

## The first record of *Bacidia reagens* (*Ramalinaceae*) for Eurasia

Y. V. Gerasimova<sup>1</sup>, L. A. Konoreva<sup>1,2</sup>, S. V. Chesnokov<sup>1</sup>

<sup>1</sup>Komarov Botanical Institute, Prof. Popov Str., 2, St. Petersburg, 197376, Russia;  
lolik.fedya@yandex.ru, chsvbinran@gmail.com

<sup>2</sup>Polar-Alpine Botanical Garden and Institute, Kirovsk, 184256, Russia;  
ajdarzapov@yandex.ru

**Abstract.** *Bacidia reagens* Malme, a corticolous lichen species, is reported as new to Eurasia. The species was found in the Transbaikal Territory of Eastern Siberia in a humid locality on the bark of *Sorbus* sp. Its morphology, worldwide distribution and ecology are briefly outlined.

**Keywords:** *Bacidia*, *Ramalinaceae*, Transbaikal Territory, Eastern Siberia, new species to Eurasia, Russia.

## Первая находка *Bacidia reagens* (*Ramalinaceae*) для Евразии

Ю. В. Герасимова<sup>1</sup>, Л. А. Конорева<sup>1,2</sup>, С. В. Чесноков<sup>1</sup>

<sup>1</sup>Ботанический институт им. В. Л. Комарова РАН, ул. Профессора Попова, д. 2, Санкт-Петербург, 197376, Россия; lolik.fedya@yandex.ru, chsvbinran@gmail.com

<sup>2</sup>Полярно-альпийский ботанический сад-институт им. Н. А. Аврорина КНЦ РАН, Кировск, 184209, Россия; ajdarzapov@yandex.ru

**Резюме.** Накипной лишайник *Bacidia reagens* Малме впервые обнаружен на территории Евразии. Вид найден в Забайкальском регионе Восточной Сибири во влажном местообитании на коре *Sorbus* sp. Приводится краткое морфологическое описание, данные о распространении и экологии вида.

**Ключевые слова:** *Bacidia*, *Ramalinaceae*, Забайкальский край, Восточная Сибирь, новый вид для Евразии, Россия.

The genus *Bacidia* currently includes approximately 40 species in Russia. This figure is constantly changing, as there are some regions where the genus is poorly investigated and, on account of their small size and inconspicuous appearance they are often overlooked by collectors. This is particularly true of *Bacidia reagens*, a badly underinvestigated species which still requires the attention of researchers.

During revision of the lichen collection from Transbaikal Territory of Eastern Siberia several specimens of *B. reagens* were found. The species is here described on the basis of the protologue, literature (Malme, 1935; Ekman, 1996) and new measurements. The specimens are deposited in the herbarium of the Komarov Botanical Institute in St. Petersburg (LE). Measurements were made with Zeiss stereo and light microscopes under higher magnification (40×) with the application of K, C and JKJ in the sections.

***Bacidia reagens*** Malme, 1935, Ark. Bot. 27A(5): 20. — Type: [Brazil], «Rio Grande do Sul: Santo Angelo pr. Cachoeria», Malme 970 (lectotype S, not seen).

*Bacidia reagens* is characterized by having a continuous, thin grayish brown thallus, in places cracked or areolate; flat or slightly convex small apothecia, disc grey to grey-brown or dark brown with a greyish hue, surrounded by a darker margin; pale yellow-brown to brown-yellow hypothecium; diffuse grey to grey-brown hues in the upper part of hymenium and the edge of proper exciple K+, C+ purplish (Plate I, 1, 2).

Apothecia in Eastern Siberian material range from 0.25 to 0.60 mm wide (average 0.40 mm), which differs from holotype measurements, ranging from 0.5 to 1.0 mm (Malme, 1935), but agrees well with the measurements of S. Ekman — from 0.3 to 0.8 mm (Ekman, 1996). The opposite situation is observed regarding spore measurements: (39.2)45.5–45.5(56.4) × 1.5–3.0 µm (Eastern Siberian material), which is in agreement with the holotype and data provided by S. Ekman [(35.5)45.0(50.0) × 1.5–2.0 and (22)29–59(69) × 1.6–2.9 µm, respectively] (Malme, 1935; Ekman, 1996).

Selected illustrations: S. Ekman (1996: 141).

Specimens examined: **Russia**. Transbaikal Territory, Stanovoye Highlands, Kodar Ridge, the Anarga River, 56°56'09.0" N, 117°37'18.1" E, 755 m a. s. l., near a waterfall, on the bark of *Sorbus* sp., 09.07.2013, Konoreva, LE L-11654; the first canyon to the W of Anarga River, 56°54'09.9" N, 118°02'04.3" E, 816 m a. s. l., on the bark of *Sorbus* sp., 10.07.2013, Konoreva, LE L-11655.

According to S. Ekman (1996), *B. violascens* Kalb et Vězda is very similar to *B. reagens* in pigmentation, but differs in having shorter and wider fusiform spores. Unlike similar species, such as *Bacidia circumspecta* (Nyl. ex Vain.) Malme and *B. igniarii* (Nyl.) Oxner, *B. reagens* mainly differs by the reaction of pigmented parts of apothecia.

Distribution and ecology. *B. reagens* has only been known from a few localities until the present study. This «corticicola» species was reported for the first time from Rio Grande do Sul in southern Brazil (Malme, 1935). It was then reported by S. Ekman as occurring in the north of Florida, Louisiana and southern California, where it inhabited shady and humid localities on the bark of hardwoods, including *Acer macrophyllum*, *Nyssa sylvatica* and *Quercus agrifolia* (Ekman, 1996). *B. reagens* was later reported from the two localities — in the Santa Ynez Mountains north of Santa Barbara, California (USA), and in Sierra de San Francisco, Baja California (Mexico), on the bark of *Quercus agrifolia* and *Prosopis* sp. in forested mountain slopes at 500–1000 m a. s. l. (Nash et



Fig. The known world distribution of *Bacidia reagens*.

*al.*, 2004). The species was later found on a *Picea* branch in Fairbanks-North Star Borough in Alaska along Chena River (Dillman *et al.*, 2012). In Transbaikal Territory *B. reagens* was also found in humid localities on the bark of *Sorbus* sp., at altitudes of 755 and 816 m a. s. l. in the Kodar Ridge.

The distribution of *B. reagens* has so far been considered to be restricted to subtropical areas north and south of the neotropics (Ekman, 1996; Nash *et al.*, 2004). However, the occurrence of *B. reagens* in Alaska represents a disjunct distribution (Dillman *et al.*, 2012), and the discovery of this species in Eastern Siberia extends its known area (Fig.).

The authors would like to thank the conductors for assistance in the expedition, and William Purvis for correcting English. The study was supported by the Russian Foundation for Basic Research (grant № 14-04-01411).

## References

- Dillman L. K., Ahti T., Björk R. C., Clerc P., Ekman S., Goward T., Hafellner J., Pérez-Ortega S., Printzen S., Savić S., Schultz M., Svensson M., Thor G., Tønsberg T., Vitikainen O., Westberg M., Spribille T. 2012. New records, range extensions and nomenclatural innovations for lichens and lichenicolous fungi from Alaska, U.S.A. *Herzogia*. 25(2): 177–210.
- Ekman S. 1996. *The corticolous and lignicolous species of Bacidia and Bacidina in North America. Opera Bot.* 127: 1–148.
- Malme G. O. A. 1935. Bacidiaceae Itineris Regnelliani primi. *Ark. Bot.* 27(5): 1–40.
- Nash T. H. III, Ryan B. D., Diederich P., Gries C., Bungartz F. 2004. *Lichen Flora of the Greater Sonoran Desert Region. Vol. 2. Arizona:* 742 p.

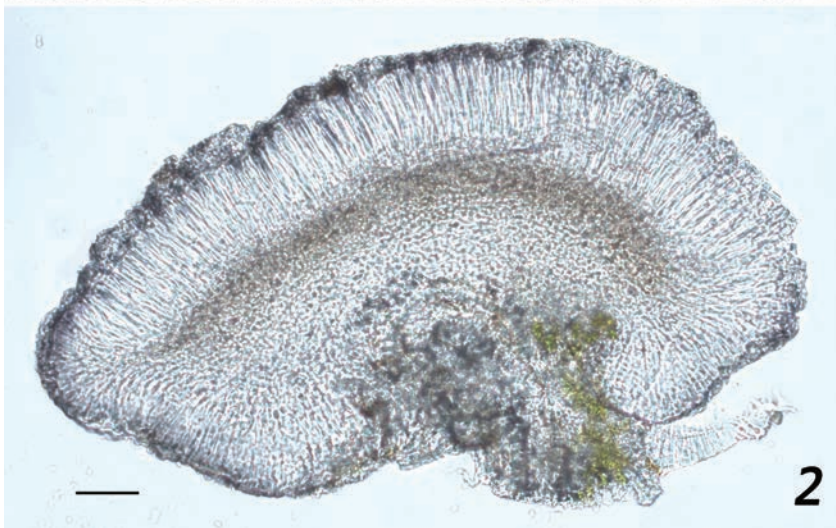


Plate I. *Bacidia reagens* (LE L-11655).

1 — thallus and apothecia; 2 — the section of apothecium. Scale bars: 1— 1.0 mm;  
2 — 20  $\mu$ m.