Ruby master - Bug #11808

Different behavior between Enumerable#grep and Array#grep

12/11/2015 11:53 PM - BenOlive (Ben Olive)

<table>
<thead>
<tr>
<th>Status:</th>
<th>Open</th>
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<tbody>
<tr>
<td>Priority:</td>
<td>Normal</td>
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<tr>
<td>Assignee:</td>
<td>ko1 (Koichi Sasada)</td>
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<td>Target version:</td>
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<td>Backport:</td>
<td>2.5: UNKNOWN, 2.6: UNKNOWN</td>
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### Description

Regex special global variables are available within the block for Array#grep, but are nil within the block for Enumerable#grep.

Here is an example that explains it better:

```ruby
class Test
  include Enumerable
  def each
    return enum_for(:each) unless block_given?
    yield "Hello"
    yield "World"
  end
end

enum = Test.new
array = ["Hello", "World"]

enum.grep(/^(.)/) { $1 } #=> [nil, nil]
array.grep(/^(.)/) { $1 } #=> ["H", "W"]
```

Tested on 2.0.0, 2.1.5, & 2.2.2

### History

#### #1 - 06/27/2019 11:35 PM - jeremyevans0 (Jeremy Evans)

Array#grep is actually Enumerable#grep:

```ruby
Array.instance_method(:grep).owner #=> Enumerable
```

If I had to guess, the cause of the difference is that Array#each is implemented in C, and Test#each is implemented in Ruby, and this affects Regexp special variable scope. You see similar behavior as Array in other classes that implement #each in C, such as Range or File.

The documentation for the special global variables states: These global variables are thread-local and method-local variables. This indicates to me that the bug is that the variables are accessible inside the Array#each block, since that block executes inside the current method, it's not local to the Array#each method. However, I would assume removing the current behavior would break too much existing code.

#### #2 - 06/30/2019 12:13 AM - nobu (Nobuyoshi Nakada)

- Tracker changed from Bug to Feature
- Description updated
- ruby -v deleted (2.2.2)
- Backport deleted (2.0.0: UNKNOWN, 2.1: UNKNOWN, 2.2: UNKNOWN)

There is no API for it now.

https://github.com/nobu/ruby/tree/feature/11808-block_svar

#### #3 - 06/30/2019 12:15 AM - nobu (Nobuyoshi Nakada)

- Subject changed from Different behavior between Enumerable#grep and Array#grep to Different behavior between Enumerable#grep and Array#grep
#4 - 07/11/2019 06:04 AM - matz (Yukihiro Matsumoto)
- Tracker changed from Feature to Bug
- Backport set to 2.5: UNKNOWN, 2.6: UNKNOWN

It is a bug. It has been hidden for 10+ years and seems to be very difficult to fix. It should be fixed in the long run.

Matz.

#5 - 07/11/2019 06:04 AM - ko1 (Koichi Sasada)
- Assignee set to ko1 (Koichi Sasada)

#6 - 10/26/2020 04:36 AM - ko1 (Koichi Sasada)

Sorry we need more time to consider.