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Hypericum aegypticum L. and *Dianthus fruticosus* L. on the island of Zakinthos (Greece)

Abstract

Boratyński A., Tomlik A., Zieliński J., 1989. *Hypericum aegypticum* L. and *Dianthus fruticosus* L. on the island of Zakinthos (Greece). *Arbor. Kórnickie* 34: 55-63.

In the paper the occurrence of *Hypericum aegypticum* L. and *Dianthus fruticosus* L. on the island of Zakinthos is described. The latter species is reported for the first time from the island.

Additional key words: chorology, systematics.

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HYPERICUM AEGYPTICUM L.

H. aegypticum is a low, densely branched, erect or ascending shrub up to 0.5 (-1), exceptionally to 2 m high. Its leaves are small, bluish, usually densely imbricately arranged on the stems; small, heterostyllic flowers are singly situated in leaf axils.

In the cosmopolitan genus *Hypericum*, which includes about 400 species heterostylly is a very rare phenomenon, therefore species characterized by it are sometimes separated in the independent genus *Triadenia* Spach (Ornduff 1975). Besides *H. aegypticum* only two species have heterostyllic flowers – an endemic Cretean *H. ascyrum* (Greuter) Robson and *H. russegeri* Fenzl from the Near East and Western Anatolia. In the newest studies those three morphologically isolated species are combined into the section *Adenostrias* (Jaub. et Spach) R. Keller of the genus *Hypericum* (Robson 1977).

H. aegypticum has a quite unusual, strongly fragmented range (fig. 1). It is formed by a few stands in the Northern Africa (Morocco, Algeria, Libya) and on the Mediterranean islands from Sardinia and Malta in the West up to Crete in the East (Arrigoni 1965, Robson 1970-1972).

In Greece, outside Crete, this species grows on the Ionian Islands of Cephalonia and Zakinthos. It was also reported from the Peloponnesus, but unfortunately without a precise locality (Halácsy 1901).

On the island of Zakinthos *H. aegypticum* was found for the first time by

Margot at Krionero (Margot and Reuter 1837). This locality was specially searched by Bornmueller, but without success (Bornmueller 1928). In 1940 it was collected by Davis (1107, E) at Agios Georgios. In 1941 the species was again reported from 2 localities – from western coasts in the vicinity of Volimes and from the southern end of the island, below Hagios Leon (Ronniger 1941).

During our stay on Zakynthos, at the turn of May and June 1988 we observed *H. aegypticum* on a few new stands, mostly along the western sea shores of the island (fig. 1). We were surprised by exceptionally abundant occurrence of

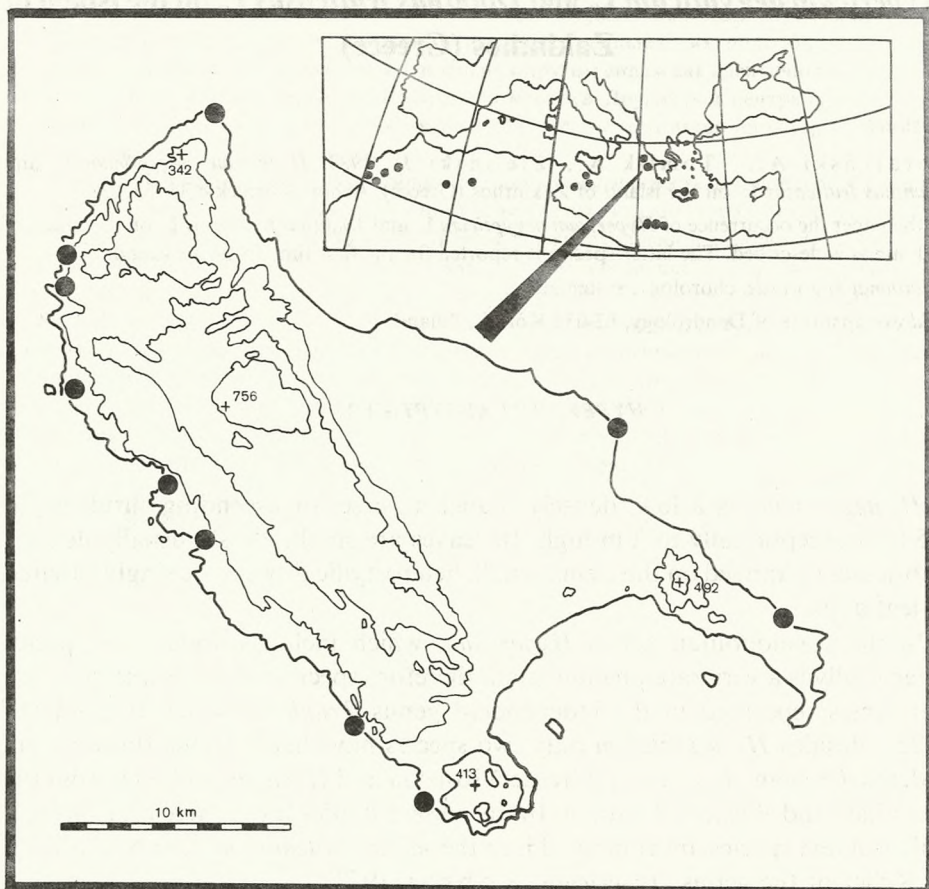


Fig. 1. The area of *Hypericum aegypticum* (according to Robson 1970–1972), and distribution of this species on the Zakynthos island

Hypericum on the majority visited localities. It grows most abundantly on the northwestern foreland of the island near Corinth, not far from the lighthouse. It occurs there on open, gentle, strongly eroded slopes scarcely a few meters above the sea level (fig. 2). On these sites, exposed to the wind gusts and probably also to higher waves, the species grows only up to 20–30 cm high, forming on some places

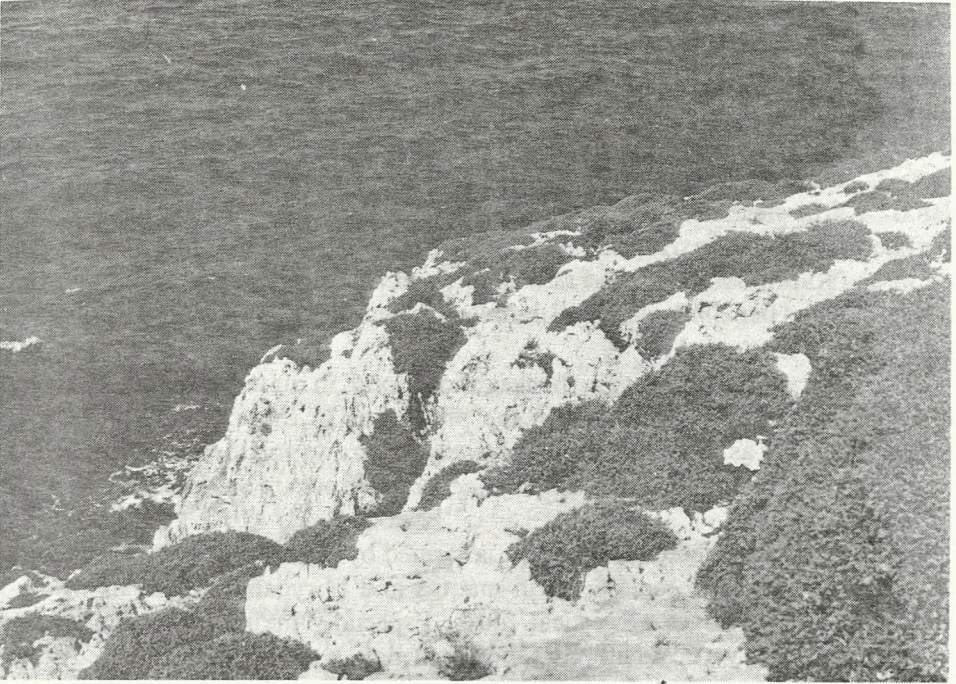


Fig. 2. Community of *Hypericum aegypticum* on the rocky seashore near Akr. Skinari, Zakynthos Island (Phot. A. Boratyński)

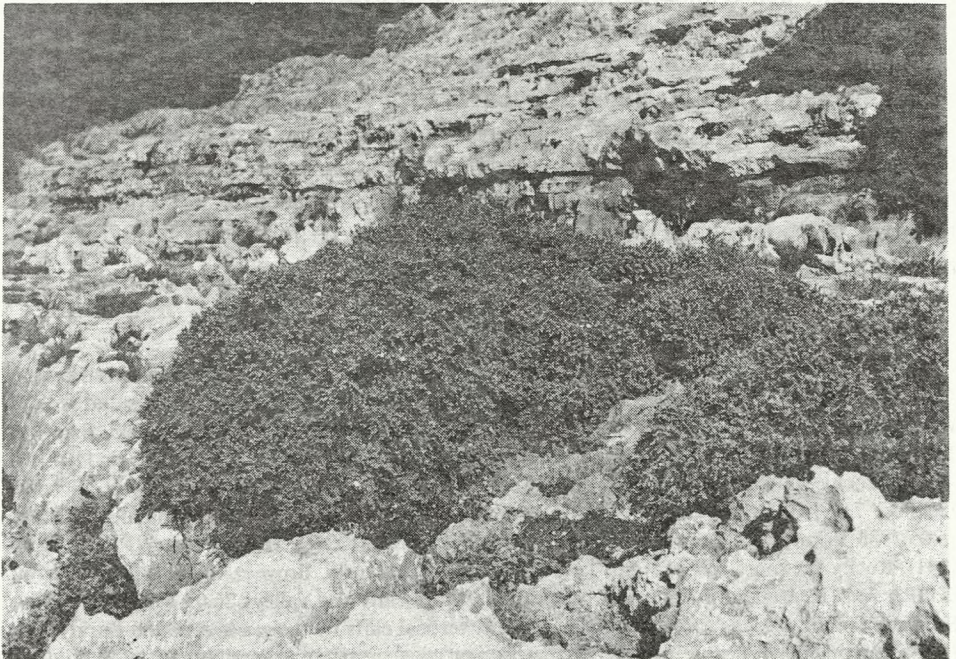


Fig. 3. The low, compact clump of *Hypericum aegypticum* on the open rocky slope (Akr. Skinari) (Phot. A. Boratyński)

even close and dense carpets (fig. 3). It does not demonstrate there any significant damages, and at the some time it flowers and fructifies abundantly. In such places it is accompanied only by a few specimens of *Schoenus nigricans* L., *Arthrocnemum fruticosum* L., *Limonium* sp. and *Dactylis glomerata* L.s.b. A little further from the sea shore side by side with *Hypericum* are such herbaceous plants as *Helichrysum italicum* (Roth) G. Don fil., *Centaurium erythraea* Rafin, *Silene* sp., and also single, as a rule strongly deformed by wind maquis species like *Smilax aspera* L., *Juniperus phoenicea* L., *Myrtus communis* L. and *Pistacia lentiscus* L.

H.aegypticum also appears in the neighbourhood, in quite dense but relatively low maquis and in some places in the phrygana. In those communities it is scattered usually as single individuals, however, it grows and looks well and fruits quite abundantly. In the same manner *H.aegypticum* occurs on the sea shore west of Volimes.

On other stands, where the coastline is formed by precipitous and very craggy cliffs we have met *H. aegypticum* in maquis and phrygana as well as in crevices and on the ledges of vertical rocks. Especially luxuriant specimens we have observed on vertical cliffs by the Vroma Bay, west of Maries, close to the port.

From our observations it appears, that *H. aegypticum* most abundantly grows on the open, sunny places on which it is not endangered by the competition of other plants. We met this species also on more shady places, in the gorges and even in quite dense understorey of *Pinus halepensis* forests, but on such stands plants were significantly weaker and only occasionally had flowers and fruits.

H. aegypticum occurs probably along the whole southwestern coasts of Zakynthos. Taking into account its abundant occurrence on the island, one can suppose, that the species finds there optimal conditions for development. Its vitality is manifested by numerous, young plants coming from self-seeding. On most of the Zakynthian localities *H. aegypticum* is presently not endangered, however, considering the rarity of the species in Greece and relict character of its range, it seems that the species deserves protection.

LOCALITIES

Akr. Skinari N of Corinth. Rocky calcareous slopes by the sea. 24.05.1988 Boratyński, Browicz, Tomlik, Zieliński 730-732 [KOR]; Volimes (Ronniger 1941), Rocky, sea-shore slopes and valleys W of Volimes, also in maquis between Volimes and the sea shore 25.05.1988 Boratyński, Browicz, Tomlik, Zieliński 746, 750 [KOR]; Agios Georgios, rocky limestone slope 11.1.1940 Davis 1107 [E]; Vertical rocky walls by Vroma Bay, S of Anafonitria 25.05.1988 Boratyński, Browicz, Tomlik, Zieliński 739 [KOR]; Rocky vertical walls and sea-shore maquis and phrygana near Kampi 26.05.1988 Boratyński, Browicz, Tomlik, Zieliński 759,760 [KOR]; Hagios Leon (Ronniger 1941), Rocky sea shore SW of Agios Leon 26.05.1988 Boratyński, Browicz, Tomlik, Zieliński 762 [KOR]; Akr. Kentinaria S of Agalas, vertical, sea-shore cliffs and valleys 26.05.1988 Boratyński, Browicz, Tomlik, Zieliński 766 [KOR]; Akr. Keri, vertical cliffs by the sea 27.05.1988 Boratyński, Browicz, Tomlik, Zieliński 768 [KOR]; Rocky sea coast near Ano Vassilikos E of Zakynthos 28.05.1988 Boratyński, Browicz, Tomlik, Zieliński 789 [KOR]; Kryonero (Margot and Reuter 1837)

DIANTHUS FRUTICOSUS L.

To the genus *Dianthus* L. belong about 300, almost only herbaceous species, distributed in the temperate zone of the Northern Hemisphere. One of the few, shrubby species of the genus is *D. fruticosus*. Its stems are woody at least at the base and reach quite a large size, up to few or even a dozen or so centimeters in diameter. Leaves of the species are more or less fleshy, evergreen, and flowers are large and impressive, compound in few- to many-flowered, upright, inflorescences.

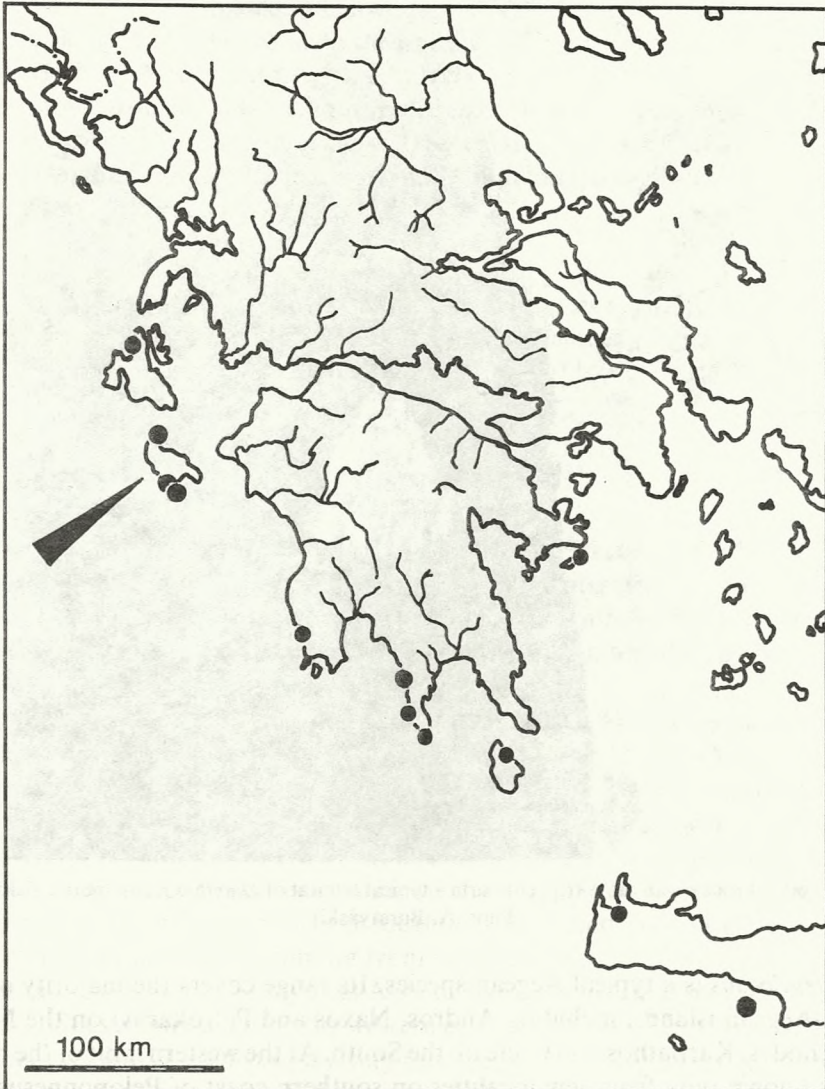


Fig. 4. Distribution of *Dianthus fruticosus* L. subsp. *occidentalis* Runemark (according to Runemark 1980, supplemented)

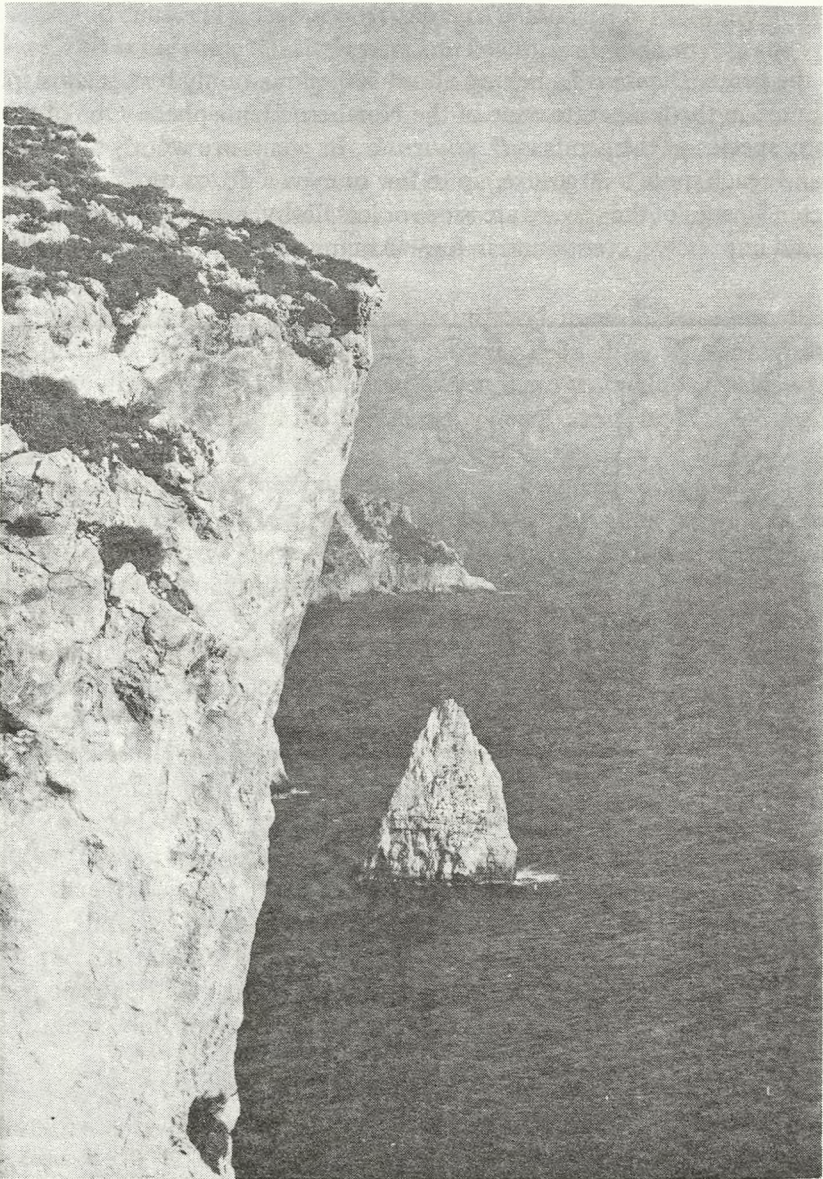


Fig. 5. Vertical rocky walls at Akr. Kentinaria – typical habitat of *Dianthus fruticosus* on Zakynthos (Phot. A. Boratyński)

D. fruticosus is a typical Aegean species. Its range covers the majority of the south-Aegean islands, including Andros, Naxos and Petrokaravi on the North and Rhodes, Karpathos and Crete on the South. At the western limit of the range it was known only from few localities on southern coast of Peloponnesus and from the distinctly isolated locality on the Ionian island of Cephalonia. In May 1988 we found *D. fruticosus* on three new localities on Zakynthos island, located

south of Cephalonia (fig. 4). The species grows on the northern and southern forelands of Zakynthos, close to sea shore, on the edges of inaccessible rocky cliffs (fig. 5). Everywhere we have observed single specimens only, however it is probable, that these localities are much more abundant in fact; the vertical rocky walls are unfortunately unpenetrable and hardly visible from the land-side.

D. fruticosus is characterized by extremely large variability, and in view of this the morphological range of the taxon was quite differently understood (Rechinger 1943, Davis 1953, Tutin 1964, Runemark 1980). From the most recent, Runemark's (l. c.) investigations it appears, that *D. arboreus* L. and *D. rodhius* Rech.f., treated till now as the independent species, are in fact conspecific with *D. fruticosus*. In the opinion of Runemark it is possible to subdivide *D. fruticosus* into eight, relatively distinct, allopatric subspecies.

Specimens from Zakynthos, morphologically as well as geographically match with *D. fruticosus* L. subsp. *occidentalis* Runemark; they are up to 40–50 cm high, their leaves are fleshy, flattened, up to 35–40 mm long, and flowers are relatively large, with 8–10 bracts.

LOCALITIES

Akr. Skinari N of Corinth, rocky vertical slope by the sea 24.05.1988 Boratyński, Browicz, Tomlik, Zieliński 733 [KOR]; Akr. Kentinaria S of Agalas, rocky sea shore, only young plants, 27.05.1988 Boratyński, Browicz, Tomlik, Zieliński in obs.; Akr. Keri, rocky ledges of vertical sea-shore cliffs 27.05.1988 Boratyński, Browicz, Tomlik, Zieliński 769 [KOR].

SUMMARY

When working on the woody flora of the Ionian Island of Zakynthos at the turn of May and June 1988 the authors paid special attention to two interesting species – *Hypericum aegypticum* L. and *Dianthus fruticosus* L. The former species has been recorded from Zakynthos earlier, while the latter one has been found there for the first time by the authors.

H. aegypticum, a rare mediterranean species, has in Greece its most easterly stands. They are known from Crete and from the Ionian islands Cephalonia and Zakynthos (fig. 1). The last of them is probably the place of the most abundant occurrence of *H. aegypticum* in the whole of Greece. It is known here from 10 localities, 5 of which were found by the authors. *H. aegypticum* finds on the island optimal conditions for its development, which is manifested both by an abundant occurrence of the species on most of localities (figs. 2 and 3) and by the presence of numerous young plants coming from self-seeding.

Dianthus fruticosus L. – a typical Aegean species was found on Zakynthos on three localities scattered along the western coast of the island (fig. 4). In contrast to *H. aegypticum*, *D. fruticosus* is a very rare species on Zakynthos. It grows singly close to the sea, on edges of bare, inaccessible, vertical rocky cliffs (fig. 5). Specimens from Zakynthos, both morphologically and geographically match *D. fruticosus* L. subsp. *occidentalis* Runemark

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***Hypericum aegypticum* L. i *Dianthus fruticosus* L. na wyspie Zakynthos (Grecja)**

Streszczenie

W trakcie florystycznych prac terenowych prowadzonych na jońskiej wyspie Zakynthos na przełomie maja i czerwca 1988 roku autorzy zwracali specjalną uwagę na dwa interesujące gatunki – *Hypericum aegypticum* L. i *Dianthus fruticosus* L. Pierwszy nich był już z Zakynthos podawany wcześniej, drugi natomiast został tu znaleziony po raz pierwszy przez autorów.

Rzadki śródziemnomorski gatunek, jakim jest *Hypericum aegypticum* ma w Grecji swoje najdalej ku wschodowi wysunięte stanowiska. Rośnie on tu na Krecie oraz na Wyspach Jońskich – Kefalinii i Zakynthos (ryc. 1). Ostatnia z wymienionych wysp jest prawdopodobnie miejscem najobfitszego występowania *H. aegypticum* w całej Grecji. Obecnie gatunek ten znany jest na Zakynthos z 10 stanowisk, z czego 5 to stanowiska nowe. *H. aegypticum* znajduje na wyspie optymalne warunki do swego rozwoju, na co wskazują zarówno jego obfite występowanie na poszczególnych stanowiskach (ryc. 2 i 3), jak i bardzo liczne młode rośliny pochodzące z samosiewu.

Dianthus fruticosus L. – typowy egejski gatunek znaleźliśmy na Zakynthos na trzech stanowiskach rozproszonych wzdłuż zachodniego wybrzeża wyspy (ryc. 4). W odróżnieniu od *Hypericum aegypticum*, *D. fruticosus* jest na Zakynthos gatunkiem rzadkim. Rośnie pojedynczo na krawędziach ogołoconych, przybrzojskich, pionowych i często zupełnie niedostępnych skał i klifów (ryc. 5). Okazy z Zakynthos zarówno pod względem morfologii, jak i geograficznie są zbliżone do *D. fruticosus* L. subsp. *occidentalis* Runemark.

Hypericum aegypticum и *Dianthus fruticosus* на острове Закинтос (Греция)*

Резюме

В ходе флористических полевых работ проводимых на Ионическом острове Закинтос в конце мая – начале июня 1988 года, авторы обращали особое внимание на два интересных вида *Hypericum aegypticum* L. и *Dianthus fruticosus* L. Первый из них был уже подан на Закинтос ранее, второй, в свою очередь, был здесь найден авторами впервые.

Редкий средиземноморский вид, каким является *Hypericum aegypticum* имеет в Греции свои наиболее далеко заходящие на восток местообитания. Он расет на Крите, а также на Ионических островах – Кефалиния и Закинтос (рис. 1). Последний из перечисленных островов – Кефалиния и Закинтос (рис. 1) Последний из перечисленных островов является, правдоподобно, местом самого богатого местопроизрастания *H. aegypticum* во всей Греции. В настоящее время этот вид известен на Закинтос на 10 местообитаниях, из которых пять являются новыми. Находит на острове оптимальные условия для своего развития, на что указывают как богатое местопроизрастание на отдельных местообитаниях (рис. 2 и 3), так и многочисленные молодые растения из самосева. *Dianthus fruticosus* L. – типичный Эгейский вид найденный на Закинтос на трех местообитаниях рассеянных вдоль западного побережья острова (рис. 4). В отличие от *Hypericum aegypticum*, *D. fruticosus* является на Закинтос редким видом. Растет он единично по краям обнаженных, вертикальных и часто совершенно недоступных приморских скал и клифов (рис. 5). Особи с острова Закинтос как морфологически так и географически близки к *D. fruticosus* L. subsp. *occidentalis* Runemark.

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