



SERGIY KONDRATYUK¹, SERGIY ZELENKO¹,
EVIATAR NEVO², SOLOMON WASSER²

¹M.H. Kholodny Institute of Botany, National Academy
of Sciences of Ukraine

2, Tereshchenkivska str., 01601 Kiev, Ukraine

²International Center for Cryptogamic Plants and Fungi,
Institute of Evolution

University of Haifa, Mount Carmel, Haifa 31905, Israel

**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*, *Vouxiella 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.) Vězda, [in Poelt et Vězda], *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 I (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.) Vězda et Poelt, [in Poelt et Vězda], *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** (Schaeerer) Korb., *Syst. Lich. Germ.*: 122, tab. 3, fig. 2, 1855.

SYNONYMS: *Lecanora pallida* v. *fuscella* Schaeerer, *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) Korb., *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; *Killiasia athallina* (Hepp) Haf., *Catillaria athallina* (Hepp) Lyngé

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 crest 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) Vězda, 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) Vězda & 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 naegellii** (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) Mull. 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 chlorotera** 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., 1: 29 (1794).

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 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).

Acknowledgement

Authors are grateful to our colleagues of the Dept of Lichenology and Bryology, namely Dr. O.G. Roms, N.G. Beznis, L.P. Popova, N.M. Fedorenko and T.O. Smerechynska (KW, Kiev, Ukraine) for support of all kinds as well as technical help during preparation of summarizing paper on lichen-forming and lichenicolous fungi of Israel and the Near East, as well as to Profs. E. Nevo and S.P. Wasser (Haifa, Israel) for initiating of this project, for support and help with the arrangement of expeditions.

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.

Recommended for publication
by I.O. Dudka

Submitted 07.02.2005

С. Кондратюк¹, С. Зеленко¹, Е. Нево², С. Вассер^{1,2}

¹ Інститут ботаніки ім. М.Г. Холодного НАН України, Київ, Україна

² Міжнародний центр криптогамних рослин та грибів, Хайфа, Ізраїль

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*, *Vactrospora patellarioides*, *Bagliettoa parmigera*, *Caloplaca ochracea*, *C. teicholyta*, *Candelariella aurella*, *Catillaria nigroclavata*, *Clauzadea metzleri*, *Lecania naegeli*, *L. turicensis*, *Lecanora chlorotera*, *Opegrapha atra*, *O. rufescens*, *Staurothele humenogonia*, *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*

С. Кондратюк¹, С. Зеленко¹, Э. Нево², С. Вассер^{1,2}

¹ Інститут ботаніки ім. Н.Г. Холодного НАН України, Київ, Україна

² Международный центр криптогамных растений и грибов, Хайфа, Израиль

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*, *Vactrospora patellarioides*, *Bagliettoa parmigera*, *Caloplaca ochracea*, *C. teicholyta*, *Candelariella aurella*, *Catillaria nigroclavata*, *Clauzadea metzleri*, *Lecania naegeli*, *L. turicensis*, *Lecanora chlorotera*, *Opegrapha atra*, *O. rufescens*, *Staurothele humenogonia*, *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*.