# The Rùm Affair—a leading evolutionist of the last century proven a fraud

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The case of fraud by a leading evolutionist, British botany professor John Harrison, was documented by reviewing his published writings in peer-reviewed scientific journals. One of the most well-known examples of Harrison's frauds, and the best documented case, was the Rùm Affair; but many other examples exist. Harrison's efforts to prove evolution was one motivation, but others exist, including his efforts to achieve prominence in his field.

This review involves another example of fraudulent behaviour by evolutionists to add to the scores I have already documented.[1] This review covers one of the worst, but also one of the least-known, cases of fraud by evolutionists. It was committed by the (once) very reputable university scientist, Professor J.W. John Harrison (figure 1). Described as a fraud worse than the Piltdown fiasco, Harrison's fraudulent career has become known as the 'Rùm Affair' because some of his fraudulent botanical 'discoveries' occurred on the Isle of Rùm. The Isle of Rùm is the largest island in an archipelago of small islands in the North Sea, off the west coast of Scotland.

The fact is:

> "The history of science is littered with remarkable errors, many of which are, of course, no more than aspects of the scientific ignorance of the time. Even so, they are among the most momentous errors in the history of humankind and many of them have had serious consequences."[2]

Harrison was a leader in the movement to build an evolutionary foundation for science. He published over 500 articles in the peer-reviewed scientific literature on his research.

> "His chief research centered on evolutionary topics and he was particularly active in the years when Darwinists and Lamarckists fought almost pitched battles. He contributed to both sides and he was also a staunch mutationist. His work in these fields helped to lay the foundation for much future research … ."[3]

Since then, Lamarckianism has been effectively discredited, and the mutationist view is now the dominant theory of evolution. It has now been documented that

> "… Harrison was more than just a working-class hero who made good [in science]. He was a cheat and a scientific fraud who provided botany with its equivalent of the Piltdown hoax—the skull supposed to be the 'missing link' between men and apes, later proved to be a fraud."[4]

Fellow botanist, Professor John Raven, after reading several of John Harrison's publications in leading scientific journals, concluded that it was obvious Harrison had committed fraud.

After realizing the harm Harrison had caused science, Raven looked for "evidence to incriminate and possibly ruin the career of a senior British botanist."[5] He found the evidence, plenty of it, which eventually did ruin Harrison's reputation, specifically documenting that Harrison "had committed a botanical fraud that was every bit as scandalous as the famous 'Piltdown Man' bones fake."[6]

Forty years later, Karl Sabbagh discovered Raven's report and did his own research, which he published in his 1999 book *A Rum Affair: A true story of botanical fraud*.[7] One of Sabbagh's main goals, as he explained in his New Scientist article, was to understand "What drives some scientists to fake their findings?"[5] Sabbagh's story was described by one scientist as "a portrait of the academic ecosystem, with its backbiting and back-watching."[8]

## Harrison's background

John William Heslop Harrison (1881–1967) was, for most of his career, a professor of genetics and botany at Newcastle University, UK, specializing in the genetics of moths. During his career, he was "unrivaled for his knowledge of the systematics and ecology of the British flora".[9] He taught not only botany, but also zoology and genetics. When he retired as the Chair of Botany at King's College, he was awarded the honour of Professor Emeritus as one of the most illustrious of North Country (Northern England) sons.[10] After his retirement, he was given prestigious research and lecture fellowships in both genetics and evolution.

**Figure 1.** John William Heslop-Harrison (1881–1967)

## His interest in science

Inspired by the Rev. J.E. Hull, along with a neighbor, Charles Robson, Harrison developed an early interest in botany and natural science. He earned a B.Sc. degree from Durham College of Science, an M.Sc. degree at the University of Newcastle in 1916, and a D.Sc. in 1917. In 1921, he was elected a Fellow of the Royal Society of Edinburgh (FRSE) and served as the Society's Vice-President from 1945 to 1948. He was also elected a Fellow of the Royal Society (FRS) in 1928. This "distinguished professor and a Fellow of the Royal Society" was called "one of Britain's greatest botanists".[4]

In 1999, *The Guardian*, a daily British newspaper, described him as a fraudster who planted evidence of rare plants on the Isle of Rùm in the Hebrides Islands for scientists to later 'discover', a scandal exposed after half a century.[4]

During Harrison's lifetime, suspicion was gradually generated by scientists, especially botanists, about the validity of Harrison's research for many reasons. Some of these reasons include the fact that he was a loner who avoided contact with other professionals and conducted most of his experiments in his home in Birtley, Tyne and Wear.[11] In addition, instead of referring to persons by name in his publications, he often attributed credit to 'an old friend' or colleague.[12]

## John Raven's evidence that ruined Harrison's reputation

In 1948, Harrison was accused by University of Cambridge tutor John Raven of making false claims, such as claiming to have discovered that certain plant species naturally grew on the small island of Rùm on the west coast of Scotland. Raven published a report in *Nature* in 1949 that revealed, though cautiously, evidence of potential fraud on the part of Harrison.[13] Specifically, the fraud involved moving certain plants from locations where they normally grow and transplanting them to the Isle of Rùm, where they do not naturally grow (figure 2). Evidence of these grasses growing on Rùm was pivotal to Harrison's theory that the islands escaped the so-called 'last ice age'. In his *Nature* report, Raven stated that the

> "… close juxtaposition of two exceedingly rare plants is most unexpected … . The above observations seem to leave little doubt that *Polycarpon tetraphyllum* is an alien introduction into Rhum … . These ruderal species, especially the Sagina, would scarcely be expected in such a locality … . The close association of annual ruderal species with *Carex bicolor*, its extreme rarity, its distribution, and the absence of arctic-alpine associates suggest that it too, like *Polycarpon tetraphyllum*, is an introduction into Rhum."[15]

The forgery claim inferred above was described in detail and effectively supported in Karl Sabbagh. In 2008, further evidence supporting the claims against Harrison emerged. Sabbagh's main criticisms included inappropriate research methodology, poor scientific reasoning, inadequate controls, and unjustified conclusions.[14]

For example, Harrison argued that the increase of black peppered moths (*Biston betularia*) in manufacturing districts in England was due to mutations that only affected the genes for melanin production, and no other genes.[15] He argued that lead salts and manganese present in the pollution soot selectively caused the specific mutations that targeted specific genes that controlled moth colour. This would have been an example of the inheritance of acquired characteristics (Lamarckianism). Harrison rejected the widespread conclusion that the dominance of dark moths was due to bird predators selectively eating light moths more readily in post-industrialized England. This was because they were more easily seen than the dark ones on the tree trunks recently blackened as the result of industrialization in the manufacturing districts of England.[16] This blackening was



**Figure 2.** John Harrison was accused of fraudulently moving ruderal plant species (plants that normally first colonize disturbed land), such as *Polycarpon tetraphyllum* (top) and Sagina (bottom), from their native areas and transplanting them to the Isle of Rùm in the Hebrides Islands.

from pollutants such as soot both directly discolouring the trunks plus causing die-back of the light-coloured lichen covering them. The dark-winged, or melanized, moths were thus more likely to have survived, and consequently their numbers increased relative to their lighter counterparts.

To support his alternative 'mutation triggered by the environment' conclusion, in the 1920s Harrison completed several experiments exposing peppered moths to lead salts and manganese. He claimed this resulted in melanized peppered moths. However, several later breeding experiments involving 3,265, and then 1,920, peppered moths failed to support Harrison's results.[18] Other scientists that failed to replicate his results included British geneticist, lepidopterist, and medical doctor Henry B.D. Kettlewell.[17]

His fraud was often designed to support evolutionism, both of the Lamarckian and/or the neo-Darwinian type, despite claiming that the latter suffered from major problems, and that therefore a form of Lamarckianism was a more viable explanation for how evolution took place. This was not unusual at the time he worked because, in the early 20th century, much disagreement existed about the mechanisms of evolution.[18] The present, modern evolutionary theory was not developed until the late 1940s. Neo-Darwinism achieved the integration of Charles Darwin's theory of evolution by natural selection with Gregor Mendel's theory of genetics. Specifically, it is the 20th-century synthesis of Charles Darwin's theory of evolution and mutations, now referred to as the neo-Darwinian (or the Modern Synthetic) Theory of Evolution.[19]

Even fellow Lamarckians, such as American entomologist William Morton Wheeler, were critical of Harrison's work. In one case, Harrison induced a gallfly larva to change its choice of food in which to lay its eggs. In writing about this experiment, the eminent evolutionist J.B.S. Haldane remained skeptical that this was "a definite proof of Lamarckian inheritance".[20]

Questionable conclusions of Harrison's other research included rats that were observed to avoid electrical shocks, a learned trait that Harrison claimed was passed on to their offspring. Yet another area of concern was his problematic research on moths[21] and sawflies, which also conveniently supported Lamarckian evolution.[22]

It is acknowledged today that epigenetics can play a role in a limited form of inheritance of acquired characteristics.[23] However, this does not let Harrison off the hook for the 'convenient' results of many of his experiments. These were meant to bolster his theory of environment-directed mutations, quite different from epigenetic effects.

According to researcher Michael A. Salmon, Harrison's study of the causes of mutation in insects has

> "… come under heavy criticism. Heslop Harrison claimed to have experimental proof that physical changes in the life of an individual moth or sawfly could be passed on to its progeny, according to the theory of Lamarck ... . For example, Heslop Harrison thought that melanism resulted from the effect of pollution on individual moths which somehow altered their genes. *When others attempted to repeat his experiment, however, they always seemed to come up with different results.* According to his obituarist, Peacock, 'to these serious criticisms, Harrison made no comment but held resolutely to his opinion' [emphasis added]."[24]

## Summary

I was able to locate over 300 publications by J.W. Heslop Harrison, either as the first author or a co-author, in peer-reviewed scientific publications. His obituary noted that he was widely published in the peer-reviewed literature, which labelled him as a "gifted biologist and field naturalist. His memory for biological facts was prodigious and his knowledge of flowering plants and insects was of a most

unusual depth and understanding."[3] Since his credibility has now been seriously compromised, one has to wonder how many of his hundreds of articles contain fraudulent research. He is now remembered more for his part in academic fraud than for his scholarly research. A good summary of Harrison is by the author of the most well-documented account of the Heslop Harrison fraud case. In short:

> "… Harrison was determined to prove that his theory was correct, motivated, it seemed, as much by his desire to poke holes in the accepted Darwinian theory as by the plausibility of the Lamarckian explanation. As seemed to happen quite often with Heslop Harrison, he rode off on his hobbyhorse in search of evidence to prove his theory and found it."[25]

This case also illustrates the fact that science is a profession pursued by persons who sometimes are driven by an evolutionary worldview (of sometimes varying types) desperately in search of scientific proof. Unfortunately, some adherents are willing to distort the facts to support their theory, further their career, and enhance their reputation.

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