozy Valley, Veshist-Say, on brunches of *Acer*, 02.VI.1956 E.A. Gintovt (*LE*); Dashty-Kozy Valley, on bark of *Populus*, at the upper side of trunk, 04.X.1957 E.A. Gintovt (*LE*); Bakhardjan district, Kopakly Valley, on *Rhantnus sintenisii* Koeb., 01.VIII.1953 T. Egorova (*LE*). — **TURKMENISTAN**: Kopet-Dagh [Mts.], Chuli. 23.V.1972 L.M. Sipajlova (*KW* 65273); Kjurin-Dagh Mts., vicinity of Danaty settlement, along valley towards spring, [on twigs of *Pistacia*], 31.X.1966 O.B. Blum (*KW* 65272, *KW* 65266); the same locality and collector, growing together with *Caloplaca polycarpoides* and *Xanthoria* cfr. *parietina* (*KW* 65274); Western Kopet-Dagh Mts., a. 12 km of Kara-Kaly, growing together with *Tornabea scutellifera*, *Xanthoria parietina*, *Caloplaca* sp. and *Physcia* sp., 04.XI.1966 O.B. Blum (*KW* 65268); Western Kopet-Dagh Mts., north-western part of Ejshelsky anticline, upper part of a comb, 14.X1967 E. Leontjeva (*LE*); Kopet-Dagh. Kara-Gura locality, 1500 m alt., on trunk of *Tragacantha dendisima* A Bar, 23.X.1940 A.L. Fedorov (*LE*); «Turkestan. Near of Askhabady ...» 1895 Korzhynsky (*LE*); Western slope of Kushtan ridge, 2100 m alt., above Bakhaptene [settlement], on trunk of *Ephedra canisetina*, 21.VIII.1928 E. Bobrov (*LE*). — **AFGANISTAN**: Prov. Samangan: E-Hange des Passes Kotal-I-Mirza Atbili (Kotal-I Rabotak), 68 °18′ E, 36 °10,5′ N, ca, 1200 m. Auf *Pistacia*

vera L., vor allem an der Stammbasis und den Astgabeln, mit *Anaptychia ulotrichoides* (Vain.) Vain., *Caloplaca polycarpoides* (J. Stein.) M. Steiner & Poelt u.a., 05.VI.1970 M. Steiner Ste 43 (LD ex Lichenotheca afghanica № 45 as *Teloschistes brevior* (Vain.) Hillm.).

Key to Asian species of *Xanthoanaptychia*

1 On bark or wooden substrate, in open localities close to submediterranean type (well illuminated and humid localities) 2
– On soil or rock in desert or mountain steppes, alpine and arctic ecosystems 6
2 Lobes wide; with well visible vens on underside 3
– Lobes narrow, well ramified with well developed tomentum on upper surface; vens on underside almost undeveloped ..... ***Xanthoanaptychia villosa* ssp. *villosa***
3 Lobes and thalline margine of apothecia with numerous marginal fibrils, radially orientated; thallus small, 1-2 cm diam., distinctly dorsiventral forming rounded thalli to 0,5-1 mm high ..... ***Xanthoanaptychia chrysophthalma***
– Marginal fibrils absent; thalli as volumetric clods or of disconnected loose *Ramalina*- or *Anaptychia*-like lobes 4
4 Thallus volumetric, forming by wide anastomosing lobes; apothecia numerous, on twigs of shrubs or on dead wood ..... ***Xanthoanaptychia kotovii***
– Thallus of disconnected loose *Ramalina*- or *Anaptychia*-like lobes, richly branched towards tips into narrower lobules; on wooden substrate or soil 5
5 Lobes mainly erect, microblastidia on underside absent, asci 8-spored ..... ***Xanthoanaptychia villosa* ssp. *brevior***
– Lobes mainly horizontally orientated with numerous microblastidia on underside; mature asci 4(6)-spored ..... ***Xanthoanaptychia* sp. 1**
6(1) In arctic or alpine ecosystems 7
– In *Artemisia* or coastal steppes, deserts and mountain desertal ecosystem 8
7 Lobes long 10-15 mm long podematium-like, very wide (to 5-5.5 mm wide) cylindric, often with perforations at the basis; and dissected into numerous long narrow/secondary lobules in the upper half; on soil and debris in Arctic ..... ***Xanthoanaptychia arctica***
– Lobes not podetium-like, much shorter, without long narrower secondary lobules, with numerous macroblastidia in termibnal zone; abundantly blastidious on underside; on rocks in alpine and subalpine belts ..... ***Xanthoanaptychia contortuplicata***
8(6) Thallus of loose more or less flat and very long lobes; lobes 3-7 cm long and 2-15 mm wide, towards tips branched; on soil of solted coastal and mountain communities ..... ***Xanthoanaptychia villosa* ssp. *lacunosa***
– Thallus of erect, densely attached; lobes smaller, to 1.5(-2) cm long and 1-1.5 mm wide, *Ramalina*-like; on soil and wooden substrates ..... ***Xanthoanaptychia villosa* ssp. *brevior***

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ДО РЕВІЗІЇ СЕРЕДНЬОАЗІАТСЬКОГО МАТЕРІАЛУ КОМПЛЕКСУ «*TELOSCHISTES BREVIOR*» (*TELOSCHISTACEAE*)

Описано та подано ілюстрації нового лишайника *Xanthoanaptychia kotovii* S. Kondr. & I. Kudratov sp. nov., який має дуже широкий, майже не диференційований на основні і термінальні фрагменти лопаті, що анастомозують та формують жорстку багатошарову, близьку до сферичної форми слань з численними апотеціями. Наводиться з кількох країн Середньої Азії, зокрема Киргизії, Таджикистану, Туркменістану та Афганістану. До останнього часу матеріал виду відносили до комплексу « *Teloschistes brevior*». Наведено таблицю порівняння діагностичних ознак описаного виду та видів *X. villosa* ssp. *brevior* та *X. contortuplicata*. Вказуються додаткові дані щодо бластидій *X. villosa* ssp. *brevior* та *X. contortuplicata*. Подано ключ для визначення представників роду *Xanthoanaptychia*, які зростають в Азії.

Ключові слова: лишайник, Teloschistaceae, Xanthoanaptychia kotovii, *новий для науки вид*

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К РЕВИЗИИ СРЕДНЕАЗИАТСКОГО МАТЕРИАЛА КОМПЛЕКСА «*TELOSCHISTES BREVIOR*» (*TELOSCHISTACEAE*)

Представлены описания и иллюстрации нового лишайника *Xanthoanaptychia kotovii* S. Kondr. & I. Kudratov sp. nov. Он отличается очень широкими, почти не дифференцированными на основные и терминальные фрагменты лопастями, которые срастаются и формируют жесткое объемное, практически сферическое слоевище с многочисленными апотециями. Приводится из некоторых стран Средней Азии, в частности Киргизии, Таджикистана, Туркменистана и Афганистана. До последнего времени материал вида включали в комплекс «*Teloschistes brevior*». Приведена таблица сравнения диагностических признаков описанного вида и видов *X. villosa* ssp. *brevior* и *X. contortuplicata*. Указаны дополнительные данные относительно бластидий *X. villosa* ssp. *brevior* и *X. contortuplicata*. Публикуется ключ для определения азиатских видов рода *Xanthoanaptychia*.

Ключевые слова: лишайник, Teloschistaceae, Xanthoanaptychia kotovii, *новый для науки вид*