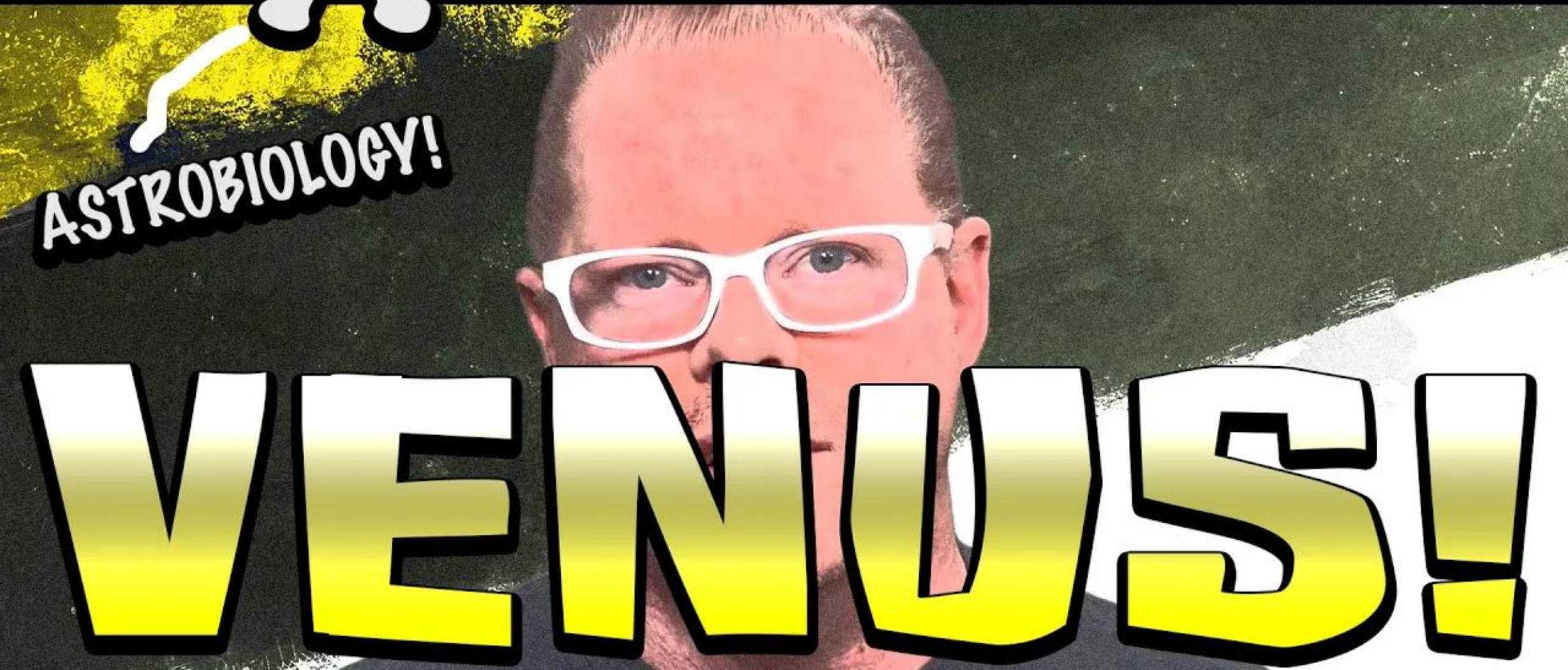
UXO | QUICK LOOK



1
00:00:04,070 --> 00:00:02,389
the royal astronomical society announced

2
00:00:06,309 --> 00:00:04,080
new findings that add support to the

3
00:00:17,530 --> 00:00:06,319
possibility of life in the atmosphere of

4
00:00:23,910 --> 00:00:17,540
our neighboring planet venus

5
00:00:25,750 --> 00:00:23,920
[Music]

6
00:00:27,830 --> 00:00:25,760
i'm jason and today we're going to take

7
00:00:29,910 --> 00:00:27,840
a quick look at this latest announcement

8
00:00:31,109 --> 00:00:29,920
and add a few similar announcements that

9
00:00:33,030 --> 00:00:31,119
have occurred in the past

10
00:00:34,630 --> 00:00:33,040
on monday september 14th the royal

11
00:00:35,270 --> 00:00:34,640
astronomical society held a press

12
00:00:36,870 --> 00:00:35,280
conference

13
00:00:38,549 --> 00:00:36,880

to announce the discovery of a rare

14
00:00:41,030 --> 00:00:38,559
molecule called phosphine

15
00:00:42,069 --> 00:00:41,040
in the clouds of venus the press release

16
00:00:44,150 --> 00:00:42,079
explains that quote

17
00:00:45,110 --> 00:00:44,160
on earth this gas is only made

18
00:00:47,350 --> 00:00:45,120
industrially

19
00:00:49,110 --> 00:00:47,360
or by microbes that thrive in oxygen

20
00:00:51,910 --> 00:00:49,120
free environments end quote

21
00:00:52,869 --> 00:00:51,920
so what does that mean mit scientist dr

22
00:00:54,630 --> 00:00:52,879
william baines

23
00:00:56,069 --> 00:00:54,640
who was part of the press conference

24
00:00:57,510 --> 00:00:56,079
explained that there are two

25
00:00:59,590 --> 00:00:57,520
possibilities

26
00:01:01,750 --> 00:00:59,600
there could be some completely unknown

27
00:01:04,070 --> 00:01:01,760
reaction that is creating phosphine

28
00:01:05,030 --> 00:01:04,080
or the more exciting one that it could

29
00:01:07,190 --> 00:01:05,040
be life

30
00:01:08,469 --> 00:01:07,200
researchers used the james clerk maxwell

31
00:01:10,550 --> 00:01:08,479
telescope in hawaii

32
00:01:11,590 --> 00:01:10,560
to observe light passing through venus

33
00:01:13,670 --> 00:01:11,600
atmosphere

34
00:01:15,190 --> 00:01:13,680
light is absorbed at very specific and

35
00:01:16,230 --> 00:01:15,200
unique wavelengths by atoms and

36
00:01:17,510 --> 00:01:16,240
molecules

37
00:01:19,910 --> 00:01:17,520
when researchers looked at the

38
00:01:21,749 --> 00:01:19,920

absorption spectrum they noticed a gap

39
00:01:23,590 --> 00:01:21,759
at the wavelength of phosphine

40
00:01:25,270 --> 00:01:23,600
indicating the phosphine is present

41
00:01:27,510 --> 00:01:25,280
and absorbing light passing through the

42
00:01:29,910 --> 00:01:27,520
atmosphere it's not really the phosphine

43
00:01:31,830 --> 00:01:29,920
by itself that has researchers excited

44
00:01:33,030 --> 00:01:31,840
it's the relatively large quantity of

45
00:01:34,630 --> 00:01:33,040
phosphine

46
00:01:36,230 --> 00:01:34,640
here on earth natural things like

47
00:01:37,429 --> 00:01:36,240
volcanic activity and lightning can

48
00:01:39,670 --> 00:01:37,439
generate phosphine

49
00:01:40,789 --> 00:01:39,680
but only in small amounts according to

50
00:01:42,950 --> 00:01:40,799
the researchers

51
00:01:44,469 --> 00:01:42,960
the only thing on earth that are known

52
00:01:45,350 --> 00:01:44,479
to produce phosphine in similar

53
00:01:47,990 --> 00:01:45,360
quantities

54
00:01:49,190 --> 00:01:48,000
are biological in origin this is an

55
00:01:51,590 --> 00:01:49,200
awesome discovery

56
00:01:53,350 --> 00:01:51,600
and it has scientists and astrobiology

57
00:01:55,350 --> 00:01:53,360
enthusiasts like myself

58
00:01:57,350 --> 00:01:55,360
pretty excited and it's certainly not

59
00:01:58,389 --> 00:01:57,360
surprising to see many ufo researchers

60
00:02:00,950 --> 00:01:58,399
and enthusiasts

61
00:02:02,709 --> 00:02:00,960
excited about this discovery as well but

62
00:02:03,270 --> 00:02:02,719
with astrobiology announcements like

63
00:02:05,510 --> 00:02:03,280

this

64
00:02:07,270 --> 00:02:05,520
which are becoming more and more common

65
00:02:08,070 --> 00:02:07,280
it's always important to listen to what

66
00:02:10,309 --> 00:02:08,080
the discovery

67
00:02:12,070 --> 00:02:10,319
actually is and resist distorting or

68
00:02:14,070 --> 00:02:12,080
exaggerating the findings

69
00:02:15,830 --> 00:02:14,080
although researchers love the big t's to

70
00:02:17,990 --> 00:02:15,840
get attention on the research

71
00:02:19,990 --> 00:02:18,000
they always responsibly emphasize that

72
00:02:20,869 --> 00:02:20,000
no this doesn't mean alien life was

73
00:02:22,309 --> 00:02:20,879
discovered

74
00:02:24,070 --> 00:02:22,319
of course we saw that with this latest

75
00:02:24,550 --> 00:02:24,080
announcement where the team made it

76
00:02:26,070 --> 00:02:24,560
clear

77
00:02:27,750 --> 00:02:26,080
that these findings simply present

78
00:02:30,390 --> 00:02:27,760
another possible indication

79
00:02:31,910 --> 00:02:30,400
of microbial life we've had many such

80
00:02:33,509 --> 00:02:31,920
indications over the years regarding

81
00:02:34,470 --> 00:02:33,519
several different worlds in our solar

82
00:02:35,830 --> 00:02:34,480
system

83
00:02:38,470 --> 00:02:35,840
but as one of my favorite

84
00:02:39,830 --> 00:02:38,480
astrobiologists dr sarah seeger from mit

85
00:02:40,710 --> 00:02:39,840
explained during this recent press

86
00:02:43,110 --> 00:02:40,720
conference

87
00:02:44,710 --> 00:02:43,120
we can't prove life is on another world

88
00:02:47,190 --> 00:02:44,720

until we go there

89
00:02:47,990 --> 00:02:47,200
again for you space geeks this is

90
00:02:50,470 --> 00:02:48,000
amazing

91
00:02:52,070 --> 00:02:50,480
exciting research but for all the people

92
00:02:53,350 --> 00:02:52,080
hyping this announcement into something

93
00:02:55,190 --> 00:02:53,360
that it's not

94
00:02:57,270 --> 00:02:55,200
the first time research like this has

95
00:02:58,149 --> 00:02:57,280
been published an announcement of life

96
00:02:59,830 --> 00:02:58,159
on venus

97
00:03:01,750 --> 00:02:59,840
or some weird coordinated government

98
00:03:03,270 --> 00:03:01,760
effort to slowly condition the public to

99
00:03:04,149 --> 00:03:03,280
the reality that we're not alone in the

100
00:03:06,550 --> 00:03:04,159
universe

101
00:03:08,070 --> 00:03:06,560
well your efforts are a bit misguided

102
00:03:10,229 --> 00:03:08,080
our solar system is

103
00:03:12,309 --> 00:03:10,239
filled with places that might be home to

104
00:03:13,750 --> 00:03:12,319
life although earth and mars are the

105
00:03:15,190 --> 00:03:13,760
only two planets here

106
00:03:17,589 --> 00:03:15,200
that fall within the traditional

107
00:03:19,589 --> 00:03:17,599
habitable zone the places where life can

108
00:03:21,350 --> 00:03:19,599
exist continue to expand as our

109
00:03:22,550 --> 00:03:21,360
understanding of life as we know it

110
00:03:24,149 --> 00:03:22,560
expands

111
00:03:26,070 --> 00:03:24,159
our search for extraterrestrial life is

112
00:03:27,750 --> 00:03:26,080
limited to life as we know it

113
00:03:29,270 --> 00:03:27,760

because that's all we know we know

114
00:03:29,990 --> 00:03:29,280
what's required to sustain life here on

115
00:03:32,070 --> 00:03:30,000
our planet

116
00:03:33,910 --> 00:03:32,080
so astrobiologists use that knowledge

117
00:03:34,550 --> 00:03:33,920
when looking for signs of life on other

118
00:03:36,550 --> 00:03:34,560
worlds

119
00:03:38,789 --> 00:03:36,560
here on earth scientists find life

120
00:03:41,430 --> 00:03:38,799
thriving in extreme environments

121
00:03:43,110 --> 00:03:41,440
previously thought to be uninhabitable

122
00:03:45,270 --> 00:03:43,120
and that knowledge is added to our

123
00:03:47,030 --> 00:03:45,280
understanding of life as we know it

124
00:03:48,630 --> 00:03:47,040
which expands the possible places for

125
00:03:50,390 --> 00:03:48,640
life to exist on other worlds

126
00:03:52,710 --> 00:03:50,400
as more scientific instruments launched

127
00:03:55,190 --> 00:03:52,720
into space the field of astrobiology

128
00:03:56,869 --> 00:03:55,200
exploded this has led to many exciting

129
00:03:58,789 --> 00:03:56,879
announcements over the years

130
00:04:00,070 --> 00:03:58,799
announcements similar to the one about

131
00:04:02,470 --> 00:04:00,080
venus we just saw

132
00:04:04,309 --> 00:04:02,480
in 2013 the hubble space telescope data

133
00:04:05,110 --> 00:04:04,319
revealed water vapor from jupiter's moon

134
00:04:09,429 --> 00:04:05,120
europa

135
00:04:11,429 --> 00:04:09,439
ocean with two to three times the volume

136
00:04:13,509 --> 00:04:11,439
of all the liquid water on earth

137
00:04:15,190 --> 00:04:13,519
astrobiologists get excited about water

138
00:04:15,589 --> 00:04:15,200

because when it comes to life as we know

139
00:04:17,909 --> 00:04:15,599
it

140
00:04:19,749 --> 00:04:17,919
where there's water there's life but

141
00:04:20,229 --> 00:04:19,759
life as we know it requires an energy

142
00:04:22,629 --> 00:04:20,239
source

143
00:04:24,390 --> 00:04:22,639
to sustain metabolism so when

144
00:04:26,710 --> 00:04:24,400
researchers announced the discovery of

145
00:04:29,189 --> 00:04:26,720
widespread hydrogen peroxide on europa

146
00:04:32,230 --> 00:04:29,199
in 2013 it was a big deal

147
00:04:34,150 --> 00:04:32,240
space.com explained quote an analysis of

148
00:04:35,990 --> 00:04:34,160
infrared observation of europa

149
00:04:38,390 --> 00:04:36,000
revealed that hydrogen peroxide is

150
00:04:40,870 --> 00:04:38,400
abundant on the ice-covered jovian moon

151
00:04:42,390 --> 00:04:40,880
end quote the studies lead scientist

152
00:04:43,189 --> 00:04:42,400
kevin hand of nasa's jet propulsion

153
00:04:45,510 --> 00:04:43,199
laboratory

154
00:04:46,870 --> 00:04:45,520
explained quote europa has the liquid

155
00:04:48,469 --> 00:04:46,880
water and elements

156
00:04:50,469 --> 00:04:48,479
and we think that compounds like

157
00:04:51,990 --> 00:04:50,479
peroxide might be an important part of

158
00:04:53,749 --> 00:04:52,000
the energy requirement

159
00:04:55,270 --> 00:04:53,759
the availability of oxidants like

160
00:04:56,870 --> 00:04:55,280
peroxide on earth

161
00:04:58,790 --> 00:04:56,880
was a critical part of the rise of

162
00:05:01,350 --> 00:04:58,800
complex multicellular life

163
00:05:02,870 --> 00:05:01,360

end quote as space.com pointed out the

164
00:05:03,990 --> 00:05:02,880
extensive peroxide excites

165
00:05:05,670 --> 00:05:04,000
astrobiologists

166
00:05:07,830 --> 00:05:05,680
because it's quote a boon for the

167
00:05:08,710 --> 00:05:07,840
potential habitability of the icy moon's

168
00:05:11,430 --> 00:05:08,720
water ocean

169
00:05:12,870 --> 00:05:11,440
end quote when peroxide mixes with water

170
00:05:15,110 --> 00:05:12,880
oxygen is released

171
00:05:17,189 --> 00:05:15,120
so based on that study there's real

172
00:05:18,950 --> 00:05:17,199
potential for life in europa's ocean

173
00:05:20,550 --> 00:05:18,960
nasa's cassini spacecraft discovered

174
00:05:23,029 --> 00:05:20,560
that saturn's moon enceladus

175
00:05:25,029 --> 00:05:23,039
has an atmosphere and the geysers of

176
00:05:25,510 --> 00:05:25,039
water are erupting from its surface into

177
00:05:27,990 --> 00:05:25,520
space

178
00:05:29,749 --> 00:05:28,000
and in 2015 cassini data showed that

179
00:05:31,029 --> 00:05:29,759
quote these geysers contain complex

180
00:05:33,670 --> 00:05:31,039
organic compounds

181
00:05:34,550 --> 00:05:33,680
including propane ethylene and acetylene

182
00:05:36,469 --> 00:05:34,560
end quote

183
00:05:38,550 --> 00:05:36,479
nasa astrobiologist chris mckay told the

184
00:05:39,909 --> 00:05:38,560
guardian that enceladus is the perfect

185
00:05:42,150 --> 00:05:39,919
place to look for life

186
00:05:43,270 --> 00:05:42,160
he explained quote he's got liquid water

187
00:05:45,110 --> 00:05:43,280
organic material

188
00:05:46,469 --> 00:05:45,120

and a source of heat it's hard to think

189
00:05:48,230 --> 00:05:46,479
of anything more enticing

190
00:05:49,510 --> 00:05:48,240
short of receiving a radio signal from

191
00:05:51,749 --> 00:05:49,520
aliens on enceladus

192
00:05:53,029 --> 00:05:51,759
to tell us come and get them end quote

193
00:05:53,749 --> 00:05:53,039
let's keep bouncing around the solar

194
00:05:56,629 --> 00:05:53,759
system

195
00:05:57,189 --> 00:05:56,639
in 2012 large amounts of water ice and

196
00:05:59,430 --> 00:05:57,199
possible

197
00:06:00,629 --> 00:05:59,440
organic compounds were discovered on the

198
00:06:02,390 --> 00:06:00,639
planet mercury

199
00:06:04,550 --> 00:06:02,400
this discovery was a weird one because

200
00:06:06,629 --> 00:06:04,560
it included a strange dark material

201
00:06:09,029 --> 00:06:06,639
that researchers believe is likely quote

202
00:06:10,629 --> 00:06:09,039
a mixture of complex organic compounds

203
00:06:12,469 --> 00:06:10,639
the carbon containing building blocks of

204
00:06:14,390 --> 00:06:12,479
life as we know it end quote

205
00:06:16,710 --> 00:06:14,400
and it could be the same type of organic

206
00:06:17,110 --> 00:06:16,720
material that ultimately gave rise to

207
00:06:19,749 --> 00:06:17,120
life

208
00:06:21,510 --> 00:06:19,759
on earth even our friend mars has had

209
00:06:23,270 --> 00:06:21,520
its share of exciting astrobiology

210
00:06:25,350 --> 00:06:23,280
announcements in recent years

211
00:06:27,430 --> 00:06:25,360
there was even a conference in 2013

212
00:06:28,150 --> 00:06:27,440
co-hosted by the nasa astrobiology

213
00:06:30,390 --> 00:06:28,160

institute

214
00:06:32,790 --> 00:06:30,400
and the uk center for astrobiology

215
00:06:33,510 --> 00:06:32,800
titled the present-day habitability of

216
00:06:35,510 --> 00:06:33,520
mars

217
00:06:37,590 --> 00:06:35,520
that highlighted findings that were new

218
00:06:39,350 --> 00:06:37,600
at the time like the discovery of a

219
00:06:42,309 --> 00:06:39,360
widespread energy source

220
00:06:44,150 --> 00:06:42,319
and abundant water on mars then there's

221
00:06:46,469 --> 00:06:44,160
the exciting world of titan

222
00:06:48,309 --> 00:06:46,479
nasa scientists really hyped up the fact

223
00:06:49,430 --> 00:06:48,319
that they may have discovered life on

224
00:06:51,589 --> 00:06:49,440
saturn's moon titan

225
00:06:53,510 --> 00:06:51,599
back in 2012 by using data from the

226
00:06:54,150 --> 00:06:53,520
cassini spacecraft to study the moon's

227
00:06:57,029 --> 00:06:54,160
chemically

228
00:06:58,950 --> 00:06:57,039
complex surface based on their research

229
00:07:00,870 --> 00:06:58,960
scientists say that it's possible that a

230
00:07:01,990 --> 00:07:00,880
quote primitive exotic form of life or

231
00:07:04,629 --> 00:07:02,000
precursor to life

232
00:07:06,629 --> 00:07:04,639
may exist on titan end quote what the

233
00:07:07,909 --> 00:07:06,639
researchers found was that hydrogen gas

234
00:07:10,309 --> 00:07:07,919
in titan's atmosphere

235
00:07:11,670 --> 00:07:10,319
disappeared at the moon's surface and as

236
00:07:13,749 --> 00:07:11,680
the telegraph explained

237
00:07:16,550 --> 00:07:13,759
this suggests that alien life forms

238
00:07:17,990 --> 00:07:16,560

could be breathing on titan additionally

239
00:07:20,150 --> 00:07:18,000
researchers noted the lack of the

240
00:07:21,189 --> 00:07:20,160
chemical compound acetylene at titan's

241
00:07:23,189 --> 00:07:21,199
surface

242
00:07:24,309 --> 00:07:23,199
chris mckay an astrobiologist at nasa's

243
00:07:25,909 --> 00:07:24,319
ames research center

244
00:07:27,589 --> 00:07:25,919
explained that quote this lack of

245
00:07:29,189 --> 00:07:27,599
acetylene is important

246
00:07:31,430 --> 00:07:29,199
because that chemical would likely be

247
00:07:32,390 --> 00:07:31,440
the best energy source for methane-based

248
00:07:34,550 --> 00:07:32,400
life on titan

249
00:07:36,469 --> 00:07:34,560
unquote scientists believed that life on

250
00:07:39,670 --> 00:07:36,479
titan would consume hydrogen

251
00:07:41,350 --> 00:07:39,680
as life on earth consumes oxygen cassini

252
00:07:43,189 --> 00:07:41,360
also detected the presence of something

253
00:07:43,990 --> 00:07:43,199
appearing to be an organic compound on

254
00:07:45,990 --> 00:07:44,000
titan's surface

255
00:07:47,830 --> 00:07:46,000
that scientists have been unable to

256
00:07:50,070 --> 00:07:47,840
identify these are just some quick

257
00:07:51,589 --> 00:07:50,080
examples of big time astrobiology

258
00:07:53,430 --> 00:07:51,599
findings from recent years

259
00:07:55,510 --> 00:07:53,440
but i can't conclude this video before

260
00:07:56,469 --> 00:07:55,520
mentioning that research published back

261
00:07:58,070 --> 00:07:56,479
in 2012

262
00:08:00,469 --> 00:07:58,080
where some scientists demonstrated their

263
00:08:01,749 --> 00:08:00,479

belief that nasa discovered life on mars

264
00:08:03,909 --> 00:08:01,759
decades ago

265
00:08:05,830 --> 00:08:03,919
a team of scientists published a paper

266
00:08:09,110 --> 00:08:05,840
in which they analyzed data collected by

267
00:08:10,790 --> 00:08:09,120
nasa's mars vikings robots in 1976

268
00:08:12,790 --> 00:08:10,800
concluding that samples were originally

269
00:08:14,790 --> 00:08:12,800
incorrectly identified by scientists

270
00:08:16,070 --> 00:08:14,800
as geologic samples rather than

271
00:08:18,150 --> 00:08:16,080
biological samples

272
00:08:19,589 --> 00:08:18,160
neuropharmacologist and biologist joseph

273
00:08:21,670 --> 00:08:19,599
miller from the university of southern

274
00:08:23,670 --> 00:08:21,680
california's keck school of medicine

275
00:08:25,350 --> 00:08:23,680
was a member of the research team and he

276
00:08:27,589 --> 00:08:25,360
told discovery news quote

277
00:08:29,029 --> 00:08:27,599
on the basis of what we've done so far

278
00:08:31,749 --> 00:08:29,039
i'd say i'm 99

279
00:08:34,310 --> 00:08:31,759
sure there's life there end quote

280
00:08:35,829 --> 00:08:34,320
astrobiology is such an exciting field

281
00:08:37,670 --> 00:08:35,839
there are many earth-based and

282
00:08:39,509 --> 00:08:37,680
space-based instruments providing

283
00:08:41,589 --> 00:08:39,519
scientists with valuable information

284
00:08:43,190 --> 00:08:41,599
like never before and there are so many

285
00:08:45,509 --> 00:08:43,200
space missions underway

286
00:08:47,110 --> 00:08:45,519
and in the planning phases specifically

287
00:08:49,030 --> 00:08:47,120
designed for the search for

288
00:08:52,070 --> 00:08:49,040

extraterrestrial life

289
00:08:53,990 --> 00:08:52,080
astrobiology is extremely active so

290
00:08:56,389 --> 00:08:54,000
there are always discoveries research

291
00:08:58,070 --> 00:08:56,399
publications and press releases

292
00:08:59,590 --> 00:08:58,080
some of these get pretty hyped up to

293
00:09:01,350 --> 00:08:59,600
generate public interest

294
00:09:03,670 --> 00:09:01,360
the public and the media love to get

295
00:09:05,750 --> 00:09:03,680
excited expecting the discovery of

296
00:09:07,910 --> 00:09:05,760
extraterrestrial life to be announced

297
00:09:09,509 --> 00:09:07,920
and these scientists love it it gets a

298
00:09:10,070 --> 00:09:09,519
lot of attention on their research and

299
00:09:11,670 --> 00:09:10,080
hopefully

300
00:09:13,269 --> 00:09:11,680
the extra attention leads to more

301
00:09:15,990 --> 00:09:13,279
funding more connections

302
00:09:17,990 --> 00:09:16,000
etc so they can continue the research as

303
00:09:18,870 --> 00:09:18,000
dr sarah seger pointed out in the press

304
00:09:20,949 --> 00:09:18,880
conference

305
00:09:22,070 --> 00:09:20,959
we need more missions to these worlds to

306
00:09:25,440 --> 00:09:22,080
get more data