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Age constraints and geochemistry of the Ordovician Tyrone Igneous Complex, Northern Ireland: implications for the Grampian orogeny

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During typesetting the number 6 was introduced to values in the Age (Ma) column immediately before the \pm symbol used in Table 2. The Publishing House would like to apologise for this mistake; the correct table is shown.

Table 2. Calculated U–Pb zircon ages and additional information for analysed samples; previously published U–Pb geochronology for Tyrone Igneous Complex also included

Lithological unit	Age (Ma)	Calculated on	Additional information
Scalp layered gabbro (JTP207)	479.6 \pm 1.1	Three concordant zircon analyses	Two zircon fractions gave inherited ages of c. 1015 Ma (concordant) and 2100 Ma (upper intercept anchored at 479.6 Ma)
Laght Hill tonalite (JTP209)	465.6 \pm 1.1	Four concordant analyses	This tonalite provided a low yield of inheritance-free zircon
Golan Burn tonalite (MRC126)	469.9 \pm 2.9	Two concordant zircon analyses	Zircons separated from this sample were generally free from inheritance, but contained melt and mineral inclusions. Three zircon analyses yielded concordant to near-concordant analyses. Third analysis shows a small degree of inheritance
Cregganconroe quartz-monzodiorite (MRC127)	466.2 \pm 2.1	Two concordant zircon analyses	A small proportion of zircons from this sample displayed visible inherited components and these were avoided. A third point was discordant along a shallow Pb-loss trajectory
Craigballyharky tonalite (MRC128)	470.3 \pm 1.9	Two concordant zircon analyses	These new data are consistent with those of Hutton <i>et al.</i> (1985) for the same sample site. Plotting these new U–Pb data with those of Hutton <i>et al.</i> gives a lower intercept age of 471.2 \pm 2.0/–2.3 Ma and an upper intercept of 2101 \pm 400/–350 Ma indicating an inherited component at c. 2100 Ma
Pomeroy granite (MRC89)	464.3 \pm 1.5	Two concordant zircon analyses	The zircons analysed are predominantly acicular neocrystalline with rare visible inherited cores
Copney quartz porphyry (MRC90)	465.0 \pm 1.7	Two concordant zircon analyses	Zircons recovered are very similar to those described for the Pomeroy granite. A discordia yields a lower intercept age of 464.6 \pm 2.3 Ma and an upper intercept of c. 2150 Ma
Craigbardahessiagh granodiorite (MRC91)	464.9 \pm 1.5	One analysis each of titanite and zircon that are concordant	Zircons show both inheritance and Pb loss, and some titanites analysed exhibit Pb loss. Most data plot near 465 Ma on the concordia diagram, but two zircon analyses show a significant Mesoproterozoic (c. 1185–1512 Ma) inherited component
Slieve Gallion granite (MRC92)	466.5 \pm 3.3	One concordant analysis	This granite contains both core-free zircons and those with clearly visible cores. Two analyses of inherited zircons have Mesoproterozoic ages from c. 1000 Ma to 1700 Ma. Three analyses of core-free grains are concordant to slightly discordant, and yield an upper intercept age of 474.6 \pm 7.1/–6.9 Ma. The most concordant analysis has an age of 466.5 \pm 3.3 Ma and this is considered to be the best estimate of the intrusion age
<i>Previous geochronology</i>			
Leaghan tonalite of Draut <i>et al.</i> (2009)	475 \pm 10	Ten zircon analyses	U–Pb zircon SHRIMP. Archaean cores identified in three zircon grains using SHRIMP and LA-MC-ICP-MS
Craigballyharky gabbro of Draut <i>et al.</i> (2009)	493 \pm 2	Three concordant zircon analyses	U–Pb zircon SHRIMP. The weighted mean $^{238}\text{U}/^{206}\text{Pb}$ age of the oldest three concordant ages from the gabbro was 493 \pm 2 Ma. Three younger zircons with ages around c. 470 Ma were attributed to contamination
Formil rhyolite of Cooper <i>et al.</i> (2008)	473.0 \pm 0.8	Three concordant zircon analyses	U–Pb zircon TIMS. No inheritance noted by authors
Craigballyharky tonalite of Hutton <i>et al.</i> (1985)	471 \pm 2/–4 Ma	Three zircon size fractions	U–Pb zircon TIMS. Analyses are moderately discordant and define a discordia line with an upper intercept of 2030 \pm 630/–500 Ma and lower intercept of 471 \pm 2/–4 Ma

SHRIMP, sensitive high-resolution ion microprobe; LA-MC-ICP-MS, laser ablation multicollector inductively coupled plasma mass spectrometry; TIMS, thermal ionization mass spectrometry.