The Odonata of the Absetzbecken Hohenau-Ringelsdorf, Lower Austria in summer 2002.

All records refer to the summer (July-end October) of 2002 unless otherwise stated. All records J. Barker/S. Götsch unless otherwise stated. Each entry has the degree of threat to the species in Lower Austria, as assessed by Raab & Chwala (1997) and the approximate flight period for the species. This is followed by the records for the Absetzbecken Hohenau-Ringelsdorf for the summer of 2002, along with any previous and/or subsequent records, finishing with a note of the species' habitat preferences and European distribution.

ZYGOPTERA

1. *Calopteryx splendens*: Gebänderte Prachtlibelle

(NÖ Red list code 4)
Flight period: late May to the end of July

Prior to 2002, one male was seen on the Anlandebecken ditch on the 2.8.96 (T. Zuna-Kratky). During summer 2002, one male was found in the ditch on the southern border of the Kühlteich during a high water episode on the river March (9.8.02). The species is common on and around the river March, but the gallery forest of the Fürstenwald probably inhibits much movement away from the river towards the Absetzbecken. The preferred habitat of *C. splendens* is slow-flowing water with a muddy bottom (Merritt 1996), only the March is really suitable in the area. The species is found throughout Europe, wherever there is suitable habitat (Merritt 1996).

2. *Platycnemis pennipes*: Blaue Federlibelle

Flight period: early June to the end of August

At least 15 pairs were seen egg-laying in the Fischteich on the 14.8.97 (T. Zuna-Kratky). *P. pennipes* was found to be common around the older areas of the Absetzbecken (e.g. the Schwarzawa and the Fischteiche) but only occasionally seen actually on the Anlandebecken (pools 9 and 4 in particular). First noted on the 5.7.02, although emergence is much earlier: 20+ adults active on the Fischteiche by 12.5.03. Probably present across the Absetzbecken in varying densities, it is common along much of the river March, especially around Drösing and Marchegg. The species is found throughout Europe wherever there are large streams or rivers with unshaded banks and plenty of emergent vegetation (Merritt 1996).

3. *Chalcolestes viridis*: Weidenjungfer

Flight period: early July to late September

Not recorded before 2002. *L. viridis* was seen occasionally at the Anlandebecken (at least in pool 9) and once, the last record of the season, at the Schlammkassetten on the 19.9.02. A number of pairs were found copulating in the Schwarzawa, where the species was seen regularly. First seen on the 17.7.02, the last sighting was on the 19.9.02. The species requires ponds or slow flowing ditches in Southern and Central Europe (Merritt 1996).

4. *Lestes sponsa*: Gemeine Binsenjungfer
Flight period: late June to September

L. sponsa was seen irregularly in the Schwarzawa, and once each in Anlandebecken 5 and 2. First seen 10.8.02. The species is 'widespread through Europe', and said to be the commonest lestid in central Europe (Brooks 1997), so was probably overlooked. It prefers shallow water habitats with much emergent vegetation (Merritt 1996)

5. *Lestes barbarus*: Südliche Binsenjungfer
(NÖ Red list code)
Flight period: July to October

At least four pairs were seen copulating in Anlandebecken pool 2, with many unpaired individuals also present there. One individual was also seen once in pool 9. First seen on the 17.8.02. The species likes ponds and ditches with a lot of emergent vegetation. The European population centres on the Mediterranean, the species becoming progressively scarcer to the north, reaching as far as Northern France and Germany (Merritt 1996). It seems to be expanding its range to the north (BDS).

6. *Lestes dryas*: Glänzende Binsenjungfer
Flight period: late June to September

One male was photographed on pool 2 in mid-July 2002, and others were probably seen here, but unconfirmed. *L. dryas* is almost certainly overlooked, but identification is difficult unless the damselfly is trapped and/or photographed. As it requires shallow, marshy sites to breed in with water at pH neutral or slightly alkaline (Brooks 1997, Merritt 1996), Hohenau would seem to have ideal habitat for the species. As with many other dragonfly species, a large amount of emergent vegetation is vital. Although the species is found across Europe, it appears to be declining in much of its range (Merritt 1996).

7. *Ischnura elegans*: Große Pechlibelle
Flight period: mid-May to September

I. elegans was found to be very common throughout the area, with pairs and egg-laying females seen frequently. First seen 5.7.02, 5+ males were seen at the Fischteiche on the 14.8.02 (T. Zuna-Kratky). The last sighting was on 3.9.02. A number of individuals had already emerged in the area by early May 2003. The species is a hardy coloniser of new ponds, tolerating quite polluted or even somewhat salty water (Brooks 1997) and so should be widespread throughout the Absetzbecken. It is one of the commonest and most widespread dragonfly species in Europe (Merritt 1996).

8. *Ischnura pumilio*: Kleine Pechlibelle
(NÖ Red list code 2)
Flight period: late May to September

This species seems to be common around the shallower water of the Anlandebecken, especially pools 9 and 5 and in the ditches all around the

site. Pairs travelling in tandem and egg-laying were seen frequently. First noted on the 12.7.02, the last sighting was on the 10.8.02. As the species seems to prefer shallow water with exposed mud beneath (Brooks 1997), it should benefit greatly from the management techniques in place at the Anlandebecken. It favours mineral-rich waters to breed in. The bulk of the population is found in Southern Europe, becoming scarcer further north (Merritt 1996).

9. *Enallagma cyathigerum*: Gemeine Becherlibelle
Flight period: late May to late September

This is a very common species around the Anlandebecken. Tandem pairs and egg-laying females were seen frequently. First noted on the 12.7.02, and last noted on the 1.9.02, it has almost certainly been under-recorded. *E. cyathigerum* likes open water of almost any kind (Brooks 1997), although it avoids small ponds (Merritt 1996). It should be encountered anywhere in the Absetzbecken. The species is found throughout Europe.

10. *Coenagrion puella*: Hufeisen-Azurjungfer
Flight period: mid-May to the end of July

This species was seen occasionally around pool 9, and is probably also present on pools 3 and 4. Pairs were seen only rarely. The first record was on the 5.7.02. Some *C. puella* had already emerged in the March-Thaya area by early May 2003. The species prefers well-vegetated, often small, ponds and is said to be one of the commonest damselflies in Europe (Brooks 1997).

11. *Coenagrion scitulum*: Gabel-Azurjungfer
(NÖ Red list code 1)
Flight period: late May to the end of July

One male was seen, photographed and captured in the ditch by the ringing station on the 12.7.02. *C. scitulum* is commonest in the Mediterranean region, but is found in isolated pockets through Central Europe (Merritt 1996). Although categorised as almost extinct in Lower Austria, it may well have been overlooked, especially as the dragonflies of the March-Thaya region seem to have been largely ignored so far. It is found in a range of conditions through Europe, ranging from mesotrophic to eutrophic habitats, with a preference for open, sunny locations and plenty of vegetation (Brooks 1997). As the species is not known for its ability to disperse, perhaps there is a colony waiting to be (re-?) discovered in the area…

12. *Erythromma najas*: Großes Granatauge
(NÖ Red list code 4)
Flight period: mid-May to the end of August

This species was seen occasionally on Anlandebecken pools 3, 4, and 5, and also on the Fischteiche. It is probably commoner on the Fischteiche and the Schwarzawa (where many unidentified and inaccessible *Erythromma* were seen) than on the Anlandebecken. The fact that it was first noted on the 12.7.02, and last recorded on the 21.7.02, reflects the apparent scarcity of the species on site. *E. najas* prefers older water with well established floating

vegetation rafts (Brooks 1997), the bulk of which habitat in this area is found inside the Schwarzawa. It is widespread through Central and Northern Europe.

13. *Erythromma viridulum*: Kleines Granatauge
(NÖ Red list code 4)
Flight period: June to September

This species seems to be very common in the area. It was seen throughout the Anlandebecken, at the Fischteiche, at the Kühlteich and in the Schwarzawa. Egg-laying and pairs in tandem were frequently observed on the pools of the Anlandebecken. First seen 12.7.02, last sighting 17.8.02. At least one male had already emerged by 12.5.2003. The species requires shallower water with plenty of floating vegetation, particularly *Myriophyllum* and *Lemna* species (BDS). Eutrophication may encourage *E. viridulum* to breed in new areas – it is currently dramatically expanding its range in Europe, colonising the UK and Scandinavia (Dijkstra and Kalkman 1999).

ANISOPTERA

14. *Gomphus vulgatissimus*: Gemeine Keiljungfer
Flight period: mid-May to July

G. vulgatissimus was only seen subsequent to the 2002 season – one male hunting around the ringing station on 12.5.03. The species is very common down the March-Thaya Auen, with over 120 individuals counted on an 8 km stretch of the floodbank between Rabensburg and Hohenau on the 17.5.03. Found throughout Europe, wherever there is suitable habitat, it may be extremely common locally (Brooks 1997). The preferred habitat is slow-flowing rivers with surrounding woodland, although they will also occasionally breed in static water bodies. The species is found throughout Europe, and is at its commonest in central areas of Europe (Merritt 1996).

15. *Brachytron pratense*: Schilfjäger
Flight period: mid-May to July

One male was seen hunting in the Anlandebecken on the 21.5.00 (T. Zuna-Kratky). At least one male, probably several more, seen on the 12.5.03 on the Anlandebecken. The species is no doubt under-recorded due to its early flight period (May/June), when the Absetzbecken is less well watched. A second contributing factor to under-recording is the species' habit of settling almost immediately when cloud covers the sun (Merritt 1996). *B. pratense* requires clean water with plenty of vegetation around, as well as shelter in the near vicinity (Brooks 1997). The species is found throughout Europe.

16. *Anax imperator*: Große Königslibelle
Flight period: early June to late August

Prior to the summer of 2002, *A. imperator* was seen in July/August 1997 (T. Zuna-Kratky). During 2002, the species was common around the larger pools, particularly Anlandebecken pools 3, 5 and 9. Egg-laying was seen occasionally in pool 9. First recorded on the 5.7.02, the last sighting was on

the 18.8.02. It prefers larger ponds with plenty of vegetation, but acts as something of a pioneer species (Brooks 1997), so may disappear from older waters – it was not found around the Fischteiche or the Schwarzawa, for instance. *A. imperator* is found throughout Europe, north to southern Sweden (Merritt 1996).

17. *Anax parthenope*: Kleine Königslibelle
(NÖ Red list code 2)
Flight period: May to August

This species was found to be common across the Anlandebecken. Egg-laying was observed frequently in pool 9, and one exuvium was found there in September 2002. The first recorded was on the 5.7.02, and the final sighting on the 13.9.02. *A. parthenope* is said to be rarely abundant through much of Europe (Brooks 1997), although the species currently seems to be undergoing a range expansion to the north and west in Europe (BDS).

18. *Anaciaeshna isosceles*: Keilfleck-Mosaikjungfer
(NÖ Red list code 1)
Flight period: early June to the end of July

One male was caught in the bird nets on the 27.7.02. The species seems to be restricted to very clean water, often on grazing marshes, and is commonest through Central Europe and the Mediterranean (Brooks 1997).

19. *Aeshna affinis*: Südliche Mosaikjungfer
(NÖ Red list code 3)
Flight period: late June to the end of August

Before 2002, two males were caught in bird nets on the 8.9.95 (T. Zuna-Kratky). In the summer of 2002 the species was found to be regular around the Anlandebecken, particularly pool 9, but more frequently found in and around the Schwarzawa. One pair in tandem was seen over Anlandebecken pool 9. First seen on the 21.7.02, last sighting on the 1.9.02. The species is a migrant in much of its range, the core of which centres on the Mediterranean and Central Europe (Brooks 1997, BDS 2003). It prefers shallow ponds with abundant emergent vegetation (Merritt 1996).

20. *Aeshna mixta*: Herbst-Mosaikjungfer
Flight period: late July to late October

The species has been noted in a number of years previous to 2002: between August and 2nd November 1996, September - October 1997 and October 2001 on the Anlandebecken, and in September 1997 to the south of the Anlandebecken (T. Zuna-Kratky). In 2002 individuals were frequently to be found hunting along the dry ditch between the dams on the west side of the Anlandebecken. *A. mixta* was also seen around the edges of the Schwarzawa and on Anlandebecken pools 5 and 9. First noted on the 16.8.02, the last sighting was on the 5.10.02. The species prefers larger areas of water to breed in, but feeds commonly around woodland and scrub, over lush vegetation, and along ditches (Brooks 1997). It is common through Southern and Central Europe (Merritt 1996).

21. *Aeshna cyanea*: Blaugrüne-Mosaikjungfer
Flight period: July to October

This species was seen occasionally around the Anlandebecken, most frequently whilst hunting along the dry ditch west of the pools, and around the edges of the Schwarzawa. It was first seen on the 16.8.02, and last noted on the 5.10.02. These dragonflies like to feed alone around woodland clearings, and they breed in a wide variety of waters, generally preferring mesotrophic ponds (Brooks 1997). The species is found throughout Europe.

22. *Somatochlora metallica*: Glänzende Smaragdlibelle
Flight period: mid-June to mid-August

Territorial adults were seen at the Fischteiche and more commonly in the Schwarzawa, where one egg-laying female was also seen. First seen on the 13.7.02, the last sighting was on the 21.7.02. The species is found in shadier areas than *Cordulia aenea*, so the Schwarzawa and Fischteiche are perhaps more suited to *S. metallica*. They tend to prefer open, still or slow-flowing water shadowed by large trees (Brooks 1997), so are unlikely to be found on the Anlandebecken except as accidental visitors or migrants. The species is found through Central and Northern Europe, often sharing sites with *Cordulia aenea* (see other species probably present).

23. *Libellula depressa*: Plattbauch
Flight period: mid-May to early August

One male was seen on the 2.7.01 (T. Zuna-Kratky). During July 2002, one or two males held territories on pool 9, with a copulating pair also seen once. The species was first noted on the 12.7.02. Males were, however, in evidence by early May 2003. *L. depressa* prefers shallow, sunny ponds, tolerating a little pollution at times (Brooks 1997). The species is likely to be more common on the Anlandebecken than records suggest, perhaps because they emerge early in the summer and tend to occur around the more recently disturbed areas. *L. depressa* is found throughout Europe.

24. *Libellula quadrimaculata*: Vierfleck
(NÖ Red list code 3)
Flight period: late May to early August

Between one and three individuals were holding territories on pool 9 from the 6.7.02. At least four were found on the Anlandebecken on the 12.5.03. All were found perched on emergent vegetation within the pool boundaries, a typical place for the species. *L. quadrimaculata* likes open sunny areas, and still water (Brooks 1997). *L. quadrimaculata* has a Holarctic distribution, in Europe often occurring on the same waters as *L. depressa*.

25. *Orthetrum brunneum*: Südlicher Blaupfeil
Flight period: June to August

One male and one female were seen in 1996 on the Anlandebecken; the male on the 2.8 and the female on the 27.7 (T. Zuna-Kratky). The species was not

found in 2002. It prefers small ponds, often with a sandy substrate and is commonest in more southerly regions, particularly the Mediterranean.

26. *Orthetrum cancellatum*: Großer Blaupfeil
Flight period: late May to mid-August

This species is very common indeed through the whole Absetzbecken area, with the exception of the Schwarzawa. Egg-laying and copulating pairs were seen frequently. The first noted in 2002 were on the 5.7.02, and the final sighting on the 1.9.02. *O. cancellatum* was also seen each year between May and August, from 1997 to 2000 (T. Zuna-Kratky) and by early May 2003. The species is generally found around lakes and ponds, where the water's edge is surrounded by open mud or bare stones: the favoured perch of territorial males (Brooks 1997). The species is common through much of Europe (Merritt 1996).

27. *Orthetrum albistylum*: Östlicher Blaupfeil
(NÖ Red list code 6)
Flight period: June to August

Common on the open pools of the Anlandebecken, although less so than *O. cancellatum*. Egg-laying and copulating pairs were seen on pool 9. First seen on the 5.7.02, the last sighting was on the 17.8.02. It inhabits similar areas to *O. cancellatum*, so is likely to be common on the Absetzbecken. *O. albistylum* is a steppe species, reaching across the centre of Europe towards western France.

28. *Sympetrum vulgatum*: Gemeine Heidelibelle
Flight period: early July to October

S. vulgatum was first recorded on 12.10.01 (T. Zuna-Kratky). This species was very common throughout the whole of the Absetzbecken. Pairs and egg-laying females were seen frequently. The first noted sighting was on the 12.7.02, the last sighting on the 5.10.02. Adults can be found flying from late June in much of Europe, using a large variety of still water sites, whether ponds, ditches or lakes (Brooks 1997). *S. vulgatum* occurs through Europe, but becomes increasingly more common east of Eastern France (Merritt 1996).

29. *Sympetrum striolatum*: Große Heidelibelle
Flight period: end of June to late October or early November

Prior to the summer of 2002, the species was only recorded on the 12.10.01 (T. Zuna-Kratky). *S. striolatum* was found to be regular around the Anlandebecken, with very freshly emerged individuals seen at first, unlike most other species. Pairs were seen around pool 9. First noted on the 16.8.02, the last record was as late as the 5.10.02. The species uses a very wide range of water bodies, with the exception of well-shaded areas (Brooks 1997) like the Schwarzawa pools. As the species may be active in lower temperatures when other dragonflies cannot fly, it should be especially noticeable towards the end of the summer. The species is common through most of Europe.

30. *Sympetrum fonscolombii*: Frühe Heidelibelle
(NÖ Red list code 6)
Flight period: mid-June to October

This species was initially seen on 2.7.01 (T. Zuna-Kratky). It was common all around the Absetzbecken, although the open areas of the Anlandebecken were favoured. Pairs and egg-laying females were seen occasionally. First seen on the 5.7.02, but males were already holding territory around the Anlandebecken by early May 2003. The last sighting in 2002 was on the 10th of September. *S. fonscolombii* emerges in April/May and is capable of completing two generations per year in parts of Southern Europe (Brooks 1997) – perhaps also here? The species is found through much of Southern Europe, but is commonest around the Mediterranean. Like a number of other southern species it is rapidly extending its range to the north and west of Europe (Merritt 1996).

31. *Sympetrum sanguineum*: Blutrote Heidelibelle
Flight period: late June to mid-September

This species was recorded in September 1997 and 2001, and October 1998 (T. Zuna-Kratky). In 2002 it was common around the Absetzbecken, but the vast majority of the individuals seen were around the Schwarzawa and the Fischteiche. This may be because the species' preferred habitat is shallow water with plenty of vegetation (Brooks 1997). Egg-laying and copulating pairs were seen occasionally. The first was seen on the 10.8.02, the last noted was on the 2.9.02. The species is widespread through Europe.

32. *Sympetrum flaveolum*: Gefleckte Heidelibelle
(NÖ Red list code 1)
Flight period: late June to October

S. flaveolum was recorded before this survey on the 15.8.97 and 19.9.97 (T. Zuna-Kratky). In 2002, territorial males were seen on pool 2 and on the eastern dam of the Anlandebecken. One female was seen on pool 6. The first sighting was on the 30.8.02, and the last sighting was on the 14.9.02. The species is strongly associated with thick vegetation around the edge of pools (Brooks 1997): pool 2 was a mix of shallow flooded grass and *Juncus* in 2002. The species is found through much of Europe, but appears to be declining (Merritt 1996).

33. *Sympetrum pedemontanum*: Gebänderte Heidelibelle
(NÖ Red list code 2)
Flight period: July to at least September

There is one record from 20.8.97 of a male on the Anlandebecken (T. Zuna-Kratky). Territorial males were seen in 2002 on Anlandebecken pools 2 and 5, one female was also seen at the base of the dam by pool 2. The first male was seen on the 5.8.02; the last sighting, of the female, on the 31.8.02. Like *S. flaveolum*, the species prefers dense grassy vegetation. It may be merely uncommon at Hohenau, as it is apparently most frequent in the hillier areas of Europe (Brooks 1997).

34. *Crocothemis erythraea*: Feuerlibelle
Flight period: June to September

This species was not recorded until after the 2002 season, when at least one male was seen near pool 9 of the Anlandebecken (R. Riegler, M. Schindler) in June/July 2003. This may be a record of a local breeder (from at least as close as the Seewinkel), or a migrant from further still: the species is capable of travelling hundreds of kilometres outside its breeding range (Brooks 1997). *C. erythraea* seems to prefer shallow eutrophic ponds and ditches to breed in. The bulk of the population is found around the Mediterranean; it is very local further north (Merritt 1997). However, the range appears to be expanding northwards (Dijkstra and Kalkman, 1999).

Other unconfirmed species.

1. ***Libellula fulva* (Spitzenfleck):** a species that inhabits similar waters to *Gomphus vulgatissimus*, but likes plenty of emergent vegetation. Flight period is from the end of May to mid-July, found locally from southern France through much of Central Europe.

2. ***Gomphus flavipes* (Asiatische Keiljungfer):** inhabits similar areas to *G. vulgatissimus*, and is apparently present on the March (www.libellen.jochen.de/). Flight season runs from May to October, significantly longer than that of *G. vulgatissimus*.

3. ***Sympetrum meridionale* (Südliche Heidelibelle):** requires shallow ponds and lakes. Flies from May to October, generally a Mediterranean species, but is capable of reaching the area.

Other species probably present.

1. ***Coenagrion pulchellum* (Fledermaus-Azurjungfer):** found mainly through Central and Northern Europe, this species depends strongly on emergent vegetation in mesotrophic ponds and lakes. Flies from mid-May to August.

2. ***Pyrrhosoma nymphula* (Frühe Adonislibelle):** inhabits a wide range of waterbodies. Flies from late April to September, but becomes rather scarce by the summer – average lifespan of an individual is just one week. Found throughout Europe.

3. ***Cordulia aenea* (Falkenlibelle):** found on well-vegetated mesotrophic lakes with some shading, but avoids the deep shade that *Somatochlora metallica* prefers. Tends to use water with pH neutral to slightly acid. Found throughout Europe, flying from late May to July.

4. ***Aeshna grandis* (Braune Mosaikjungfer):** this is a common dragonfly through most of Europe. Found on almost any kind of lowland water from early June to mid-October. One unidentified dragonfly, possibly an aberrant female of this species was caught in the bird nets in early September 2002.

Both *P. nymphula* and *C. aenea* are present at Drösing, just 8 kilometers or so downstream. Both have early flight periods though, so may be overlooked in the area unless spring visits become more regular.

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Appendix 1.

Red list codes refer to the Red List of Lower Austria's Dragonflies (Raab & Chwala 1997); also set out below.

Code 0: Extinct
Code 1: Threatened with extinction
Code 2: Strongly threatened
Code 3: Threatened
Code 4: Vulnerable
Code 5: Risk unknown
Code 6: Data deficient

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