

### Supplementary Material

#### **Multi-gene insights into the taxonomy and conservation of Tasmania's galaxiid fishes**

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**Table S1.** Allozyme profiles of all taxa in the original 1985 overview study.

	<b>Pe</b>	<b>B</b>	<b>N</b>	<b>J</b>	<b>F</b>	<b>O</b>	<b>Pa</b>	<b>A</b>	<b>Tr</b>	<b>Ta</b>	<b>M</b>	<b>NC</b>	<b>PM</b>	<b>PJ</b>	<b>PE</b>	<b>PD</b>
Locus	2 (6)	10,23,24 (14)	5 (6)	26 (6)	14 (6)	32 (6)	2 (6)	19 (6)	9,24 (18)	21 (6)	7,13 (12)	9,12 (10)	21 (6)	24 (6)	23 (6)	23 (6)
<i>Acon1</i>	e	e	e	e	e	a	b	d	d	d	d <sup>75</sup> ,e	c	d	c	d	d
<i>Acp</i>	b	b	b	b	c	a	a	b	b	b	b	a	a	a	b	a
<i>Ada</i>	i <sup>67</sup> ,h <sup>17</sup> ,k	h <sup>64</sup> ,i <sup>29</sup> ,k	i	k <sup>83</sup> ,m	k	g	d	d <sup>67</sup> ,b	d <sup>89</sup> ,b	d	j <sup>92</sup> ,l	b	a	b	a <sup>67</sup> ,c	e <sup>67</sup> ,f
<i>Adh</i>	b	b	b	b	d	a	d	a	a	a	a	b	d	d	d	d
<i>Ak1</i>	a	a	a	a	a	a	a	a	a	a	b	a	a	a	a	a
<i>Ak2</i>	c	c	c	c	c	c	c	b	b	b	e	d	c	a	c	c
<i>Ald1</i>	b	b	b	b	b	b	a	b	b	b	b	b	a	a	a	a
<i>Ald2</i>	b	b	b	b	b	a	b	b	b	b	b	a	a	a	a	a
<i>Ca</i>	a	a	a	a	a	a	a	a	a	a	b	b	c	c	c	c
<i>Ck1</i>	a	a	a	a	b	b	b	b	b	b	b	b	b	b	b	b
<i>Ck2</i>	b	b	b	b	b	b	a	b	b	b	b	b	d	d	d	d
<i>Ck3</i>	b	b	b	b	b	b	b	b	b	b	b	-	b	b	b	b
<i>Enol</i>	b	b	b	b	b	d	d	a	a	a	b	b	b	d	d	d
<i>Fdp</i>	d	d	d	d	d	c	c	c	c	c	c	b	e	e	e	f
<i>Fum</i>	b	b	b	b	d	b	a	d	d	d	d	e	d	d	d	d
<i>G6pd</i>	c	c	c	c	a	c <sup>83</sup> ,d	b	d	d	d	a	d	c	c	c	a
<i>Gda</i>	c	c	c	c	b <sup>67</sup> ,c	b	d <sup>83</sup> ,b	f <sup>67</sup> ,g	h <sup>78</sup> ,i <sup>16</sup> ,e	e	d	c	a	a	a	a
<i>Glo</i>	b	b <sup>79</sup> ,c	b	c	b	c	c	c	c	c <sup>83</sup> ,a	c	c	c	c	c	c
<i>Got1</i>	b	b	b	b	b	b	c	b	b	b	b	a	b	b	b	b
<i>Got2</i>	b <sup>83</sup> ,c	b <sup>93</sup> ,d	b	b	b	a	c	b	b	b	f	a	d	e	e	e
<i>Gpi1</i>	c	c	c	a	c	c	c	c	c <sup>67</sup> ,b	c	c	c	d	d	d	d
<i>Gpi2</i>	g	g	g	g <sup>67</sup> ,h	g <sup>83</sup> ,h	d <sup>67</sup> ,b <sup>17</sup> ,f	h	d	d	d	c	e <sup>90</sup> ,c	a	a	a	a
<i>Gsr</i>	d	d	d	c	f	c	c <sup>83</sup> ,d	d	c	c	f	a	d	b	d	d
<i>Idh1</i>	d	d	d	d	d	a	a	a	a	a	d	-	c <sup>83</sup> ,b	b	b	b
<i>Ldh1</i>	d	d	d	d	d	d	d	b <sup>83</sup> ,d	b	b	d	d	e	e <sup>67</sup> ,c	e	e
<i>Ldh2</i>	c	c	c	c	c	c	c	c	c	c	c	c	b	b	b	b
<i>Mdh1</i>	c	c <sup>93</sup> ,a	d <sup>83</sup> ,c	d	e	d	c	c	c	c	d	b	d	d	d	d
<i>Mdh2</i>	b	b <sup>57</sup> ,a	b	b <sup>83</sup> ,a	d	b	b <sup>83</sup> ,d	b	b	a <sup>83</sup> ,b	b	d	d	d	d	d

	<b>Pe</b>	<b>B</b>	<b>N</b>	<b>J</b>	<b>F</b>	<b>O</b>	<b>Pa</b>	<b>A</b>	<b>Tr</b>	<b>Ta</b>	<b>M</b>	<b>NC</b>	<b>PM</b>	<b>PJ</b>	<b>PE</b>	<b>PD</b>
	2	10,23,24	5	26	14	32	2	19	9,24	21	7,13	9,12	21	24	23	23
Locus	(6)	(14)	(6)	(6)	(6)	(6)	(6)	(6)	(18)	(6)	(12)	(10)	(6)	(6)	(6)	(6)
<i>Me2</i>	b	b	b	b	b	b	b	b	b	b	b <sup>50</sup> ,c	b	b	a	b	b
<i>Mpi</i>	c	c <sup>93</sup> ,f	c	c	c	c	a	a	a	a	f	e <sup>50</sup> ,c <sup>40</sup> ,b	b	b	d	b
<i>PepA</i>	b	b <sup>93</sup> ,c	b	b	b	a	a	a	a	a	a	c	a	a	a	a
<i>Pgam</i>	a	a	a	a	a	a	b	a	a	a	a	a	a	a	a	a
<i>6Pgd</i>	a	a	a	a <sup>83</sup> ,c	c <sup>67</sup> ,a	a <sup>83</sup> ,b	a	a	a	a	c <sup>92</sup> ,a	d	b	d	c <sup>83</sup> ,d	c <sup>83</sup> ,a
<i>Pgk</i>	a	a	a	a	a	b	b	b	b	b	b	b	d	d	d	d
<i>Pgm1</i>	b	b	b <sup>83</sup> ,d	c	c	a	f <sup>83</sup> ,d	c	d <sup>83</sup> ,c	d	d	d	g	e	e <sup>83</sup> ,g	e
<i>Pgm2</i>	d	d	d	a	b	b	f <sup>83</sup> ,e	e	d <sup>42</sup> ,f <sup>33</sup> ,b	e	d <sup>92</sup> ,c	e	-	-	-	-
<i>Pk1</i>	c	c	c	c	a	a	b	c	c	c	b	d	d	d	d	d
<i>Pk2</i>	b	b	b	b	b	e	c	c	c	c	c	b	c	c	d	c
<i>Sordh</i>	b <sup>50</sup> ,c <sup>33</sup> ,a	c <sup>50</sup> ,b <sup>40</sup> ,a	a	c	b	b <sup>75</sup> ,a	c	a	a	a	-	a	b	b	b	b
<i>Tpi1</i>	a	a	a	a	a	a	b	a	a	a	a	a	c	c	c	c
<i>Tpi2</i>	b	b	b	b	a	b	b	b	b <sup>56</sup> ,c <sup>33</sup> ,a	b	b	b <sup>90</sup> ,c	c	b	b	b
<i>Ugpp</i>	b	b	b	b	a	b	b	b	b	b <sup>83</sup> ,c	b	c	c	c	-	c

Where multiple allozymes were present in a population, superscripts indicate the frequency of the most or more common allozyme(s). Taxa are identified using the code employed in Table 2. The sites sampled are also shown below each taxon, with the number of haploid genomes sampled shown in parentheses. Invariant locus: *Ald3*.

**Table S2.** Allozyme frequencies for populations sampled in the 2012 allozyme study.

Locus	Tr8	Tr11	Tr13	Tr17	Tr30	Tr31	Tr34	Tr35	Tr36	Tr37	Tr38	Tr39	Tr33	Tr22	Ta21	A19
<i>Acon2</i>	c	c	c	c	c <sup>90</sup> ,d	c	c	c	c	c <sup>92</sup> ,a	c <sup>90</sup> ,b	c <sup>91</sup> ,b	c	c <sup>87</sup> ,a	a <sup>83</sup> ,c	c
<i>Acyc</i>	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b <sup>94</sup> ,a
<i>Ada</i>	a <sup>50</sup> ,b	b <sup>81</sup> ,a	b <sup>67</sup> ,a	b	b	b <sup>56</sup> ,a	b <sup>50</sup> ,a <sup>44</sup> ,c	b <sup>69</sup> ,a	a <sup>50</sup> ,b	b <sup>58</sup> ,a	b	b <sup>95</sup> ,a	b	b	b	b <sup>87</sup> ,a
<i>Adh1</i>	a	a <sup>69</sup> ,c	c <sup>67</sup> ,a	a	a <sup>60</sup> ,c	a <sup>50</sup> ,c	a <sup>69</sup> ,c	a <sup>69</sup> ,c	a	c <sup>75</sup> ,a	c <sup>95</sup> ,b	c	c	c	c	c
<i>Adh2</i>	b	b <sup>94</sup> ,a	b	b	b	b	b	b	b	b	b	b	b	b	b	b <sup>81</sup> ,c
<i>Est2</i>	b	b	b	b <sup>50</sup> ,c	b	b <sup>94</sup> ,c	b <sup>94</sup> ,c	b	b	b <sup>92</sup> ,c	b <sup>95</sup> ,a	b <sup>77</sup> ,a	b	b	b	b <sup>87</sup> ,a
<i>Est3</i>	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b <sup>83</sup> ,a	b
<i>Glo</i>	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b <sup>83</sup> ,a	b
<i>Got2</i>	b	b	b	b	b <sup>90</sup> ,a	b	b	b	b	b <sup>92</sup> ,c	b <sup>85</sup> ,d	b <sup>82</sup> ,d	b	b <sup>94</sup> ,a	b	b
<i>Gp1</i>	a	a	a	a	a	a	a	a	a	a	a	a	a <sup>75</sup> ,b	a	a	a
<i>Gpd2</i>	b	b	b	b	b	b	b	b	b	b	b	b	b	b <sup>62</sup> ,a	b <sup>67</sup> ,c	b
<i>Gpi1</i>	a	a	a	a	a	a <sup>94</sup> ,b	a	a	a	a	a	a	a	a	a	a
<i>Gpi2</i>	b	b	b	b	b	b <sup>87</sup> ,a	b	b	b	b	b	b	b	b	b <sup>67</sup> ,c	b
<i>Gsr</i>	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	b
<i>Idh1</i>	b	b	b	b	b	b	b <sup>88</sup> ,c	b <sup>94</sup> ,d	b	b <sup>92</sup> ,a	b	b	b	b	b	b
<i>Ldh1</i>	a	a	a	a	a <sup>90</sup> ,b	a	a	a	a	a	a	a	a	a	a	a <sup>88</sup> ,b
<i>Mdh2</i>	b	b	b	b	b	b	b	b	b	b <sup>92</sup> ,a	b	b	b	b <sup>81</sup> ,a	a	b <sup>94</sup> ,c
<i>Me1</i>	a	a	a	a	a	a	a	a	a	a <sup>92</sup> ,b	a	a	a	a	a	a
<i>Me2</i>	a	a	a	a	a	a <sup>94</sup> ,b	a	a	a	a	a	a	a	a	a	a
<i>Mpi</i>	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b <sup>94</sup> ,a
<i>PepA2</i>	b	b	b	b	b	b	b	b	b	b <sup>92</sup> ,a	b	b	b	b	b	b
<i>PepC</i>	b	b	b <sup>83</sup> ,a	b	b	b	b <sup>94</sup> ,a	b	b	b <sup>83</sup> ,a	b	b	b	b	b <sup>94</sup> ,c	a
<i>PepD</i>	b	b <sup>94</sup> ,a	b	b	b	b	b	b	b	b <sup>92</sup> ,a	b	b	b	b	b	c
<i>6Pgd</i>	a	a	a	a	a	a <sup>94</sup> ,b	a <sup>94</sup> ,c	a <sup>63</sup> ,b	a	a <sup>92</sup> ,b	a	a	a <sup>50</sup> ,b	a	a	a
<i>Pgm1</i>	c <sup>50</sup> ,e	c <sup>81</sup> ,e	e <sup>66</sup> ,bc <sup>17</sup>	c <sup>50</sup> ,e	c <sup>60</sup> ,e	c <sup>63</sup> ,e <sup>31</sup> ,b	e <sup>62</sup> ,c	c <sup>50</sup> ,e	c	c <sup>50</sup> ,e	c	c	e <sup>75</sup> ,c	e <sup>94</sup> ,c	e <sup>83</sup> ,d	c <sup>94</sup> ,a
<i>Pgm2</i>	c	c <sup>88</sup> ,be <sup>6</sup>	c	c	c <sup>90</sup> ,e	c <sup>81</sup> ,e <sup>13</sup> ,d	c <sup>88</sup> ,e	c <sup>81</sup> ,a	c <sup>50</sup> ,e	c	c	c	e	a <sup>50</sup> ,b <sup>38</sup> ,ce <sup>6</sup>	c <sup>83</sup> ,a	c
<i>Sordh</i>	a	a	a	a	a	a	a	a <sup>94</sup> ,b	a	a	a	a	a	a	a	a
<i>Tpi2</i>	c	c <sup>88</sup> ,ab <sup>6</sup>	c	c	c <sup>90</sup> ,b	c <sup>87</sup> ,b	c <sup>88</sup> ,ab <sup>6</sup>	c <sup>75</sup> ,a	b <sup>50</sup> ,c	c <sup>92</sup> ,b	c	c	c	b <sup>43</sup> ,a <sup>38</sup> ,c	c	c

General format as for Table S1. Populations are identified by their taxon plus site codes. The two landlocked populations of *G. truttaceus* are shown in red. Invariant loci: *Acon1*, *Acp*, *Ak*, *Ald1*, *Ald2*, *Ca*, *Ck*, *Dia*, *Eno11*, *Eno2*, *Fdp*, *Fum*, *Gapd1*, *Gapd2*, *Got1*, *Gp2*, *Gpd1*, *Idh2*, *Ldh2*, *Mdh1*, *Ndpk1*, *Ndpk2*, *PepA1*, *PepB*, *Pgk*, *Pk1*, *Pk2*, *Tpi1* and *Ugpp*.

**Table S3.** Allozyme frequencies for populations sampled in the ‘2022’ integrated allozyme dataset.

Locus	Tr10	Tr11	Tr12	Tr13	Tr22	Tr24	Tr25	Tr30	Tr31	Tr33	Tr34	Tr35	Tr37	Tr38	Tr39	Ta20	Ta21	Ta21	A18	A19	A19
<i>Ada</i>	c <sup>70</sup> ,b <sup>29</sup> ,a	c <sup>81</sup> ,b	c <sup>62</sup> ,b	c <sup>67</sup> ,b	c	c	c	c	c <sup>56</sup> ,b	c	c <sup>50</sup> ,b <sup>44</sup> ,d	c <sup>69</sup> ,b	c <sup>58</sup> ,b	c	c <sup>95</sup> ,b	c	c <sup>83</sup> ,b	c	c <sup>91</sup> ,b <sup>8</sup> ,e	c <sup>67</sup> ,b	c <sup>87</sup> ,b
<i>Est2</i>	b <sup>99</sup> ,c	b	b	b	b	b	b	b	b <sup>94</sup> ,c	b	b <sup>94</sup> ,c	b	b <sup>92</sup> ,c	b <sup>95</sup> ,a	b <sup>77</sup> ,a	b	b	b	b <sup>97</sup> ,a	b	b <sup>87</sup> ,a
<i>Fum</i>	b <sup>99</sup> ,a	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b <sup>98</sup> ,c	b	b
<i>Glo</i>	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b <sup>83</sup> ,a	b <sup>83</sup> ,a	b <sup>83</sup> ,a	b	b	b
<i>Got2</i>	c <sup>93</sup> ,a <sup>6</sup> ,b	c	c <sup>99</sup> ,a	c	c <sup>94</sup> ,a	c	c	c <sup>90</sup> ,a	c	c	c	c	c <sup>92</sup> ,d	c <sup>85</sup> ,e	c <sup>82</sup> ,e	c	c	c	c	c	c
<i>Gpd2</i>	b <sup>99</sup> ,a	b	b	b	b <sup>62</sup> ,a	b <sup>75</sup> ,a	b <sup>54</sup> ,a	b	b	b	b	b	b	b	b	b	b	b <sup>67</sup> ,c	b	b	b
<i>Gpi1</i>	b	b	b	b	b	a <sup>50</sup> ,b	b <sup>77</sup> ,a	b	b <sup>94</sup> ,c	b	b	b	b	b	b	b	b	b	b	b	b
<i>Gpi2</i>	d <sup>98</sup> ,ac <sup>1</sup>	d	d <sup>98</sup> ,bf <sup>1</sup>	d	d	d	d	d	d <sup>87</sup> ,b	d	d	d	d	d	d	d	e <sup>67</sup> ,d	d <sup>67</sup> ,e	d	d	d
<i>Gsr</i>	a	a	a <sup>99</sup> ,b	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	b <sup>98</sup> ,ac <sup>1</sup>	b	b
<i>Ldh1</i>	a <sup>93</sup> ,b <sup>6</sup> ,c	a	a <sup>98</sup> ,b	a	a	a	a	a <sup>90</sup> ,b	a	a	a	a	a	a	a	a	a	a	a <sup>86</sup> ,b	a <sup>83</sup> ,b	a <sup>88</sup> ,b
<i>Ldh2</i>	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b <sup>99</sup> ,a	b	b
<i>Mdh1</i>	b	b	b <sup>99</sup> ,a	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b
<i>Mdh2</i>	b	b	b	b	b <sup>81</sup> ,a	b	b	b	b	b	b	b	b <sup>92</sup> ,a	b	b	a <sup>83</sup> ,b	a	a	b	b	b <sup>94</sup> ,c
<i>Mpi</i>	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b <sup>99</sup> ,c	b	b <sup>94</sup> ,a
<i>PepA2</i>	b <sup>98</sup> ,ac <sup>1</sup>	b	b	b	b	b	b	b	b	b	b	b	b <sup>92</sup> ,a	b	b	b	b	b	b	b	b
<i>PepD</i>	b	b <sup>94</sup> ,a	b <sup>99</sup> ,a	b	b	b	b	b	b	b	b	b	b <sup>92</sup> ,a	b	b	b	b	b	c	c	c
<i>Pgm1</i>	c <sup>58</sup> ,e	c <sup>81</sup> ,e	c <sup>58</sup> ,e <sup>41</sup> ,b	e <sup>66</sup> ,bc <sup>17</sup>	e <sup>94</sup> ,c	e	e <sup>79</sup> ,c	c <sup>60</sup> ,e	c <sup>63</sup> ,e <sup>31</sup> ,b	e <sup>75</sup> ,c	e <sup>62</sup> ,c	c <sup>50</sup> ,e	c <sup>50</sup> ,e	c	c	e	e <sup>83</sup> ,d	e <sup>83</sup> ,d	c <sup>85</sup> ,a <sup>14</sup> ,d	c	c <sup>94</sup> ,a
<i>Pgm2</i>	c <sup>84</sup> ,e <sup>10</sup> ,ab <sup>3</sup>	c <sup>88</sup> ,be <sup>6</sup>	c <sup>81</sup> ,e <sup>9</sup> ,ab <sup>5</sup>	c	a <sup>50</sup> ,b <sup>38</sup> ,ce <sup>6</sup>	b <sup>42</sup> ,e <sup>33</sup> ,a	a <sup>48</sup> ,b <sup>40</sup> ,e	c <sup>90</sup> ,e	c <sup>81</sup> ,e <sup>13</sup> ,d	e	c <sup>88</sup> ,e	c <sup>81</sup> ,a	c	c	c	c	c	c <sup>83</sup> ,a	c <sup>99</sup> ,e	c	c
<i>Tpi2</i>	e <sup>82</sup> ,d <sup>13</sup> ,b	e <sup>88</sup> ,bd <sup>6</sup>	e <sup>82</sup> ,d <sup>11</sup> ,b <sup>5</sup> ,af <sup>1</sup>	e	d <sup>43</sup> ,b <sup>38</sup> ,e	b <sup>67</sup> ,d	d <sup>52</sup> ,b	e <sup>90</sup> ,d	e <sup>87</sup> ,d	e	e <sup>88</sup> ,bd <sup>6</sup>	e <sup>75</sup> ,b	e <sup>92</sup> ,d	e	e	e	e	e	e <sup>97</sup> ,c	e	e
<i>Ugpp</i>	b	b	b <sup>98</sup> ,a	b	b	b	b	b	b	b	b	b	b	b	b	b <sup>83</sup> ,c	b	b	b <sup>99</sup> ,c	b	b

General format as for Tables S1 and S2. Blue text, 1985 study; red text, 1988 study; black text, 2012 study.