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Myxomycetes of Eşmişek Plateau (Kırıkhan-Hatay)

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ABSTRACT
The present study covers the myxomycetes obtained from the natural environment with the Humidity Chamber Technique at Eşmişek Plateau in 2018 and 2019. From the field and laboratory studies, 35 species were identified belonging to16 genera within the 9 families. Only two species were collected in natural environment, while 33 species were obtained with the Humidity Chamber Technique. In the present study, it was determined that *Didymium difforme* (Pers.) Gray*, Arcyria cinerea* (Bull.) Pers*, Comatricha nigra* (Pers.) J. Schröt*, C. ellae* Härk. were the most prevalent species.

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Eşmişek Yaylası Miksomisetleri (Kırıkhan- Hatay)

ÖZET
Bu çalışmanın konusu, 2018-2019 yılları arasında Eşmişek Yaylası'ndaki doğal ortamdan ve Nem Odası Tekniği ile elde edilen miksomisetlerle ilgilidir. Arazi ve laboratuvar çalışmaları sonucunda 16 cins ve 9 ailede toplam 35 tür bildirilmiştir. Doğal ortamdan sadece iki tür toplanmıştır. Nem Odası Tekniği kullanılarak 33 tür elde edilmiştir. Çalışmamızda en yaygın tür *Didymium difforme, Arcyria cinerea, Comatricha nigra, C. ellae* olarak belirlenmiştir.

Araştırma Makalesi

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INTRODUCTION
Slime molds are abundant in terrestrial ecosystems in several parts of the world. They play a very important role in the nutrient cycle. Furthermore, various factors such as the temperature and humidity strongly affect the distribution of slime molds in nature (Stephenson and Stempen 1994). Slime molds often form fruiting bodies at different periods of the year. Especially in tropical climates, fruiting occurs after the rainfall season. In temperate regions, the fruiting bodies could be observed abundantly by early summer and until late autumn. Several slime mold species may be observed under favorable conditions. However, some myxomycete species are only observed at certain times of the year due to substrate origins. Myxomycete appear on different substrates such as rotting barks, dead leaves and plant remains. The prevalence and diversity of slime mold species varies based on biotic and abiotic factors (Farr 1981; Baba et al., 2018). The present study aimed to determine the myxomycete diversity in Eşmişek Plateau located in Hatay/Kırıkhan region in Turkey.

Eşmişek plateau (Kırıkhan-Hatay/Turkey) is the area located around Ceylanlı village (Figure 1). The plateau was used as a settlement between 1865 and 1955. After 1955, Eşmişek gradually lost its prominence as a permanent settlement due to its proximity to agricultural fields and the development of the means of transportation. Until 1990s, 150 households lived in the plateau. Currently, only a few households remain. The economic activities in the plateau mainly include wood cutting due to the presence of larch and feathered oak trees. Furthermore, charcoal production, animal husbandry, fruit and vegetable agriculture are common in the plateau. Eşmişek plateau is located in the Adana province in the Mediterranean region. Also, the plateau is located on the central part on Amanos Mountains that extend in the northeast-southwest direction. It is 15 kms away from Kırıkhan and 35 km from Iskenderun districts. The plateau is located at the

middle of the passage between Amanos Amik plain and the coastal region. Its altitude is 800-850 m. Eşmişek plateau could be reached by a road surrounded by winding forests and maquis plants (Çetin 2010; Baba et al. 2015).

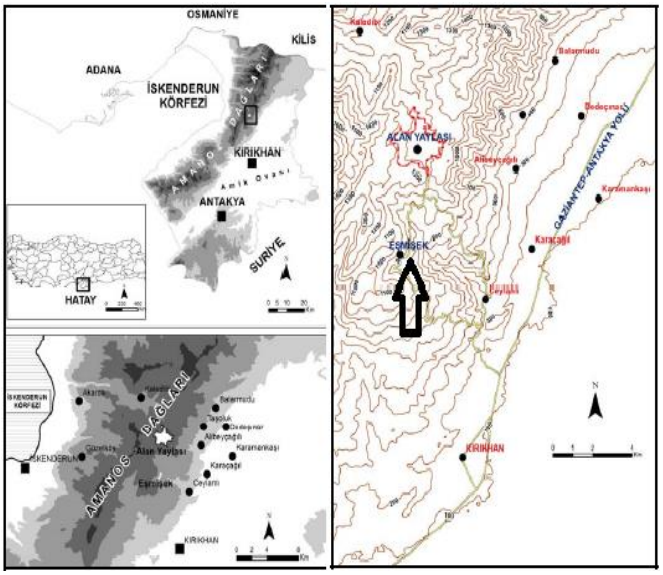

Figure 1. Topography map of Eşmişek plateau and its surroundings (Çetin 2010).

Şekil 1. Eşmişek Yaylası ve Çevresinin Topoğrafya Haritası (Çetin 2010).

In the study area, stunted plant species such as myrtle, bay, carob and oleander are observed. Garig or frigana communities have emerged in areas that were damaged by the machinery. In the areas where human destruction is not significant, mixed pine, larch, fir, oak, juniper and plane tree forests are dominant. Where human factor was effective, poplar, willow, acacia, laurel, olive, fig, pomegranate, walnut, almond, apple, pear, quince, plum, cherry, cherry, apricot trees and various vegetables are grown (Çetin 2010).

The study area is located in the Mediterranean climate. The average annual relative humidity in the stations around the plateau is between 38-74%. Compared to the districts around the Eşmişek plateau, the temperature is lower, pressure and rainfall are higher due to the high altitude of the plateau. It could be stated that Mediterranean climate prevails in the study area; summers are hot and dry, winters are warm and wet, and an average of 180-200 days are summer days annually. An average annual temperature in Eşmişek plateau is 16.8-20 ºC, with an average precipitation of 557–935 mm. In all stations, the lowest monthly average temperature was observed in January and the highest monthly average temperature was observed in August. The highest precipitation is observed in winter. The lowest rainfall is recorded in summer (Çetin 2010; Baba et al. 2019).

MATERIAL and METHOD

Collection of samples

Slime mold samples were collected in Eşmişek district and vicinity in 2018 and 2019. Field studies were conducted in autumn, winter, spring and summer (Table 1). Natural myxomycete samples were collected from natural substrate, cortex, woods, and debris material. Samples were transported to the laboratory in small carton boxes. Furthermore, after the field studies, myxomycete fructifications were obtained from the moist chamber culture in laboratory environment. Petri dishes were coated with filter paper and substrates were placed in the dishes. Distilled water was added to the petri dishes and the samples were allowed to soak for 24 hours. Then, excess water was removed. The water pH was measured before the excess water was discharged during the application of the moist chamber technique and it was determined that the sample pH values were generally neutral. The developed culture media were stored in scattered light at 22-25 ° C for three months. The culture media were screened for myxomycete plasmodia or fruiting bodies weekly. The moist chamber with the developing myxomycete samples was allowed to dry and the myxomycetes were dried for one week. Fungarium specimens were stored in the Mustafa Kemal University, Faculty of Arts and Sciences Department of Biology.

Table 1. Dates of field trips and number of samples collected.

Çizelge 1. Arazi gezilerinin tarihleri ve toplanan örnek sayısı.

4 season land dates *(4 sezon arazi tarihleri)*	Number of collected samples (165) (Toplanan örnek sayısı (165))
20.10.2018	1- 31(31 samples)
15.01.2019	32-70 (39 samples)
01.05.2019	71-137 (67 samples)
07.07.2019	138 165 (28 samples)

The samples were identified under stereomicroscope and light microscopy. General structure, fructification type, shape, color, macroscopic measurements, the presence or absence of lime or the color and shape of the samples were examined with the stereomicroscope. Capillitium, pseudo-capillitium and columella or pseudo-columella, capillitium formation, shape and size, condition of columella (free or attached) were examined with light microscopy. Furthermore, the characteristics of the pseudo-capillitium and the shape, color, size and ornamentation of the spores were examined. The myxomycete samples were identified based on various resources (Martin and Alexopoulos 1969; Farr 1981; Stephenson and Stempen 1994; Alexopoulos et al., 1996; Neubert et al., 2000; Ergül et al., 2005; Sesli et al., 2016; Lado and Eliasson 2017; Baba and Sevindik, 2019).

RESULTS and DISCUSSION

Eighty-three slime mold species were obtained from Eşmişek Plateau in the 4 seasons in 2018 and 2019. The studies conducted on myxomycete samples obtained from the natural environment and with the moist chamber culture revealed 35 myxomycete species in 16 genera and 9 families. Two myxomycete samples were collected from natural environment. And, 81 myxomycete samples (33 species) were grown in the moist chamber culture in laboratory conditions. The list below includes the recorded myxomycetes, arranged alphabetically by genus and by species. The list includes information on the epithet, collector ID, locality, habitat, altitude, collection date, and private herbarium number for each taxon.

List of species

Systematic classification

Eukaryota
Protozoa
Amoebozoa
Myxomycetes

Echinostitales

Echinosteliaceae

1- ***Echinostelium minutum*** de Bary

Syn: *Heimerlia hyalina* Höhn.

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood of *Quercus* sp, 15.01.2019, Baba 39, 62, 66; on dead bark of *Prunus domestica* L., 01.05.2019, Baba 87; on dead bark of *Malus* sp., Baba 152.

Liceales

Cribrariaceae

2- ***Cribraria violacea Rex***

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood of *Quercus* sp. 01.05.2019, Baba 91.

Liceaceae

3- ***Licea kleistobolus G.W. Martin***

Syn: *Kleistobolus pusillus* C. Lippert
Orcadella pusilla (C. Lippert) Hagelst.

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood of *Pinus nigra* L., 15.01.2019, Baba 32.

4- ***L. pescadorensis Chao H. Chung &*** C.H. Liu

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood of *Pinus* sp., 15.01.2019, Baba 55; on dead wood of *Quercus* sp. 01.05.2019, Baba 84.

Reticulariaceae

5- ***Reticularia splendens*** Morgan

Syn: *Enteridium splendens* (Morgan) T. Macbr.
E. rozeanum (Rostaf.) Wingate
Reticularia rozeana Rostaf.

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on living *Pyrus communis* L. wood, Natural, 01.05.2019, Baba 92.

Trichiales

Arcyriaceae

6- ***Arcyria cinerea*** (Bull.) Pers.

Syn: *Trichia cinerea* Bull.
Arcyria albida Pers.
A. cinerea F. *subglobosa* Meyl.
A. cinerea F. *rubella* Y. Yamam.
Stemonitis glauca Trentep.

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood of *Prunus armeniaca* L., 20.10.2018, Baba 6; on dead wood of *Salix* sp, 15.01.2019, Baba 40, on wood of *Populus* sp. 45, 47; on dead wood of *P. nigra*, 01.05.2019, Baba 88, 104; on dead wood of Fig. Baba 141.

7- ***A. globosa*** Schwein.

Syn: *Craterium globosum* (Schwein.) Fr.
Nassula globosa (Schwein.) Fr.
Lachnobolus globosus (Schwein.) Rostaf.

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood of *Pinus* sp. 15.01.2019, Baba 40, 47; on dead wood of *Malus domestica* L., 01.05.2019, Baba 86.

8- ***A. incarnata*** (Pers. ex J.F. Gmel.) Pers.

Syn: *Stemonitis incarnata* Pers. ex J.F. Gmel.
Arcyrella incarnata (Pers. ex J.F. Gmel.) Racib.
Arcyria lilacina Schumach.
A. flexuosa (Schumach.) Rabenh.
A. irregularis Racib.,
A. brunnea Nann.-Bremek. & Y. Yamam.
Trichia flexuosa Schumach.
Clathroides irregulare (Racib.) E. Sheld.

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood of *P. nigra*, 15.01.2019, Baba 40.

9- ***A. insignis*** Kalchbr. & Cooke

Syn: *Clathroides insigne* (Kalchbr. & Cooke) E. Sheld.
Arcyria insignis var. *dispersa* Hagelst.
A. insignis var. *macrospora* Yu Li & Q. Wang

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood of *Quercus* sp. 20.10.2018, Baba 4.

10- ***A. pomiformis*** (Leers) Rostaf.

Syn: *Mucor pomiformis* Leers
Stemonitis pomiformis (Leers) Roth
S. lutea Trentep.
S. ochroleuca Trentep.
Arcyria albida var. *pomiformis* (Leers) Lister
A. lutea (Trentep.) Schwein
A. ochroleuca (Trentep.) Fr.
A. silacea Ditmar
A. globosa Weinm.
A. winteri Wettst.
A. pomiformis var. *heterospora* G. Lister

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood of *P. nigra*, 20.10.2018, Baba 31.

11- ***Perichaena corticalis*** (Batsch) Rostaf.
Syn: *Lycoperdon corticale* Batsch
Trichia fuscoatra Sibth.
T. gymnosperma Pers.
T. circumscissa Schrad.
Perichaena fuscoatra (Sibth.) Rostaf.
P. abietina (Alb. & Schwein.) Fr. & Lindgr.
P. liceoides Rostaf.
P. corticalis var. *liceoides* (Rostaf.) G. Lister
Licea abietina (Alb. & Schwein.) Wallr.
Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood of *Quercus cerris* L., 15.01.2019, Baba 40, on dead bark of *Q. cerris*, 01.05.2019, Baba 77, 86, 96, on dead wood of malogranatum, Baba 88.

12- ***P. depressa*** Lib.
Syn: *Stegasma depressum* (Lib.) Corda
Trichia circumscissa Wallr.
Licea artocreas Berk. & Ravenel
Hemiarcyria applanata Cooke & Massee,
Perichaena artocreas Berk. & Ravenel
P. irregularis Berk. & M.A. Curtis,
P. applanata (Cooke & Massee) Massee
Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead bark of *P. communis*, 15.01.2019, Baba 44.

Trichiaceae

13- ***Trichia decipiens*** (Pers.) T. Macbr., N. Amer.
Syn: *Arcyria decipiens* Pers.
Lycoperdon pusillum Hedw.
Trichia pusilla (Hedw.) G.W. Martin
T. fallax Pers.
T. virescens Schumach.
T. decipiens var. *gracilis* (Meyl.) Meyl.
T. decipiens f. *rubiformis* Meyl.
T. decipiens var. *hemitrichoides* Brândza
Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood of *P. nigra*, 20.10.2018, Baba 4.

Physarales

Didymiaceae

14- ***Didymium bahiense*** Gottsb.
Syn: *Didymium bahiense* var. *microsporum* Hochg., Gottsb. & Nann.-Bremek.
Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead bark of *Q. cerris*, 01. 05. 2019, Baba 93.

15- ***D. balearicum*** Ing
Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead bark of *Quercus* sp., 01. 05. 2019, Baba 71.

16- ***D. clavus*** (Alb. & Schwein.) Rabenh.
Syn: *Physarum clavus* Alb. & Schwein.
Didymium melanopus var. *clavus* (Alb. & Schwein.) Fr.
D. commutabile Berk. & Broome, J. Linn.
D. neglectum Massee
D. masseeanum Sacc. & Syd.
Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood of *P. nigra*, 20.10.2018, Baba 24.

17- ***D. difforme*** (Pers.) Gray
Syn: *Diderma difforme* Pers.
Physarum difforme (Pers.) Link
Didymium tubulatum E. Jahn
D. persoonii T. Macbr.
D. difforme var. *repandum* G. Lister
Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood and bark of *P. nigra*, 20.10.2018, Baba 24, 26, on dead bark of *Quercus* sp., 15.01.2019, Baba 41, on leaves of *Juglans regia* L., 20.10.2018, Baba 4, 9, 14, on filter paper, Baba 19, on dead leaves and bark of *Q. cerris*, 01.05.2019, Baba 83, 85, 94, 137, on dead leaves and wood of *P. communis*, 07.07.2019, Baba 162, 163.

18- ***D. dubium*** Rostaf.
Syn: *Didymium wilczekii* Meyl.
Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood of *Q. cerris*, 20.10.2018, Baba 24.

19- ***D. megalosporum*** Berk. & M.A. Curtis
Syn: *Didymium fulvellum* Massee
D. discoideum K.S. Thind & H.S. Sehgal
Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on filter paper, 15.01.2019, Baba 40, on dead wood of *P. nigra*, 01.05.2019, Baba 97.

20- ***D. melanospermum*** (Pers.) T. Macbr.
Syn: *Physarum melanospermum* Pers.
P. melanopus Fr. & Palmquist
Didymium farinaceum Schrad.
D. melanopus (Fr. & Palmquist) Fr.
D. melanospermum f. *erythropus* Buchet
D. melanospermum var. *calcipes* Y. Yamam. & Shuang L. Chen
Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead leaves of *P. nigra*, Natural, 01.05.2019, Baba 79.

21- ***D. squamulosum*** (Alb. & Schwein.) Fr. & Palmquist
Syn: *Diderma squamulosum* Alb. & Schwein.
Didymium effusum Link
D. costatum Fr.
D. squamulosum F. *costatum* (Fr.) Rostaf.
D. angulatum Peck
D. affine Raunk.
D. bonianum Pat.
D. squamulosum var. *virgineum* Massee
D. effusum var. *maculatum* L.F. Celak.
D. annulatum T. Macbr.
Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood, leaves and fruit bark of malogranatum, 15.01.2019, Baba 32, 33, 34; on wood of *P. nigra*, 01.05.2019, Baba 85, on bark of *Quercus* sp., 07.07.2019, Baba 160.

Physaraceae

22- ***Badhamia dubia*** Nann.-Bremek.

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead leaves of *Salix* sp. L., 01.05.2019, Baba 93.

23- *B. utricularis* (Bull.) Berk.

Syn: *Sphaerocarpus utricularis* Bull.
Physarum ovoideum Schumach.
P. hyalinum var. *chalybaeum* Alb. & Schwein.
Badhamia utricularis var. *sessilis* Rostaf.
B. utricularis var. *splendens* Rostaf.
B. varia Massee
B. utricularis var. *microspora* Dulger & Gonuz

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead bark of *Q. cerris*, 15.01.2019, Baba 54.

24- *P. album* (Bull.) Chevall.

Syn: *Sphaerocarpus albus* Bull.
Stemonitis alba (Bull.) J.F. Gmel.
Trichia alba (Bull.) Raeusch.
Physarum album (Bull.) Moesz
P. nutans Pers.
P. nutans var. *iricolor* Brândza
P. nutans f. *rubrum* Nann.-Bremek. & Y. Yamam.
P. nutans var. *rubrum* (Nann.-Bremek. & Y. Yamam.) Chao H. Chung

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood of *P. nigra*, 20.10.2018, Baba 1, 4, 6.

25- *P. cinereum* (Batsch) Pers.

Syn: *Lycoperdon cinereum* Batsch
Didymium cinereum (Batsch) Fr.
Physarum cinereum var. *globosum* Alb. & Schwein.
P. cinereum var. *aureonodum* Nann.-Bremek. & Finger
P. cinereum var. *magninodosum* Y. Yamam.

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood of *P. nigra*, 01.05.2019, Baba 85.

26- *P. notabile* T. Macbr., N. Amer.

Syn: *Didymium connatum* Peck, Bull.
Physarum connatum (Peck) G. Lister,

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead bark of *Q. cerris*, 15.01.2019, Baba 60.

Stemonitales

Stemonitidaceae

27- *Collaria lurida* (Lister) Nann.-Bremek.

Syn: *Comatricha lurida* Lister

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood of *P. nigra*, 01.05.2019, Baba 105.

28- *Comatricha ellae* Härk.

Syn: *Comatricha nannengae* Härk.

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood of *P. nigra,* 15.01.2019, Baba 34, 42, 57, 66; on dead wood of *Q. cerris*, 01.05.2019, Baba 106; on dead wood of *M. domestica*, 07.07.2019, Baba 155.

29- *C. nigra* (Pers. ex J.F. Gmel.) J. Schröt

Syn: *Stemonitis nigra* Pers. ex J.F. Gmel.
S. atrofusca Pers.
Comatricha friesiana var. *oblonga* (Rostaf.) Cooke
C. nigra var. *oblonga* (Rostaf.) J. Schröt.
C. persoonii var. *gracilis* L.F. Celak.

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood of *P. nigra,* 15.01.2019, Baba 40, 54, 58; on bark of *Q. cerris*, 01.05.2019, Baba 72, on wood of *Q. cerris*, Baba 84; on wood of debris, 07.07.2019, Baba 164, 165.

30- *C. pulchella* (C. Bab.) Rostaf.

Syn: Stemonitis pulchella C. Bab.
Comatricha pulchella f. *obovata* Rostaf.
C. pulchella var. *obovata* (Rostaf.) Cooke
C. pulchella var. *fusca* (Lister) G. Lister

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead wood and bark of *P. nigra*, 15.01.2019, Baba 58.

31- *C. tenerrima* (M.A. Curtis) G. Lister

Syn: *Stemonitis tenerrima* M.A. Curtis
S. tenerrima Berk. & M.A. Curtis
Comatricha persoonii var. *tenerrima* (M.A. Curtis) Lister
C. pulchella var. *tenerrima* (M.A. Curtis) G. Lister
C. argentinae J.R. Deschamps
C. tenerrima var. *macrospora* Rammeloo

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead bark of *P. nigra*,01.05.2019, Baba 72.

32- *Lamproderma scintillans* (Berk. & Broome) Morgan

Syn: *Stemonitis scintillans* Berk. & Broome
Lamproderma arcyrioides var. *irideum* Cooke
L. irideum (Cooke) Massee

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead leaves of *Populus* sp., 15.01.2019, Baba 70.

33- *Macbrideola cornea* (G. Lister & Cran) Alexop.

Syn: *Comatricha cornea* G. Lister & Cran
Macbrideola vesiculifera Novozh.

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead woods of *P. nigra*, 01.05.2019, Baba 80.

34- *Stemonitis fusca* Roth,

Syn: *Trichia nuda* With.
Stemonitis fasciculata Pers. ex J.F. Gmel.

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead woods of *P. nigra*, 15.01.2019, Baba 32.

35- *Stemonitopsis amoena* (Nann.-Bremek.) Nann.-Bremek.

Syn:*Comatricha amoena* Nann.-Bremek.

Specimen examined: Turkey: Hatay Province Kırıkhan Eşmişek Plateau, altitude 850 m, on dead woods and bark of *Q. cerris*, 20.10.2018, Baba 9, 30, on dead wood of *Salix* sp., 15.01.2019, Baba 70; on dead bark of *Q. cerris*, 01.05.2019, Baba 81.

In the present study, *Echinosteliaceae* (1 species), *Cribrariaceae* (1 species), *Liceaceae* (2 species), *Reticulariaceae* (1 species), *Arcyriaceae* (5 species), *Trichiaceae* (1 species), *Didymiaceae* (8 species), *Physaraceae* (5 species) and *Stemonitidaceae* (8 species) were identified. The distribution percentages were similar to those reported by Yağız and Afyon (2007) and Baba (2008). The most common genera were *Didymium*, *Comatricha* and *Arcyria*. In the present study, the most prevalent species were *D. difforme, A. cinerea, C. nigra, C. ellae*. These four species constituted 40% of the total samples. Certain myxomycete species are cosmopolitan. Humidity and temperature are the most important factors in distribution.

Sixty-seven substrates were collected in May and 29 slime mold species were obtained, out of which two were natural, and the efficiency ratio was 44%. Thirty-nine substrates were collected in January and 31 slime mold species were obtained, and the efficiency ratio was 80%. Thirty-one substrates were collected in October and 17 myxomycetes were obtained, and the efficiency ratio was 54.8%. Twenty-seven substrates were collected in July and 6 slime mold species were obtained, and the efficiency ratio was 22.2%. The best months for finding Plasmodial slime molds are January (winter), October (autumn) and May (spring). Relative humidity is optimal due to rain and the temperature is mild in these months. In our study area, rainy and sunny periods have changed during these months. Primary characteristics of these months in our study area are the alteration of rainy and sunny periods. Myxomycete variety is characterized by hot-wet conditions rather than cold-dry conditions (Ko et al. 2011).

In the present study, the mean number of species per genus (S/G) was 2.18. In previous studies, myxomycete biodiversity was reported as 3.64 in Antakya, and as 2.3 in Kuseyr mountain. The present study findings was significant when compared to other studies. For example, S/G ratio was reported as 3.65 in Mountain Lake in North America, as 2.24 in Cheat Mountain, as 3.04 S/G in northwestern India, and as 4.13 S/G in southern India. Diversity increases with the decrease in S/G ratio (Stephenson et al. 1993; Baba 2015). In the present study, it was found that the S/G ratio was lower when compared to other reports. This finding demonstrated that myxomycete diversity was higher in our study area.

The substrate preferences of Mycetozoa member species are not wide. However, myxomycete fungi can be classified based on substrate properties. Corticolous myxomycetes benefit from the plant bark. Lignicolous myxomycete fungi like wood particles in plants. Foliicolous myxomycetes utilize the plant leaves. Lignicol species exhibit cosmopolitan distribution. Species obtained in the present study were identified in several other studies as well (Yağız and Afyon 2007; Baba and Tamer 2008; Ergül and Akgül 2011; Ocak and Hasenekoğlu 2013; Ergül et al. 2016; Zümre et al. 2019).

CONCLUSION

Eşmişek plateau is a forested area in Central Amanos Mountains, partly secluded from human influence and mostly covered by green pastures under the influence of the Mediterranean climate. Due to the rich vegetation and climatic factors, a rich myxomycete population was expected in the area, since the ecological demands of myxomycetes are similar to those of the fungi. In the present study, 35 slime mould species in 9 families and 16 genera were listed. This study contributed to the myxobiota of Hatay province and Turkey in general.

Statement of Conflict of Interest

Authors have declared no conflict of interest.

Author's Contributions

The contribution of the authors is equal

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