Crash when loading project with custom renderer for vector layers

I have custom renderer for vector layers, and can save project including information about this custom renderer. But when I try to open saved project QGIS crashes. Here is backtrace

```
#0  0x0000000000000000 in ?? ()
#1  0x0000000000000012 in QgisSymbolV2::mapUnitScale (this=0x7fff5c019040) at
/home/alex/development/cpp/qgis/src/core/symbology-ng/qgssymbolv2.cpp:274
#2  0x000000000000003b in QgisMarkerSymbolV2::renderPoint (this=0x7fff5c019040, point=..., f=0x7fff63dfdcb0, context=..., layerIdx=-1, selected=false)
   at /home/alex/development/cpp/qgis/src/core/symbology-ng/qgssymbolv2.cpp:1251
#3  0x000000000000004d in QgisSymbolV2::renderFeature (this=0x7fff5c019040, feature=..., context=..., layer=-1, selected=false, drawVertexMarker=false, currentVertexMarkerType=1, currentVertexMarkerSize=3) at
/home/alex/development/cpp/qgis/src/core/symbology-ng/qgssymbolv2.cpp:718
#4  0x000000000000005d in QgisFeatureRendererV2::renderFeatureWithSymbol (this=0xa8bb0f0, feature=..., symbol=0x7fff5c019040, context=..., layer=-1, selected=false, drawVertexMarker=false) at /home/alex/development/cpp/qgis/src/core/symbology-ng/qgsrendererv2.cpp:283
#5  0x0000000000000061 in QgisFeatureRendererV2::renderFeature (this=0xa8bb0f0, feature=..., context=..., layer=-1, selected=false, drawVertexMarker=false) at
/home/alex/development/cpp/qgis/src/core/qgsrendererv2.cpp:277
#6  0x0000000000000069 in sipQgsFeatureRendererV2::renderFeature (this=0xa8bb0f0, a0=..., a1=..., a2=-1, a3=false, a4=false) at
/home/alex/development/cpp/qgis/build/python/core/sip_corepart1.cpp:37671
#7  0x0000000000000073 in QgisVectorLayerRenderer::drawRendererV2 (this=0x2fd9780, fit=...) at
/home/alex/development/cpp/qgis/src/core/qgsvectorlayerrenderer.cpp:312
#8  0x0000000000000071 in QgisVectorLayerRenderer::render (this=0x2fd9780) at
/home/alex/development/cpp/qgis/src/core/qgsvectorlayerrenderer.cpp:249
#9  0x0000000000000075 in QgisMapRendererCustomPainterJob::doRender (this=0x13e6bd0) at
/home/alex/development/cpp/qgis/src/core/qgsmapperenderercustompainterjob.cpp:251
#10 0x0000000000000079 in QgisMapRendererCustomPainterJob::staticRender (self=0x13e6bd0) at
/home/alex/development/cpp/qgis/src/core/qgsmapperenderercustompainterjob.cpp:214
#11 0x000000000000007d in QtConcurrent::DestroyedFunction1<void, void (*)(QgisMapRendererCustomPainterJob*)>(QgisMapRendererCustomPainterJob*)::run Functor (this=0x2fd7320) at /usr/include/qt4/QtCore/qtconcurrentdestroyedfunctioncall.h:277
#12 0x000000000000007f in QtConcurrent::RunFunctionTask<void(*)(void)>::run (this=0x2fd7320) at
/usr/include/qt4/QtCore/qtconcurrentrunnablebase.h:134
#13 0x0000000000000081 in QThreadPoolThread::run (this=0x346ceaf0) at concurrent/qthreadpool.cpp:108
#14 0x0000000000000083 in QThreadPrivate::start (arg=0x346ceaf0) at thread/qthread_unix.cpp:349
#15 0x0000000000000085 in start_thread (arg=0x7fff63f700) at pthread_create.c:309
#16 0x0000000000000087 in clone () at ./sysdeps/unix/sysv/linux/x86_64/clone.S:111
```
Test plugin with custom renderer for point layers attached.

Seems there are some issues with interaction between Python bindings and C++ core code.

### Related issues:

- Related to QGIS Application - Bug report # 13973: Crash when switching from c...
  - Closed 2015-12-10

### Associated revisions

**Revision 83eed110 - 2016-01-25 06:16 PM - Martin Dobias**

- Improve renderer class documentation (refs #14025)

### History

**#1 - 2015-12-22 07:03 AM - Alessandro Pasotti**

- Assignee set to Martin Dobias

Not sure, but this could be the problem:

```c
src/core/symbology-ng/qgssinglesymbolrendererv2.cpp:458

QgsSymbolV2List symbols = const_cast<QgsFeatureRendererV2 *>( renderer )->symbols( context );
```

The about to be cloned object is a sip object.

**#2 - 2016-01-25 08:28 AM - Martin Dobias**

- Resolution set to invalid
- Status changed from Open to Closed
- File mytestrenderer.py added

The real issue was that symbols returned by the test renderer have not been initialized before being used in symbolForFeature().

Attached (fixed and simplified) version works fine for me - closing as invalid. I have some ideas how the situation could be improved in QGIS 3 so that custom renderer implementations are less crash-prone...

### Files

- renderertest.tar.bz2
  - 4.12 KB 2015-12-22 Alexander Bruy
- mytestrenderer.py
  - 3.22 KB 2016-01-25 Martin Dobias