



## Hypothetical Life on Venus. Objects of Unidentified Nature at Venera-9 and Venera-13 Landing sides

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### Abstract

TV imaging is a commonly used modern method in both space research of celestial bodies and the search for extraterrestrial life in the Solar system. In 1975 and 1982, the first TV experiments on the surface of the planet Venus with Soviet landers of the VENERA series were performed. Recently their images were re-examined using modern processing techniques. As a result of these studies, rather specific objects were observed. In their morphology, some of them recalled Earth living forms. Their striking similarity to terrestrial forms was called terramorphism. The number of detected objects of the supposed forms of the flora and fauna of Venus reaches 15. They were found at 3 different landing points, separated by thousands of kilometers. In this paper the authors propose mainly a description of objects the form and nature of which remains, at least partly, incomprehensible

**Keywords:** VENERA Missions, Extraterrestrial Life, Venus Fauna and Flora, Terramorphism

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### Introduction

The ideas of searching for extraterrestrial life usually are based on the postulate of “normal” physical settings, that is, pressure, temperature and, possibly, the composition of the atmosphere of a planet, similar to those present on Earth. But such an approach can be regarded as “terrestrial chauvinism”. On the same postulate a term “habitable zone” of exoplanets orbits is based, also taken as an axiom. However, judging by the statistical data on exoplanets, physical settings close to the conditions on the planet Venus are much more often encountered. Therefore, Venus itself, with its dense and hot (735 K) oxygen-free CO<sub>2</sub>-atmosphere, having a high pressure (9.2 MPa), can be a natural laboratory for research of this kind.

The only direct data available on the surface of the planet are the results obtained from television experiments on VENERA probes in 1975 and 1982 [1-3]. In TV experiments on VENERA landers (1975, October and 1982, March), 41 panoramas (or their fragments) of the surface of Venus were obtained. In the following 42 and 35 years there were no similar missions to Venus; the results of these missions remain unique. They were studied anew, including panoramas that had not previously been analyzed. Several relatively large objects were found, ranging in size from a decimeter to a half meter, with an ordered morphology and symmetry reminiscent of the shapes of terrestrial creatures (small quadrupeds, lizards, snakes and birds). Their striking similarity to terrestrial forms and plants was called terramorphism. Terramorphism intrinsic to certain types of hypothetical Venusian fauna, apparently, relates to the deepest puzzles of searching for life in the Universe. If objects existing under quite different physical conditions exhibit, nevertheless, significant similarity of their shapes, then this phenomenon should be based on certain general natural regularities not yet understood.

In the course of observations, some objects changed their shape or moved, very slowly. One of these objects (the “scorpion”) is seen only in one panorama, but absent in the others. The number of detected objects of the supposed forms of the flora and fauna of Venus, reaches 15. Among the most impressive are the flower, the greenish snake and the lizard-like amisada (shown in Fig. 1; 1, 2, 3). The flower exhibits the white central fleck (a pistil?) surrounded by six to eight light-colored petals. The items in Fig. 1 are found at 3 different landing points, separated by thousands of kilometers and described in [4-7] and others articles. A part of other findings could be unusual geological forms of the planet’s surface or non terramorphic endemic hypothetical living entities.

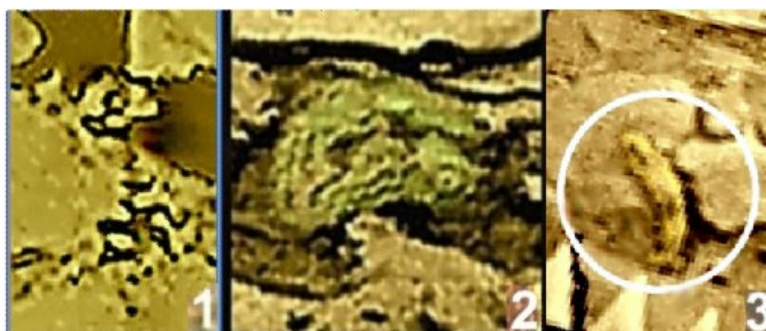


Figure 1: The flower (VENERA-13), the snake and the lizard-like amisada (VENERA-14)

In this paper we present mainly a description of objects the form and nature of which remains, at least partly, incomprehensible. The proposed assumptions, if any, are to be considered in a discussion manner.

### Some Details Of The VENERA-9 Tv Panorama

On October 22, 1975, the probe VENERA-9 landed on the planetary surface, at 31.7°N, 290.8°W, on the day side of the planet Venus. Its cameras transmitted black-and-white images [2]. The resolution of cameras of VENERA-9 was of 21'. The panorama consisted of 517 vertical lines, 115 pixels each. The sweep duration of a single panorama

was 30 minutes. The panoramas of VENERA-9 were practically of low noise but the telemetry data occupied a part of the picture. It was replaced by fragments of the second partial panorama.

The archive data of the television experiment were reprocessed recently, which significantly improved the images resolution and quality (Fig. 2). Despite the initial low resolution of images, a number of hypothetical objects of living nature were found on VENERA-9 panoramas. Analysis of treated VENERA-9 panoramic image [8] revealed objects that might indicate the presence on the planet of hypothetical forms of Venusian fauna and flora.

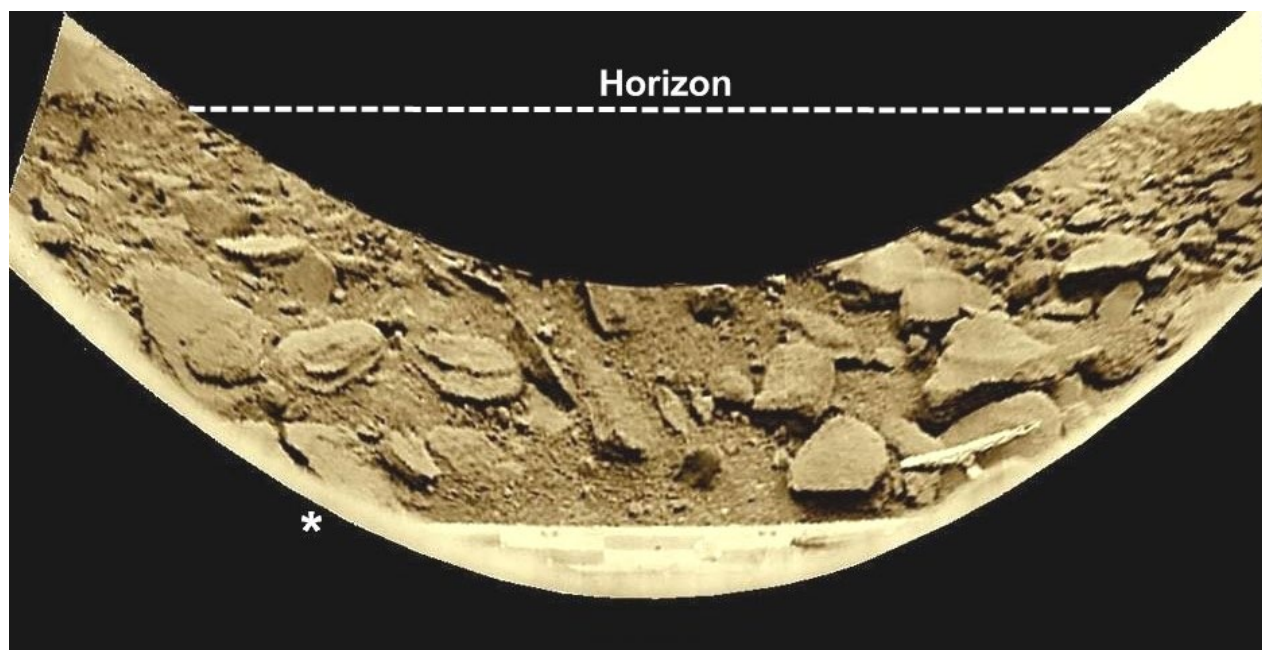


Figure 2: TV-panorama obtained in the VENERA-9 mission, upon additional modern data processing

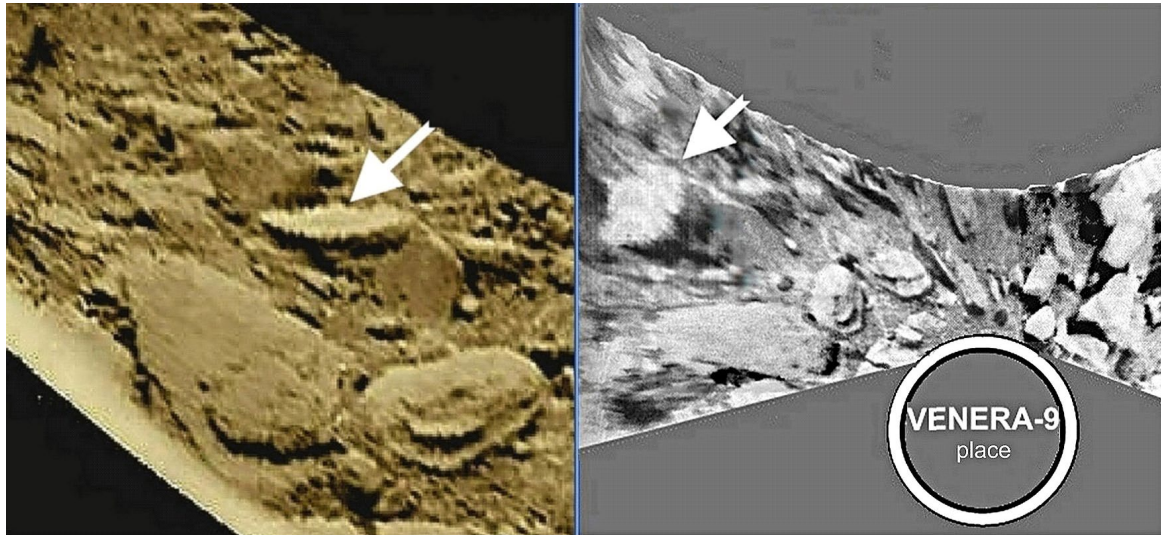
**“Jaggy”, VENERA-9.** On processed VENERA-9 panorama considered in [9], a large elongated bright object stands in having the size about of 1.3 m, with a strange jagged edges, by its contours resembling earthly jagged leaves of trees (Fig. 3). Initially it was supposed that its jagged edges are results of a linear structure of the TV image, however it is not a case for surrounding details. It is nicknamed “Jaggy” and is much

lighter than the surface of surrounding stones. “Jaggy” rose above the surface, with a deep shadow visible under it. “Jaggy” is large, however due to the large distance from the camera (approximately 4 m), the object structure is difficult to define. The photo plan could help. Unfortunately, there is only a working version of the photo plan, based on the VENERA-9 primary data processing. Nevertheless,

it can be seen that in comparison with the surrounding boulders, the “Jaggy’s” structure is more complicated; guessed is a radially and radiant appearance of its periphery (Fig. 3, right side). The photo plan one may considered as a horizontal projection of “Jaggy” (which is more reminiscent of a sea stingray). The photo plan resolution is low and does not allow drawing any specific conclusions about the nature of “Jaggy” and, even more, to attribute it to the flora or fauna.

Jaggy rests on a stone. The elongated shape of details in the edge of the object (Fig. 3, right side) may remind feathers. They are the more pronounced, the closer they are to the edge of Jaggy. It should be

recalled again that the resolution of the VENERA-9 camera was 21', twice worse than that of the VENERA-13 and -14 cameras; so attempts of identifying the “Jaggy” details should be treated with caution. Nevertheless, the symmetrical form of Jaggy on the photo plan allows us to suspect in it an object resembling a bird with almost 1.5-meter span of wings and protruding a 10-15 cm “tail”. So, isn't it a bird of Venus that we see in Fig. 3? It has been noted already that the dense atmosphere of Venus would be a convenient environment for the flight of hypothetical living beings.

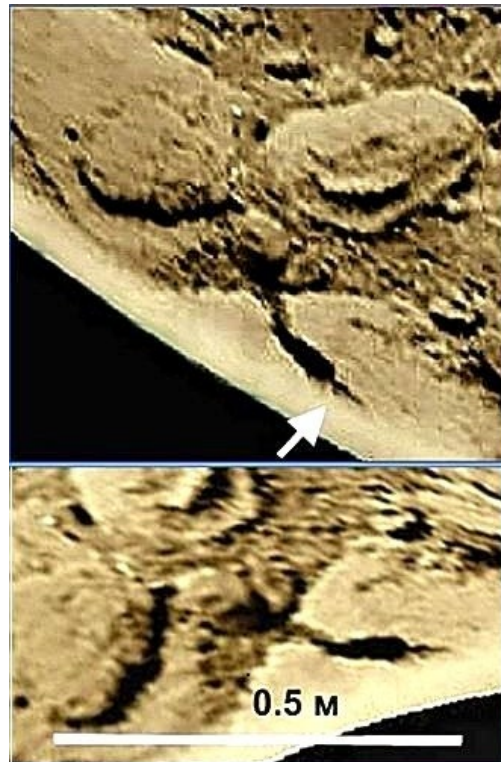


**Figure 3:** “Jaggy” object (arrow) on the processed VENERA-9 panorama (left) and its horizontal projection (photo plan, right). The circle shows the position and size (2m) of the VENERA-9 landing buffer

**“Victim”, VENERA-9.** There is another interesting object close to Jaggy, its place is marked by an asterisk on Fig. 2, first described in [9] and called a “hespera”. From the point of the asterisk on the landing buffer of the VENERA-9, a dark solid track propagates. Further, this track leaves the stone, expands, and ends near a light circular object with a sharpened black upper edge (Fig. 4). Possibly, this is a representative of another kind of Venusian fauna. The track, in itself, is very dark. There are no similar objects on any other panoramas of the VENERA landers. Estimating the density of the track, one may conclude that it is formed by a liquid substance of unknown origin, which cannot be water. The critical water data are 647 K and 22 MPa; therefore, the surface temperature of 735 K is beyond that supercritical for water. At the pressure of 9.2 MPa on the Venusian surface water boils at 403°C. Hence, the presence of liquid water is excluded there. Thus, this substance should be either a high-temperature aqueous solution or a certain unknown liquid medium. One may put forward the following assumption on the origin of the track that starts immediately from

the landing buffer of the lander. If hesperas actually does belong to Venusian fauna, it could have been damaged by the buffer in the course of landing. In attempts to crawl away from the lander, the object could have formed the dark track of liquid substance released from damaged tissues. For Earth animals, this track would be called bloody. (Thus, October 22, 1975, could be considered hypothetically to be the date of the first victim in studies of Venus by terrestrial instruments.)

The position of the hespera on the panorama corresponds to the sixth minute of scanning. The distance at which the object could have crawled away in this time corresponds to 26–30 cm, insofar as the scanning camera was switched on 1 min upon landing of the module. Therefore, the elapsed scanning time (6 min) and coordinates of the hespera location point make it possible to estimate the velocity of displacement accompanied by the formation of the track. Thus, the velocity occurs to be about 6 cm min<sup>-1</sup> or 1 mm s<sup>-1</sup>. This value is close to that found in [7].

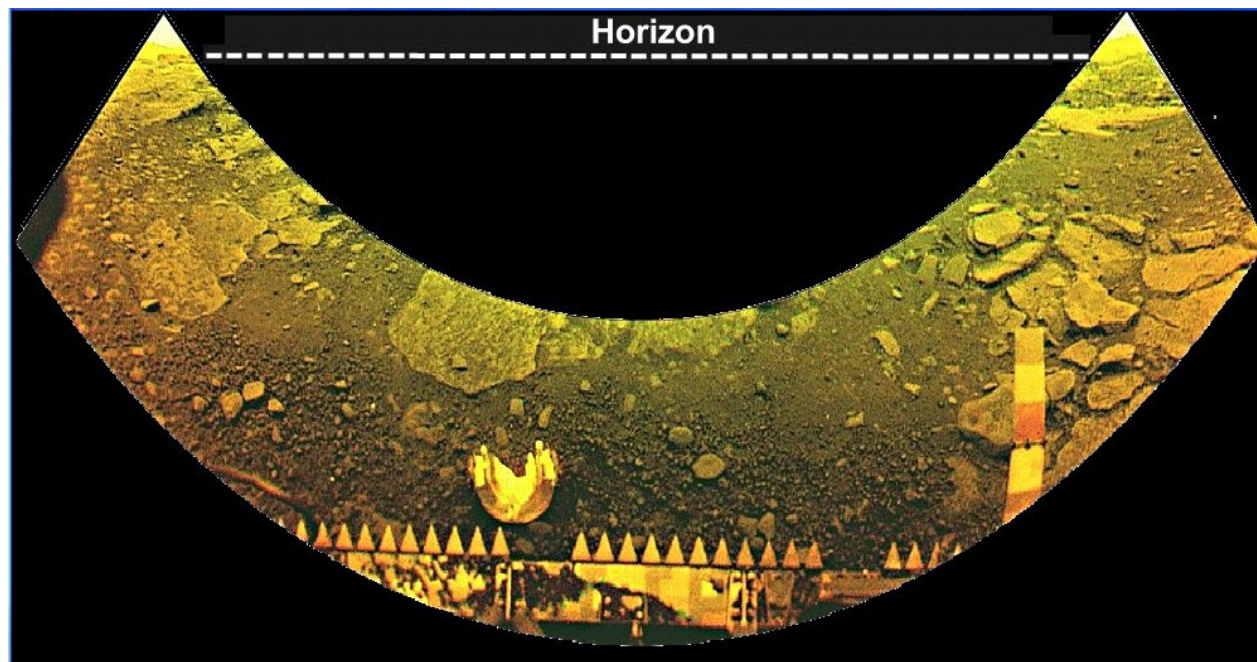


**Figure 4:** The dark track propagated from the landing buffer (here marked by arrow) of the lander, apparently, are formed by the hespera object hypothetically wounded by the lander. The track is produced by a certain liquid substance of unknown origin (liquid water cannot exist on Venus). An object about 18 cm in size has managed to crawl away a distance of 26–30 cm in a time not longer than 6 min. Below, a fragment of a photo plan is given, which makes it possible to measure the relative size of details and to determine their positions

The shape of hespera (upon introducing geometric corrections) and the size scale are illustrated by the photo plan, where the suffering object rests between large stones (Fig. 4). It is difficult to conclude whether or not the object was moving, insofar as the second panorama of VENERA-9 has not allowed the position of hespera to be attained. The dark track, in itself, indicates the fact that the objects under consideration, in the case of actual danger, are capable of moving at a velocity of not less than  $1 \text{ mm s}^{-1}$  (even in a damaged state). It is worth recalling that the “Scorpion” object [8] escaped from the panorama field of view between the 93rd and 119th minutes of functioning of the lander. To this end, the object should move a distance not less than 1 m. In other words, the object should move at a velocity not less than

$4 \text{ cm min}^{-1}$ .

However, in other cases, displacement of objects related to the possible Venusian fauna was not observed. Most likely, the slowness is intrinsic to Venusian fauna and is directly associated with physical properties of their bodies and limited energy resources. This conclusion can also be made for the “Scorpion” object since 1.5 h were required for the simple operation to save itself [8]. One should note here that the energy resources of Earth’s fauna are much greater than those of the hypothetical Venusian fauna. The reason consists in the favorable natural conditions on the Earth’s surface: the presence of the oxidation atmosphere (and the abundance of flora suitable for food).



**Figure 5:** View of the planet's surface at the landing site of the VENERA -13 lander. The view is crushed soil with stone slabs

### Some finds on the VENERA-13 tv panoramas

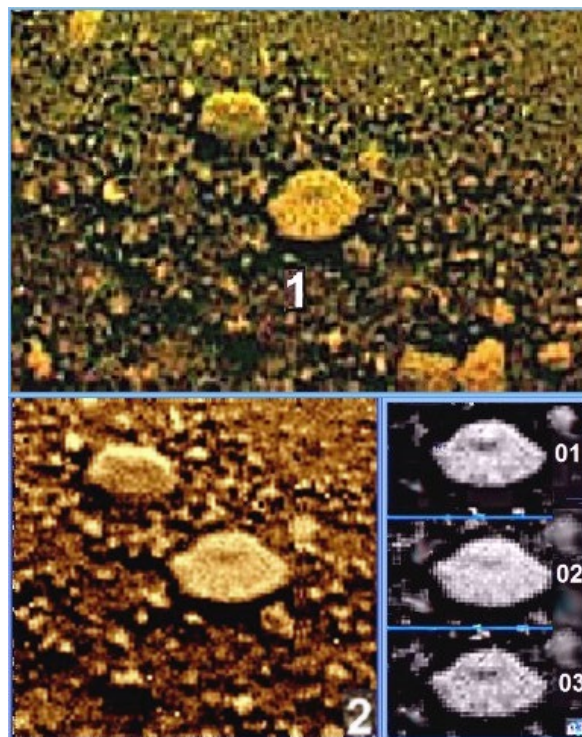
The probe VENERA-13 (March 1, 1982) landing site coordinates were 7.5°S, 303.5°E, and its height above the level of radius 6051 km was 1.9 km<sup>[10]</sup>. The temperature was 735 K (462°C) and the pressure was 8.87 MPa, which corresponds to the atmospheric density 59.5 kg/m<sup>3</sup>, with the composition CO<sub>2</sub> (96.5%) and N<sub>2</sub> (3.5%). The local time was 10:00 am, and the solar zenith was at an angle of 37°. Illumination by the diffused sunlight was 3-3.5 kLux. Since the rotation axis of the planet is almost normal to the orbital plane, seasonal effects are absent; day and night are equal to each other and last 58.4 days each.

The resolution of cameras of VENERA-13 was of 11'. The color panorama consisted of 1000 vertical lines, 211 pixels each. The sweep duration of a single panorama was 13 minutes. The view of the planet's surface at the landing site is shown on Fig.5. When experience using image processing was accumulated, the VENERA-13 panorama allowed an approach to the finer details. An important role was played by additional image processing, image geometric correction and the presence of up to eight duplicates of images that were obtained with

good quality and low levels of noise. This arrangement enabled the selection and staking of their fragments. As a result, it managed to find and learn about a few new types of hypothetical living creatures at the VENERA-13 landing site.

**“Mushroom”, VENERA-13.** Due to the modern processing of the images of the VENERA-13 landing site, several unusual objects were discovered, some of which were presented in <sup>[7]</sup> and that are related to hypothetical forms of Venusian fauna and flora. Descriptions of them were considered and analyzed in the published papers <sup>[7-11]</sup>.

One of the findings on the panorama obtained with camera 1 of the VENERA-13 lander relates to one more kind of hypothetical Venusian life. This interesting object was located in the foreground, relatively close to the VENERA-13 camera lens at a distance of 15 to 20 cm from the landing buffer. The object exhibits explicit similarity to terrestrial mushrooms and is supplied with folded cap (Fig. 6, 1). The “mushroom” object has clearly expressed terramorphic attributes, which, again, indicates biophysical regularities yet unknown at present.

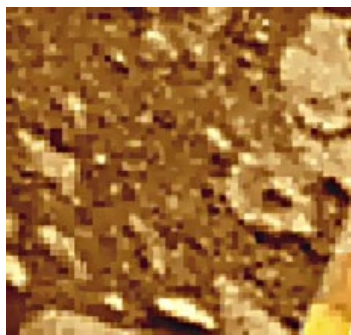


**Figure 6:** (1) Central part of the VENERA-13 panorama with the object reminiscent of a mushroom (object size is close to 8 cm, and it is elevated above the surface, by approximately 3 cm). (2) Fragment of the panorama after new processing (with the corrected geometry) and three different versions of the results after the combined processing of fragments for six panoramas. The radial folded structure of the object surface is similar to that of many kinds of terrestrial mushrooms

The “mushroom” is elevated above the surface by about 3 cm; however, its support is not visible. The diameter of the “mushroom” attains, approximately, 8-9 cm. It is clearly seen on all sequential panoramas of VENERA-13. Despite the object resides in the shadow region under the parachute panel of the lander, the mushroom is the brightest object in the central part of the panorama. The color image of the area is composed of black-and-white and color-divided red and green primary panoramas. Six sequential images were processed by the method of correlative stacking [14], including panoramas that had not been used previously. Three of the resulting versions of black and-white images processing are shown in right hand side of Fig. 6, 2. In each case, the conically folded tent-shaped structure of the object is seen. For the 2-hour long mission on the Venusian surface, no attributes that could testify to motion of the object were found. Apparently, one may relate this object to Venusian mushrooms.

The radially-folded form of the surface of the “mushroom cap” repeats their classical form, as of many mushrooms of the Earth. Perhaps, however, that the “classical” form does not exhaust the findings on the panorama of VENERA-13. On the right, at the color test panel (Fig. 5), there is another object of regular shape, about 8 cm in size, very similar to the terrestrial tree fungus, in the form of an edged half-disk (Fig. 7). On Earth, such tree fungi are often found in the forest as growths on tree trunks.

By virtue of the fortunate close position of the “mushrooms”, their structural details are clearly distinguishable. Again, this allows associating their properties with the most noticeable manifestations of terramorphism. According to the principles of biological classification, the “kingdom of fungi” is independent and does not enter into the fauna or flora.



**Figure 7:** An interesting object of hypothetical Venusian biosphere was located relatively close to the VENERA-13 color test panel. The object's shape exhibits explicit similarity to terrestrial tree fungus

## Conclusion

The scanning cameras of the VENERA landers (1975 and 1982) were intended to produce a general notion about the planet's surface and did not anticipate finding any possible inhabitants of Venus. Nevertheless, certain unusual findings that have a structure similar to the Earth' fauna and flora were found in different areas of the planet. Besides, there are objects the form and nature of which remains at least partly incomprehensible. The planet's Venus surface needs for new investigations with better resolution and longer observation. The special mission, if it ever takes place, should be significantly more complex than VENERA probes.

Special objects found on panoramas of VENERA-14, "skittles" and "luger", are to be presented in the Part 2 of the paper.

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