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A life well lived: Joanna Jones (Kain) 1930–2017

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Passionate, dedicated, scrupulous, engaged, committed, analytical, independent, witty, argumentative, shy and organised; Jo was an amazing role model of a practising scientist and a mentor for phycologists of several generations.

Born in 1930 in Christchurch, New Zealand, to an English mother and a Kiwi father, Jo moved to London at the age of 2 and spent most of her life in the UK. Her father named her Dorothy Kain, but her mother never liked this name and called her Anne. Being incredibly sensible and decisive, she decided to end the debate at the age of 10 and change her name to Joanna, after her favourite doll.

Jo's early education was disrupted with moves to 10 different schools, but when she eventually made it to University College London (UCL) in 1949, she became hooked on science and in particular, marine algae. She recently recalled that she was introduced to the algae by G E (Tony) Fogg, who started his first lecture with a Greek or Latin quotation which meant 'nothing is as foul as an alga' and then effectively proved this to be wrong. UCL did not run a marine field course at that time but Bedford College did and she was allowed to join them when they went to the Isle of Man. This left Jo in no doubt that the algae were the most interesting of the plants. For her undergraduate research project, Jo studied the patterns of intertidal zonation around the Isle of Wight, where the tidal ranges differed from the open coast.

Whilst Jo was principally interested in the ecology of macroalgae, she was offered a PhD at UCL under the supervision of Tony Fogg, funded by the Institute of Seaweed Research, to investigate the growth of marine phytoplankton, so she took it and graduated in 1957. In 1956, she was appointed 'Algologist' at Port Erin Marine Laboratory, University of Liverpool. It was at Port Erin that Jo first met Norman Jones, whom she later married at the age of 32 and had two children, Martin and Bidda. She remained at Port Erin Marine Laboratory for 44 years.

Jo enjoyed the huge freedom and privilege of not having any undergraduate teaching obligations for the first 16 years of her academic career and was able to devote herself solely to research (half her luck!). From 1972, she was involved in teaching both a vacation intensive course and the honours course, in which the student numbers increased from 9 to over 30 per year during her time, increasing her access to potential PhD students. Jo successfully supervised 18 PhD students to completion, many of whom have gone on to become important phycologists in their own right, including Emeritus Prof Di Walker (University of Western Australia) and Prof Taejun Han (Incheon National University, Korea).

Jo's love of the ocean and adventurous spirit (Fig. 1) saw her an early adopter of the mask, fins and snorkel (with a ping-pong ball valve) to snorkel in the early 1950s and allow her to discover a whole new world. Then, when the aqualung became available in the late 1950s, Jo, of course, jumped at the opportunity to give it a try. In post-WWII UK, when women enjoyed freedoms not previously known, Jo was one of several notable female phycologists and marine biologists. Jo was an early adopter of scuba diving and a pioneer of subtidal research. She was one of the first women to qualify as a first-class diver, which initially involved diving solo on a line until she later found a buddy in her husband Norman (pictured with Jo in scuba gear in Fig. 1) and then subsequently the Chief Diver at Port Erin Marine Laboratory, Mike Bates, kept her in sight. Together they trained many students to dive. Jo was so into diving and research that she even had a special

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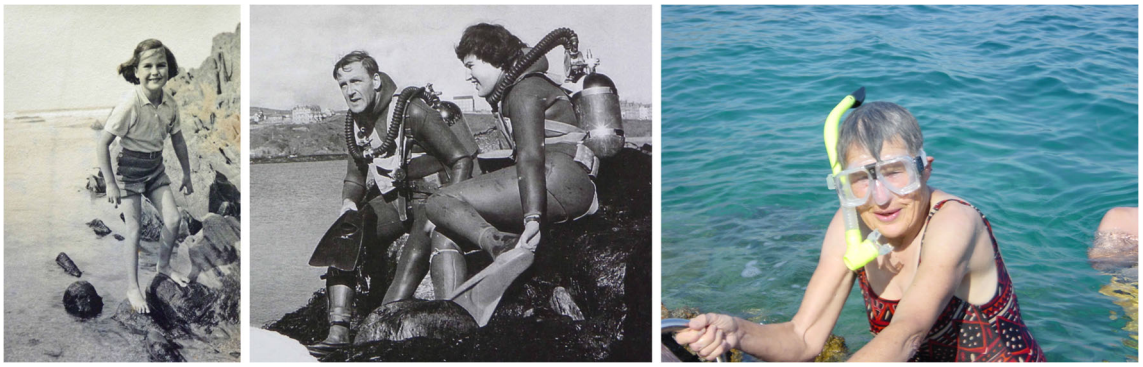

Fig. 1 *Left* A love for the ocean and rocky reefs started at a young age, circa 1940 on south coast of England. *Middle* A pioneer of subtidal ecology, here, gearing up to scuba dive with husband and colleague Norman Jones at Port Erin, UK, early 1960s. *Right* If you can, do! Still snorkelling on the Greek island of Lefkada at age 77

maternity wetsuit made so she could continue her work when she was pregnant with her daughter Bidda!

Jo was less inspired by developing skills to identify different algal species and more excited by their biology and ecology. So she decided to focus her research primarily on just a few, easily identified and abundant species. Jo spent the first 20 years or so (until ~ 1980) donning the scuba gear to uncover the secrets of *Laminaria hyperborea* (Fig. 2), the dominant kelp at Port Erin. Her research examined the growth and survivorship of gametophytes and sporophytes of this species, and the various influences of light, depth, latitude, grazing, competition and anthropogenic pollutants. Jo then switched her research focus to the reds for the next two decades, where she was primarily interested in understanding the phenology of a few key species. For example, Jo was fascinated to discover that the critical length of the photoperiod that controlled the phenology of *Delesseria* differed with the life-history phase. During this latter period, Jo also collaborated on a number of research projects that explored the commercial cultivation and economic potential of a suite of red, green and brown macroalgae.

By 1991, at the age of 61, Jo had officially retired; but of course, that did not stop her from continuing to follow her curious mind into various research projects, and she was supported to do so at Port Erin Marine Laboratory. Following Norman's death in 1997, Jo migrated to Canberra, Australia, in 2000, to be closer to her daughter and family. She was now 70 and had recently given up diving. So the ever practical Jo, arranged herself a Visiting Fellowship at the Australian National University, and chose an intertidal project monitoring both a brown crust (which turned out to be *Colpomenia*

Fig. 2 A past love. Jo with a beach-cast *Laminaria hyperborea* on the Isles of Scilly (off Cornwall) in July 2009, aged 79. Note her ever-present camera and trusty waist pouch

Fig. 3 Jo at Kianga Reef, NSW, Australia, conducting research on *Hormosira banksii*. Nearly 80 by this stage and armed with a walking stick for stability on the reef, Jo was not about to let her age and declining mobility keep her from finishing her research project. This work contributed to Jo's final publication in 2015 (#80 in her publication list)

bullosa crust masquerading as *Ralfsia verrucosa*) and *Hormosira banksii* in some high pools on the south coast of New South Wales for 12 years (Fig. 3).

Jo published 61 papers during her working life and then a further 19 following her official retirement in 1991. Her last paper was published in 2015 and presented at the Australasian Society for Phycology and Aquatic Botany conference in Hobart. She already had cancer at this stage.

Jo was a passionate and active phycologist and gave generously to her discipline. She joined the British Phycological Society as a student, attended a total of 44 annual meetings over 47 years, and was Honorary Secretary for 7 years from 1977, Vice President, then President 1985–88 and Honorary Fellow from 2000. Jo had also become a member of the Australasian Society for Phycology and Aquatic Botany (ASPAB) in 1981, only a year after it was founded, and, after migrating to Canberra, attended all meetings until 2015. She became Treasurer of ASPAB when she arrived in Australia and diligently served in this role for 15 years until retiring due to illness in 2015. It was with great disappointment that Jo was unable to travel to attend the 2016 meeting in Warrnambool. Jo also actively participated in international phycological meetings, including an unbroken run of 14 International Seaweed Symposia.[1] In the 1980s and 90s, she was the UK representative on the European Commission Management Committee (COST 48 and 49) encouraging cooperation in the production of marine algal biomass, and organised three workshops. Jo was a staunch supporter of student participation in conferences and workshops, and argued vocally for ASPAB to generously dish out student travel grants each year. This grant will now be renamed in her honour.

Jo was extraordinarily organised and practical, but once she had considered the options and then decided on the way to do something, one would be hard-pressed to get her to change her mind. She could usually be found with her little waist pack on, complete with all manner of handy items that one might at some stage be looking for. [When recently reading Enid Blyton's *Famous Five* to my son, I amused myself thinking that Jo would have made a good addition to the little adventurous team, with a pocket knife, box of matches, piece of string, sewing kit and safety pins always on hand.] I am sure that it was this no-nonsense approach to life that enabled Jo to have such a long and successful scientific career. When I asked her recently how she'd ventured into science and scuba-based research at a time when there were many more obstacles than open doors for women, she matter-of-factly told me (almost as if it was a silly question) that she had supportive parents and that she just never thought that she could not do what the boys and men were doing! In the words of Jo's daughter: 'Growing up with her as a role model, she taught me that being female is never an excuse to not try something – it's merely a matter of how determined you are to succeed.' Jo similarly demonstrated that age is also no impediment!

Jo was diagnosed with terminal oesophageal cancer in 2015. She died peacefully in her home in Canberra on Friday, 21 July 2017 at the age of 87, with her reading glasses on and her iPad by her side. Jo decided it was time to go, so she did. She'd had a good life and contributed much to science.

She will be remembered.

She will be missed.

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Kain JM, Fogg GE (1958) Studies on the growth of marine phytoplankton. I. *Asterionella japonica* Gran. J Mar Biol Ass UK 37:397–413

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[1] Editor's note: Jo often reviewed papers for the Journal of Applied Phycology and her reviews were always insightful, detailed but clear, with useful guidance on how the paper could be improved.

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