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**NEW AND RARE FOR ISRAEL
LICHEN-FORMING AND
LICHENICOLOUS FUNGI
FROM UPPER GALILEE**

Key words: lichen-forming fungi, lichenicolous fungi, Bagliettoa, Caloplaca, Catillaria, Chromatochlamys, Lecania, Opegrapha, Toninia, Verrucaria, new species, Asia, Israel, Upper Galilee

Abstract

17 new for Israel species of lichen-forming fungi (*Bagliettoa baldensis*, *B. parmigerella*, *Buellia dispersa*, *Catillaria lenticularis*, *Chromatochlamys vezdae*, *Lecania cuprea*, *L. fuscella*, *Leptogium tenuissimum*, *Opegrapha subelevata*, *Porina aenea*, *P. byssophila*, *Rinodina pyrina*, *Schismatomma picconianum*, *Strangospora delitescens*, *Toninia athallina*, *Verrucaria sorbicola*, *Vouaxiella lichenicola*) mainly from Upper Galilee are recorded. Full descriptions including synonyms, reference on the diagnosis, distribution in Israel, and general distribution (after the style of «The First Checklist of the Lichen-forming, Lichenicolous and Allied Fungi of Israel» (see Kondratyuk et al. [2]) are provided for each taxon. 15 lichen-forming taxa (*Bacidina phacodes*, *Bactrospora patellarioides*, *Bagliettoa parmigera*, *Caloplaca ochracea*, *C. teicholyta*, *Candelariella aurella*, *Catillaria*

nigroclavata, *Clauzadea metzleri*, *Lecania naegelii*, *L. turicensis*, *Lecanora chlarotera*, *Opegrapha atra*, *O. rufescens*, *Staurothele hymenogonia*, *Verrucaria muralis*), which for the first time recorded for some regions of Israel, are listed as well. New localities for another 10 lichen species (*Aspicilia calcarea*, *Caloplaca arenaria*, *C. cerina*, *Lecanora argentata*, *Lecidella elaeochroma*, *Physcia adscendens*, *Sarcogyne regularis*, *Verrucaria calciseda*, *V. marmorea*, *V. nigrescens*) are provided as well.

Introduction

During last decade a number of new for Israel lichen species were found [2—4, 6]. New findings of lichen-forming and lichenicolous fungi were recorded for the first time for Israel in «The First Checklist of the Lichen-forming, Lichenicolous and Allied Fungi of Israel» [2] as well.

Among them new for science taxa of lichen-forming and lichenicolous fungi were described (*Lichenochora wasseri* S. Kondr. in [4]; *Adelococcus porocyphii* S. Zelenko & S. Kondr. and *Sclerococcum acarosporae* S. Kondr. as well as *Xanthoria hermonii* S. Kondr. all in [3]). 41 new names for lichen-forming and lichenicolous fungi from the Near East region are proposed in latter paper [3] as well.

The further new for Israel lichen taxa mainly from Upper Galilee as well as new for some Israeli regions lichen-forming and lichenicolous fungi are listed below. Some of them were mentioned in recently published «*Lichen-Forming, Lichenicolous and Allied Fungi of Israel*» [5] without detail list of localities. New taxa are provided by descriptions after the style of «The First Checklist of Lichen-forming and Lichenicolous Fungi of Israel» [2]. Only a number of localities examined is provided for taxa new for some regions of Israel as far their descriptions are published in the «Checklists» [2, 5] yet.

Materials and methods

Material described was collected by the first co-author during two two-weeks expeditions to Israel in 2000 year. Some specimens of Israeli lichens kept in LD were analysed during this study as well.

Standard methods for the identifying lichen-forming and lichenicolous fungi were applied.

Results

New for Israel taxa

1. **BAGLIETTOA baldensis** (A. Massal.) Vîzda, [in Poelt et Vîzda], *Bibl. Lichenol.*, 16: 363, 1981.

SYNONYM: *Verrucaria baldensis* A. Massal., *Ric. Auton. Lich. Crost.*: 173, 1952.

DESCRIPTION: Clauzade & Roux 1985: 789; Temina et al. 2005: 73.

HABITAT: on calcareous rocks.

DISTRIBUTION IN ISRAEL: **Upper Galilee**, Lower Nahal Keziv, Nahal Keziv Reserve, «Evolution Canyon» II, south faced slope, point 1 (the highest one), on limestone growing together with *Aspicilia calcarea*, *Sarcogyne regularis*, and *Verrucaria marmorea*, 14.01.2000, S. Kondratyuk 2011 (*KW*); north-faced slopes, point 7, (the

highest on the slope), on limestone growing together with *Verrucaria calciseda* and *Verrucaria marmorea*, 14.01.2000, S. Kondratyuk 2014 (KW); north faced slope, point 5 (at the lower part), *Querceta* forest with *Laurus nobile* and *Ceratonia* and *Platanus*, on limestone, 17.01.2000, S. Kondratyuk 2034 (KW).

GENERAL DISTRIBUTION: Europe (Mediterranean and submediterranean regions), Asia (Israel, Jordan).

2. **BAGLIETTOA parmigerella** (Zahlbr.) Vízda et Poelt, [in Poelt et Vízda], *Bibl. Lichenol.*, 16: 363, 1981.

SYNONYM: *Verrucaria parmigerella* Zahlbr., *Osterr. Bot. Z.*, 68: 64, 1919.

DESCRIPTION: Clauzade & Roux 1985: 785; Temina et al. 2005: 74.

HABITAT: on calcareous rocks.

DISTRIBUTION IN ISRAEL: Upper Galilee, Lower Nahal Keziv, Nahal Keziv Reserve, «Evolution Canyon» II, south faced slope, point 1 (the highest one), on limestone growing together with *Aspicilia calcarea*, *Sarcogyne regularis*, and *Verrucaria marmorea*, 14.01.2000, S. Kondratyuk 2011 (KW); south-faced slopes, point 2 (in the middle part of slope), on limestone growing together with *Aspicilia calcarea*, *Sarcogyne regularis*, and *Verrucaria marmorea*, 14.01.2000, S. Kondratyuk 2012 (KW); north faced slope, point 6, *Querceta* forest with *Laurus nobile* (at the middle of slope), on limestone growing together with *Caloplaca arenaria* and *Verrucaria calciseda*, 17.01.2000, S. Kondratyuk 2033 (KW).

GENERAL DISTRIBUTION: Central and Southern Europe, Asia (Israel). It is for the first time recorded for Israel and Asia.

3. **BUELLIA dispersa** A. Massal., *Sched. Crit.*, 8: 150, 1855.

SYNONYM: *Buellia tumida* Bagl.

DESCRIPTION: Clauzade & Roux 1985; Temina et al. 2005: 78.

HABITAT: on serpentines and siliceous rocks.

DISTRIBUTION IN ISRAEL: Upper Galilee, Lower Nahal Keziv, Nahal Keziv Reserve, «Evolution Canyon» II, south faced slope, point 1 (the highest one), on limestone growing together with *Aspicilia calcarea*, *Sarcogyne regularis*, *Verrucaria marmorea*, and *Verrucaria nigrescens*, 14.01.2000, S. Kondratyuk 2011 (KW).

GENERAL DISTRIBUTION: Europe (Mediterranean region and the inner Alpine dry valleys), Asia (Egypt, Syria, Israel), North Africa.

4. **CATILLARIA lenticularis** (Ach.) Th. Fr., *Lichenogr. Scand.*, 2: 567, 1874.

SYNONYM: *Lecidea lenticularis* Ach., *Syn. Meth. Lich.*: 28, 1818.

DESCRIPTION: Oxner, 1968; Temina et al. 2005: 120.

HABITAT: On calcareous rocks.

DISTRIBUTION IN ISRAEL: Upper Galilee, Lower Nahal Keziv, Nahal Keziv Reserve, «Evolution Canyon» II, north-faced slopes, point 7 (the highest on the slope), on limestone growing together with *Verrucaria calciseda* and *V. marmorea*, 14.01.2000, S. Kondratyuk 2014 (KW); north faced slope, point 6, *Querceta* forest with *Laurus nobile* (at the middle of slope), on limestone growing together with *Caloplaca arenaria* and *Verrucaria calciseda*, 17.01.2000, S. Kondratyuk 2033 (KW).

GENERAL DISTRIBUTION: Europe, Asia (Israel), North America, Northern Africa, New Zealand.

5. **CHROMATOCHLAMYS vezdae** H. Mayrhofer & Poelt, Herzogia, 7: 39 (1985).

ICONS: Mayrhofer & Poelt 1985: 32.

DESCRIPTION: Mayrhofer & Poelt 1985: 39; Temina et al. 2005: 122.

HABITAT: On bark of trees.

DISTRIBUTION IN ISRAEL: Upper Galilee, Lower Nahal Keziv, Nahal Keziv Reserve, «Evolution Canyon» II, on south-faced slope, point 3 (the lowest on this slope), on dead roots and at the basis of trunk of *Quercus* growing together with *Caloplaca cerina* and *Physcia adscendens*, 14.01.2000 S. Kondratyuk 2013 (KW)

GENERAL DISTRIBUTION: Europe (Austria), Asia (Israel). It is for the first time recorded for Israel and for Asia.

6. **Lecania cuprea** (A. Massal.) V.d. Boom ex Aptroot, Nova Hedwigia, 54, 1–2: 234, 1992.

SYNONYMS: *Bilimbia cuprea* A. Massal., Lotos, 6: 77, 1856.

DESCRIPTION: Oxner, 1993: 134; Temina et al. 2005: 167.

HABITAT: on silicate rocks, dolomites and limestones.

DISTRIBUTION IN ISRAEL: Upper Galilee, Lower Nahal Keziv, Nahal Keziv Reserve, «Evolution Canyon» II, north faced slope, point 6, *Querceta* forest with *Laurus nobile* (at the middle of slope), on limestone growing together with *Caloplaca arenaria*, 17.01.2000, S. Kondratyuk 2033 (KW), north faced slope, point 5 (at the lower part), *Querceta* forest with *Laurus nobile* and *Ceratonia* and *Platanus*, on limestone, 17.01.2000, S. Kondratyuk 2034 (KW).

GENERAL DISTRIBUTION: Europe (Atlantic, central and southern mountainous regions), North America, Asia (Israel). It is for the first time recorded for Israel and Asia.

7. **LECANIA fuscella** (Schaerer) Körb., Syst. Lich. Germ.: 122, tab. 3, fig. 2, 1855.

SYNONYMS: *Lecanora pallida* v. *fuscella* Schaerer, Enum. Crit. Lich. Eur.: 78, 1850.

DESCRIPTION: Makarevich, 1971: 257; Temina et al. 2005: 168.

HABITAT: on trunk of trees with smooth bark.

DISTRIBUTION IN ISRAEL: Upper Galilee, Lower Nahal Keziv, Nahal Keziv Reserve, «Evolution Canyon» II, north faced slope, point 5 (at the lower part), *Querceta* forest with *Laurus nobile* and *Ceratonia* and *Platanus*, on smooth bark growing together with *Lecanora argentata*, 17.01.2000, S. Kondratyuk 2034 (KW).

GENERAL DISTRIBUTION: Europe, Caucasus, Asia and North America.

8. **LEPTOGIUM tenuissimum** (Dickson) Körb., Corp. Fl. Prov. Suec., 1: 293, 1855.

SYNONYMS: *Lichen tenuissimus* Dickson, Pl. Crypt. Brit., 1: 12, 1875.

DESCRIPTION: Oxner, 1956: 403; Temina et al. 2005: 199.

HABITAT: on soil among bryophytes, or on calcareous rocks.

DISTRIBUTION IN ISRAEL: Upper Galilee, Lower Nahal Keziv, Nahal Keziv Reserve, «Evolution Canyon» II, north faced slope, point 6, *Querceta* forest

with *Laurus nobile* (at the middle of slope), on limestone growing together with *Caloplaca arenaria*, 17.01.2000, S. Kondratyuk 2033 (KW).

GENERAL DISTRIBUTION: Europe, Caucasus, Asia, North America.

9. **OPEGRAPHA subelevata** (Nyl.) Nyl., Lich. Nov. Zeland.: 115, 1888.

SYNONYMS: *Opegrapha varia* v. *subelevata* Nyl., *Ann. Sc. Nat. Bot.*, ser. 3, 20: 318, 1853.

DESCRIPTION: Purvis et al. 1992: 413; Temina et al. 2005: 221.

HABITAT: on limestone.

DISTRIBUTION IN ISRAEL: Upper Galilee, Lower Nakhal Keziv, Nahal Keziv Nature park, «Evolution Canyon» II, north faced slope, point 5 (at the lower part), *Querceta* forest with *Laurus nobile* and *Ceratonia* and *Platanus*, on limestone growing together with *Verrucaria calciseda*, 17.01.2000, S. Kondratyuk 2034 (KW).

GENERAL DISTRIBUTION: Europe (Western Mediterranean and Atlantic regions, British Isles), Asia (Israel), North Africa, Macaronesia, New Zealand.

10. **PORINA aenea** (Wallr.) Zahlbr., Cat. Lich. Univ., 1: 363, 1922.

SYNONYMS: *Verrucaria aenea* Wallr., Fl. Crypt. Germ., 3: 299, 1831; *Porina carpinea* (Pers.) Zahlbr.

DESCRIPTION: Oxner, 1956: 162. Purvis et al., 1992; Temina et al. 2005: 254.

HABITAT: on bark of trees with smooth trunk.

DISTRIBUTION IN ISRAEL: Upper Galilee, Lower Nakhal Keziv, Nahal Keziv Nature reserve, «Evolution Canyon» II, north faced slope, point 5 (at the lower part), *Querceta* forest with *Laurus nobile* and *Ceratonia* and *Platanus*, on trees, 17.01.2000, S. Kondratyuk 2034 (KW).

GENERAL DISTRIBUTION: Europe, Caucasus, Asia (Israel), North Africa (Algeria, Morocco), North America.

11. **PORINA byssophila** (Körb. & Hepp) Zahlbr., Naturl. Pflanzenfarm., 1, 1: 66 (1903).

SYNONYMS: *Sagedia byssophila* Körb. [in Hepp], Flecht. Eur.: nr. 695 (1860); *Spermatodium cinereorufescens* Trevisan.

DESCRIPTION. Purvis et al., 1992: 492; Temina et al. 2005: 255.

HABITAT. on calcareous rocks in damp and shaded habitats.

DISTRIBUTION IN ISRAEL. Upper Galilee: Lower Nahal Keziv — «Evolution Canyon» II (Kondratyuk, unpubl. data).

GENERAL DISTRIBUTION. Central and southern Europe, Asia (Israel), North Africa (Marocco).

12. **RINODINA pyrina** (Ach.) Arnold, Flora 64: 196 (1881).

SYNONYMS: *Lichen pyrinus* Ach., Lich. Suec. Prodr.: 52, 1799.

DESCRIPTION: Purvis et al. 1992: 551; Giralt & Mayrhofer, 1995: 153; Temina et al. 2005: 275.

HABITAT: on the smooth and base — rich bark of small twigs.

DISTRIBUTION IN ISRAEL: Upper Galilee, Lower Nahal Keziv, Nahal Keziv Reserve, «Evolution Canyon» II, south-faced slopes, point 3 (the lowest on this slope), on smooth bark of shrubs growing together with *Caloplaca cerina* and *Lecanora argentata*, 14.01.2000, S. Kondratyuk 2013 (KW).

GENERAL DISTRIBUTION: Europe, Asia (the Near East, Central Asia), North America.

13. **SCHISMATOMMA picconianum** (Bagl.) J. Steiner, Verh. zool.-bot. Ges. Wien, 65: 194 (1915).

SYNONYMS: *Schismatomma dirinellum* (Nyl.) Zahlbr.

DESCRIPTION: Boqueras 2000: 404; Temina et al. 2005: 279.

HABITAT: very common on bark of *Ceratonia* sp. in areas close to seashore. It was collected several times in Lower Nakhal Oren («Evolution Canyon» I) and Lower Nakhal Keziv («Evolution Canyon» II) as very abundant species growing together with *Dirina ceratoniae*, *Xanthoria parietina*, *Opegrapha* ssp.

DISTRIBUTION IN ISRAEL: Carmel Mounts: Mount Carmel nature reserve: Lower Nakhal Oren, «Evolution Canyon» I, bottom of the valley, not far from point 4 of long term monitoring plots, 21.09.2000 S. Kondratyuk 20119 (KW); in conditions similar to point 4 (bottom of valley at the basis of N-facing slope), on limestone, 24.09.2000 S. Kondratyuk 20122 (KW); Mount Carmel national park, in the vicinity of Haifa University, 13.01.2000, S. Kondratyuk 2004 (KW).

GENERAL DISTRIBUTION: Littoral zone of Mediterranean region.

14. **STRANGOSPORA delitescens** (Arnold) Coppins [in Coppins et al.], Lichenologist, 24 (4): 368 (1992).

SYNONYMS: *Biatorella delitescens* Arnold, Flora, 59: 566 (1876); *Biatoridium delitescens* (Arnold) Hafellner.

DESCRIPTION: Purvis et al. 1992: 585; Temina et al. 2005: 75.

HABITAT: on bark of deciduous trees.

DISTRIBUTION IN ISRAEL: Lower Galilee, Lower Nakhal Keziv, Nahal Keziv Nature Reserve, «Evolution Canyon» II, bottom of valley, point 4 (at the bottom of the valley), on bark of *Ceratonia* et al. trees and shrubs, 17.01.2000, S. Kondratyuk 2035 (KW).

GENERAL DISTRIBUTION: Europe (Scandinavian, Atlantic and Central parts), Asia (Israel). It is for the first time recorded for Israel and for Asia.

15. **TONINIA athallina** (Hepp) Timdal, Opera Bot., 110: 42, 1991.

SYNONYMS: *Biatora athallina* Hepp, Flecht. Eur., 9: nr. 499, 1860; *Kiliasia athallina* (Hepp) Haf., *Catillaria athallina* (Hepp) Lynge

DESCRIPTION: Timdal 1991: 42; Temina et al. 2005: 299.

HABITAT: on calcareous rocks.

DISTRIBUTION IN ISRAEL: Upper Galilee, Lower Nahal Keziv, Nahal Keziv Reserve, «Evolution Canyon» II, south faced slope, point 1 (the highest one), on limestone growing together with *Aspicilia calcarea*, *Sarcogyne regularis* and *Verrucaria marmorea*, 14.01.2000, S. Kondratyuk 2011 (KW); south-faced slopes, point 2 (in the middle part of slope), on limestone growing together with *Aspicilia calcarea*, *Sarcogyne regularis* and *Verrucaria marmorea*, 14.01.2000, S. Kondratyuk 2012 (KW).

GENERAL DISTRIBUTION: Widely distributed in temperate and arctic regions of the Northern Hemisphere.

16. **VERRUCARIA sorbicola** Sérvit, Acta Mus. Nat. Pragae, 5, B (9), Bot. (3): 42 (1949).

SYNONYMS: *Verrucaria meronii* S. Kondratyuk & Zelenko ad int. [herb. name]

DESCRIPTION: Sérvit 1949: 42; Temina et al. 2005: 308.

HABITAT: on bark of trees.

DISTRIBUTION IN ISRAEL: Upper Galilee: Mt. Meron, from the brist of ridge to the bottom of valley along N-facing slope, a. 600–800 m alt., oak forest, on bark of trees, 27.09.2000 S. Kondratyuk 20129 (*KW, W*).

GENERAL DISTRIBUTION: Asia (Israel), North America. It is for the first time recorded for Israel and Asia.

17. **VOUAUXIELLA lichenicola** (Linds.) Petr. & Syd., Repert. Spec. Nov. Regni veg., Beih., 42: 484 (1927).

DESCRIPTION: Hawksworth 1976: 58; 1981: 64; Temina et al. 2005: 310.

HABITAT: on thalli of *Lecanora* spp.

DISTRIBUTION IN ISRAEL: Upper Galilee, Lower Nahal Keziv, Nahal Keziv Reserve, «Evolution Canyon» II, north-faced slopes, N 7, (the highest on the slope), on-bark of *Quercus*, *Laurus* etc., 14.01.2000, S. Kondratyuk 2014 (*KW*).

GENERAL DISTRIBUTION: Europe, Asia (Israel), North Africa (Marocco), North America. It is for first time recorded for Israel and Asia.

New for Upper Galilee species of lichen-forming fungi ***

***Data on the following details of localities: «Upper Galilee, Lower Nahal Keziv, Nahal Keziv Reserve, «Evolution Canyon» II» are abbreviated as UP-LNK.**

****List the other regions of Israel for mentioned taxa see in last editions of the Checklist [2, 6].**

1. **BACIDINA phacodes** (Korber) Vízda, Folia Geobot. Phytotaxon., 25: 432

UP-LNK: north-faced slopes, point 7, (the highest on the slope), on bark of *Quercus*, *Laurus* etc., 14.01.2000, S. Kondratyuk 2014 (*KW*); north faced slope, point 6, *Querceta* forest with *Laurus nobile* (at the middle of slope), on *Quercus* and other trees, 17.01.2000, S. Kondratyuk 2033 (*KW*); north faced slope, point 5 (at the lower part), *Querceta* forest with *Laurus nobile* and *Ceratonia* and *Platanus*, on trees, 17.01.2000, S. Kondratyuk 2034 (*KW*); bottom of valley, point 4 (at the bottom of the valley), on *Ceratonia* et al. on shrubs, 17.01.2000, S. Kondratyuk 2035 (*KW*).

2. **BACTROSPORA patellarioides** (Nyl.) Almq., Om de Skandin. arten. slogt. *Schismatomma*, *Opegrapha* och *Bactrospora*: 24 (1869).

UP-LNK: north-faced slopes, point 7, (the highest on the slope), on bark of *Quercus*, *Laurus* etc. growing together with *Lecanora argentata*, 14.01.2000, S. Kondratyuk 2014 (*KW*), north faced slope, point 6, *Querceta* forest with *Laurus nobile* (at the middle of slope), on *Quercus* and other trees growing together with *Lecanora argentata*, 17.01.2000, S. Kondratyuk 2033 (*KW*), north faced slope, point 5 (at the lower part), *Querceta* forest with *Laurus nobile* and *Ceratonia* and *Platanus*, on trees growing together with *Lecanora argentata*, 17.01.2000, S. Kondratyuk 2034 (*KW*).

3. **BAGLIETTOA parmigera** (J. Steiner) Vízda & Poelt, *Bibl. Lichenol.*, 16: 363 (1981).

UP-LNK: south-faced slopes, point 2 (in the middle part of slope), on limestone growing together with *Aspicilia calcarea*, *Sarcogyne regularis* and *Varrucaria marmorea*, 14.01.2000, S. Kondratyuk 2012 (KW); north faced slope, point 6, *Querceta* forest with *Laurus nobile* (at the middle of slope), on limestone growing together with *Caloplaca arenaria*, 17.01.2000, S. Kondratyuk 2033 (KW).

4. **CALOPLACA ochracea** (Schaer.) Flagey, *Mem. Soc. d'Emul Doubs* 257 (1886).

UP-LNK: north faced slope, point 5 (at the lower part), *Querceta* forest with *Laurus nobile* and *Ceratonia* and *Platanus*, on limestone, 17.01.2000, S. Kondratyuk 2034 (KW).

5. **CALOPLACA teicholyta** (Ach.) J. Steiner, *Sitzungsber. Kais. Ak. Wiss. Wien, math. nat. Cl.* 104: 388 (1895).

UP-LNK: to E from the point 4, along bottom of the valley with *Platanus* sp., *Quercus caliprinus*; on limestone, 18.09.2000 S. Kondratyuk 20111 (KW).

6. **CANDELARIELLA aurella** (Hoffm.) Zahlbr., *Cat. Lich. Univ.*, 5: 790 (1928).

UP-LNK: to E from the point 4, along bottom of the valley with *Platanus* sp. and *Quercus caliprinus*, on limestone, 18.09.2000 S. Kondratyuk 20111 (KW).

7. **CATILLARIA nigroclavata** (Nyl.) Schuler, *Mitt. Naturwiss. Clubs in*

UP-LNK: north-faced slopes, point 7, (the highest on the slope), on limestone growing together with *Verrucaria calciseda* and *V. marmorea*, 14.01.2000, S. Kondratyuk 2014 (KW); north faced slope, point 5 (at the lower part), *Querceta* forest with *Laurus nobile* and *Ceratonia* and *Platanus*, on limestone growing together with *Verrucaria calciseda*, 17.01.2000, S. Kondratyuk 2034 (KW).

8. **CLAUZADEA metzleri** (Körb.) D. Hawksw., *Lichenologist*, 24: 367 (1992).

UP-LNK: south-faced slopes, point 2 (in the middle part of slope), on limestone growing together with *Aspicilia calcarea*, *Sarcogyne regularis* and *Varrucaria marmorea*, 14.01.2000, S. Kondratyuk 2012 (KW); north faced slope, point 6, *Querceta* forest with *Laurus nobile* (at the middle of slope), on limestone growing together with *Caloplaca arenaria* and *Verrucaria calciseda*, 17.01.2000, S. Kondratyuk 2033 (KW).

9. **Lecania naegeli** (Hepp) Diederich & Van den Boom.

UP-LNK: north faced slope, point 6, *Querceta* forest with *Laurus nobile* (at the middle of slope), on *Quercus* and other trees growing together with *Lecanora argentata*, 17.01.2000, S. Kondratyuk 2033 (KW); north faced slope, point 5 (at the lower part), *Querceta* forest with *Laurus nobile* and *Ceratonia* and *Platanus*, on trees growing together with *Lecanora argentata*, 17.01.2000, S. Kondratyuk 2034 (KW).

10. **LECANIA turicensis** (Hepp) Müll. Arg., *Flora*, 55: 386 (1862).

UP-LNK: south-faced slopes, point 2 (in the middle part of slope), on limestone growing together with *Aspicilia calcarea*, *Sarcogyne regularis* and *Varrucaria marmorea*, 14.01.2000, S. Kondratyuk 2012 (KW).

11. **LECANORA chlaro**tera Nyl., *Bull. Soc. Linn. Normandie*, ser. 2, 6: 274 (1872).

UP-LNK: north-faced slopes, point 7, (the highest on the slope), on bark of *Quercus*, *Laurus* etc. growing together with *Lecanora argentata*, 14.01.2000, S. Kondratyuk 2014 (KW).

12. **OPEGRAPHA atra** Pers., in Usteri, Neue Ann. d. Bot., 1: 30 (1794).

UP-LNK: south-faced slopes, point 3 (the lowest on this slope), on dead roots and twigs of *Quercus*, on shrubs growing together with *Caloplaca cerina*, *Lecanora argentata* and *Physcia adscendens*, 14.01.2000, S. Kondratyuk 2013 (KW).

13. **OPEGRAPHA rufescens** Pers., Usteri, Neue Ann. Bot., I: 29 (1794).

North-faced slopes, point 7, (the highest on the slope), on on bark of *Quercus*, *Laurus* etc. growing together with *Lecanora argentata*, 14.01.2000, S. Kondratyuk 2014 (KW); north faced slope, point 5 (at the lower part), *Querceta* forest with *Laurus nobile* and *Ceratonia* and *Platanus*, on bark of trees growing together with *Lecanora argentata* and *Lecidella elaeochroma*, 17.01.2000, S. Kondratyuk 2034 (KW).

14. **STAUROTHELE hymenogonia** (Nyl.) Th. Fr., Bot. Notiser 40 (1865).

UP-LNK: south-faced slopes, point 2 (in the middle part of the slope), on limestone growing together with *Aspicilia calcarea*, *Sarcogyne regularis* and *Varrucaria marmorea*, 14.01.2000, S. Kondratyuk 2012 (KW).

15. **Verrucaria muralis** Ach., Meth. Lich.: 115 (1803).

UP-LNK: south faced slope, point 1 (the highest one), on limestone growing together with *Aspicilia calcarea*, *Sarcogyne regularis*, *Varrucaria marmorea*, and *Verrucaria nigrescens*, 14.01.2000, S. Kondratyuk 2011 (KW); north faced slope, point 6, *Querceta* forest with *Laurus nobile* (at the middle of slope), on limestone growing together with *Caloplaca arenaria*, 17.01.2000, S. Kondratyuk 2033 (KW), north faced slope, point 5 (at the lower part), *Querceta* forest with *Laurus nobile* and *Ceratonia* and *Platanus*, on limestone, 17.01.2000, S. Kondratyuk 2034 (KW).

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1. Galun M. & Mukhtar A. 1996. Checklist of the lichens of Israel // *Bocconea*. — 1996. — 6. — P. 149—171.
2. Kondratyuk S.Ya., Navrotskaya I.L., Zelenko S.D., Wasser S.P., Nevo E. The first checklist of lichen-forming and lichenicolous fungi of Israel / Eds. E. Nevo & S.P. Wasser. — Kiev — Haifa, 1996. — 136 p.
3. Kondratyuk S.Y. & Zelenko S.D. New lichens and lichenicolous fungi from Israel and the Near East // *Ukr. Botan. Journ.* — 2002. — 59, N 5. — P. 598—607.
4. Navrotskaya I.L., Kondratyuk S.Y., Wasser S.P., Nevo E. & Zelenko S.D. Lichens and lichenicolous fungi new for Israel and other countries // *Israel Journ. of Plant Sciences*. — 1996. — 44. — P. 181—196.
5. Temina M., Kondratyuk S.Ya., Zelenko S.D., Nevo E. & Wasser S.P. Lichen-Forming, Lichenicolous and Allied Fungi of Israel // Eds. S.P. Wasser & E. Nevo. — A.R.G. Gantner Verlag K.G., 2005. — 384 p.

6. Wasser S.P., Nevo E., Vinogradova O.N. Diversity of cryptogamic plants and fungi in «Evolution Canyon», Nahal Oren, Mount Carmel Natural Preserve, Israel // Israel Journ. of Plant Sciences. — 1995. — 43. — P. 367—383.

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НОВІ ТА РІДКІСНІ ДЛЯ ІЗРАЇЛЮ ЛИШАЙНИКИ І ЛИХЕНОФІЛЬНІ ГРИБИ З ВЕРХНЬОЇ ГАЛІЛЕЇ

Наведено 17 нових (*Bagliettoa baldensis*, *B. parmigerella*, *Buellia dispersa*, *Catillaria lenticularis*, *Chromatochlamys vezdae*, *Lecania cuprea*, *L. fuscella*, *Leptogium tenuissimum*, *Opegrapha subelevata*, *Porina aenea*, *P. byssophila*, *Rinodina pyrina*, *Schismatomma picconianum*, *Strangospora delitescens*, *Toninia athallina*, *Verrucaria sorbicola*, *Vouaxiella lichenicola*) для Ізраїлю видів лишайників. Для всіх таксонів подано описи, що включають синоніми, посилання на діагнози, поширення в Ізраїлі та загальне поширення. Вказано місцезнаходження 15 нових для деяких регіонів Ізраїлю видів лишайників (*Bacidina phacodes*, *Bactrospora patellarioides*, *Bagliettoa parmigera*, *Caloplaca ochracea*, *C. teicholyta*, *Candelariella aurella*, *Catillaria nigroclavata*, *Clauzadea metzleri*, *Lecania naegelii*, *L. turicensis*, *Lecanora chlarotera*, *Opegrapha atra*, *O. rufescens*, *Staurothele hymenogonia*, *Verrucaria muralis*). Наведено також нові локалітети для 10 інших видів лишайників (*Aspicilia calcarea*, *Caloplaca arenaria*, *C. cerina*, *Lecanora argentata*, *Lecidella elaeochroma*, *Physcia adscendens*, *Sarcogyne regularis*, *Verrucaria calciseda*, *V. marmorea*, *V. nigrescens*).

Ключові слова: лишайники, ліхенофільні гриби, *Bagliettoa*, *Caloplaca*, *Catillaria*, *Chromatochlamys*, *Lecania*, *Opegrapha*, *Toninia*, *Verrucaria*, *Ізраїль*, *нові види*, *Азія*, *Верхня Галілея*

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НОВЫЕ И РЕДКИЕ ДЛЯ ИЗРАИЛЯ ЛИШАЙНИКИ И ЛИХЕНОФИЛЬНЫЕ ГРИБЫ ИЗ ВЕРХНЕЙ ГАЛИЛЕИ

Приведено 17 новых (*Bagliettoa baldensis*, *B. parmigerella*, *Buellia dispersa*, *Catillaria lenticularis*, *Chromatochlamys vezdae*, *Lecania cuprea*, *L. fuscella*, *Leptogium tenuissimum*, *Opegrapha subelevata*, *Porina aenea*, *P. byssophila*, *Rinodina pyrina*, *Schismatomma picconianum*, *Strangospora delitescens*, *Toninia athallina*, *Verrucaria sorbicola*, *Vouaxiella lichenicola*) для Израиля видов лишайников. Для всех таксонов даны описания, включающие синонимы, ссылки на диагнозы, распространение в Израиле и общее распространение. Указаны местонахождения 15 новых для некоторых регионов Израиля видов лишайников (*Bacidina phacodes*, *Bactrospora patellarioides*, *Bagliettoa parmigera*, *Caloplaca ochracea*, *C. teicholyta*, *Candelariella aurella*, *Catillaria nigroclavata*, *Clauzadea metzleri*, *Lecania naegelii*, *L. turicensis*, *Lecanora chlarotera*, *Opegrapha atra*, *O. rufescens*, *Staurothele hymenogonia*, *Verrucaria muralis*). Приведены также новые локалитеты для 10 других видов лишайников (*Aspicilia calcarea*, *Caloplaca arenaria*, *C. cerina*, *Lecanora argentata*, *Lecidella elaeochroma*, *Physcia adscendens*, *Sarcogyne regularis*, *Verrucaria calciseda*, *V. marmorea*, *V. nigrescens*).

Ключевые слова: лишайники, лихенофильные грибы, *Bagliettoa*, *Caloplaca*, *Catillaria*, *Chromatochlamys*, *Lecania*, *Opegrapha*, *Toninia*, *Verrucaria*, *Израиль*, *новые виды*, *Азия*, *Верхняя Галилея*.