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The Pleasing Fungus Beetles of Illinois (Coleoptera: Erotylidae) Part II. Triplacinae. *Triplax* and *Ischyrus*

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ABSTRACT

The Illinois fauna of the subfamily Triplacinae (Coleoptera: Erotylidae) includes 3 known genera: *Triplax* Herbst, *Ischyrus* Lacordaire and *Tritoma* Fabricius. The eight species of *Triplax* and the single species of *Ischyrus* known to occur in Illinois are treated in this paper. Three new records for Illinois are reported: *Triplax macra* LeConte; *Triplax festiva* Lacordaire; and *Triplax puncticeps* Casey. Keys to the identification of adults, descriptions of each species, habitus drawings and distribution maps are provided. Fungal host relationships of each species are reported and discussed.

The family Erotylidae includes colorful fungus feeding beetles commonly called "pleasing fungus beetles". They are world wide in distribution with over 2000 described species. The family was comprehensively revised for North America by Boyle in 1956. Of the 44 genera reported from the New World (Blackwelder 1945; Boyle 1956); 10 genera and 49 species are known north of Mexico (Boyle 1956, 1962; Goodrich & Skelley 1991a). Within the subfamily Triplacinae, 6 genera and 40 species occur nationally. The purpose of this series of papers is to provide a complete list of the Erotylidae occurring in Illinois, keys and descriptions of adults of each species for identification, distribution maps of their occurrence within the state, and descriptions of their biology and host relationships. Part I of this series covered the subfamily Dacninae (Goodrich & Skelley 1991b); this paper covers two of the three genera of Triplacinae occurring in Illinois.

The family Erotylidae can be separated from other beetles by their convex elongate-oval to ovoid shape, 3-4 segmented antennal club which is often capitate, 5-5-5 tarsal formula, which is sometimes modified to a pseudotetramerous condition, glabrous body surface, closed procoxal cavities, well developed maxillary palps which are often expanded apically, and frequently bright color patterns. For a comparison to similar families and for a general description of their biology see Goodrich & Skelley (1991b). Our comprehensive treatment of the host preferences of North American Erotylidae (Skelley, Goodrich & Leschen 1991) provides additional data on their biology.

The Erotylidae of North America are widely distributed over the continent and are generally restricted to moist woodland areas. No specimens have been seen from the Florida Keys, northern Canada, the Great Plains, or in deserts where trees and their host fungi are absent. Eastern species, which includes those occurring in Illinois, tend to be distributed east of the 100th Meridian. However, some range further west where river valleys with forests are present. In Illinois, Erotylidae occur wherever hardwood forests persist, sometimes within urban settings.

MATERIALS AND METHODS

In addition to extensive collecting by the authors, Illinois specimens of the subfamily Triplacinae were borrowed for study from 29 museums or private collections. A total of 12,493 adult specimens of *Ischyrus* and *Triplax* spp. were examined and identified; 5,070 of these were from Illinois. We followed the taxonomic treatment of Boyle (1956) in our study of the Triplacinae. The range of each species was based on specimens we have seen and identified, and the detailed records of Boyle (1956). Specimens studied are in the collections identified in the Acknowledgments or in our personal collections.

Erotylids were collected in a wide variety of woodland fungi, in crevices under bark or in other retreats, and in insect traps (Malaise, flight-intercept, U-V light, and pitfall). This field work provided information on host relationships as well as data on distribution and seasonal activity. Larvae collected in the field were reared to adults in the laboratory by placing the fungal host with larvae in a well ventilated, moist container and allowing them to complete development.

RESULTS

Three genera of Triplacinae (*Ischyrus* Lacordaire, *Triplax* Herbst and *Tritoma* Fabricius) were found to be widely distributed in Illinois. *Ischyrus* and *Triplax* are treated in this paper. One species of *Ischyrus* and eight species of *Triplax* from Illinois were identified: *Ischyrus quadripunctatus* (Olivier), *Triplax macra* LeConte, *T. festiva* Lacordaire, *T. frontalis* Horn, *T. thoracica* Say, *T. flavicollis* Lacordaire, *T. dissimulator* (Crotch), *T. puncticeps* Casey, and *T. frosti* Casey. Some of these species are common and widely distributed, while others are represented in Illinois by a single record.

KEY TO ILLINOIS SUBFAMILIES OF EROTYLIDAE

Fourth tarsomere scarcely reduced, subequal in length to the third (Fig. 1); terminal segments of the maxillary palpi cylindrical (Fig. 3) ..... Dacninae

Fourth tarsomere strongly reduced, smaller than the bilobed third (Fig. 2); terminal segments of the maxillary palpi transverse or triangular (Fig. 4) ..... Triplacinae

Among the North American Erotylidae, the Triplacinae are considered more advanced than the Dacninae. The Triplacinae have derived pseudotetramerous tarsi and highly specialized maxillary palpi in which the terminal segments are expanded, often very strongly. In contrast, the Dacninae have the more primitive 5-5-5 tarsal formula and cylindrical, relatively unspecialized terminal segments of the maxillary palpi.

We also find host associations to be more specific in the Triplacinae than in the Dacninae. While species of Triplacinae are commonly restricted to one genus or a few closely related genera of fungi, Dacninae often have a wide diversity of hosts (Goodrich and Skelley 1991b). The usual hosts of the Dacninae are polypores, which we have speculated as ancestral in Erotylidae (Skelley, Goodrich & Leschen 1991).

KEY TO ILLINOIS GENERA OF TRIPLACINAE

1. Eyes coarsely faceted and relatively large; pronotum and elytra bearing a piceous or black pattern on a lighter background, pronotum with four black spots..... ..... *Ischyrus q. quadripunctatus*
   Eyes finely faceted and relatively small; pronotum and elytra not marked as above..... 2

2. Prosternal lines short, not extending in front of procoxal cavities (Fig. 5); body relatively elongate oval ..... *Triplax*
   Prosternal lines long, either incurved anteriorly or meeting at prosternal apex (Fig. 6); body relatively broadly oval, tapering posteriorly..... *Tritoma* *

* This genus to be treated in the "Erotylidae of Illinois - Part III."

DESCRIPTION OF THE SPECIES

Genus *Ischyrus* Lacordaire

This is a largely neotropical genus; 68 species are described for the New World. Only four species have been described from the United States; two of these are restricted to the American Southwest and one to peninsular Florida and southeastern Georgia (Skelley & Goodrich 1989). Only one species, *Ischyrus quadripunctatus*, is widely distributed in the United States.

***Ischyrus quadripunctatus quadripunctatus* (Olivier)**

Diagnostic Description. As the only Illinois representative of the genus, this species is easily distinguished from all other Illinois Erotylidae. It has an elongate oval shape and distinctive color pattern. The elytra are yellowish brown with three irregular black fasciae; the basal fascia almost always is divided into three spots, one on each humerus and one large subquadrate medial spot. The pronotum is also yellowish brown, except for a transverse row of four black spots (Fig. 11). The eyes are coarsely faceted and large. This is the largest member of the Illinois Triplacinae, ranging from 4.83 to 8.70 mm long.

Range. Eastern and central North America, being generally distributed east of the 100th Meridian. The species ranges in the north from New York and Ontario westward to Minnesota, eastern South Dakota and eastern Nebraska, and in the south from Florida westward to eastern Texas. It is replaced in extreme southern Texas by the subspecies *Ischyrus quadripunctatus graphicus* Lacordaire, whose range extends well into Mexico. *Ischyrus q. quadripunctatus* is widely distributed in Illinois, with specimens being found in all parts of the state (Fig. 14).

Biology. Although we have a large number of collection records of this species, biological data is limited. We have collected adults and reared the larvae of *Ischyrus quadripunctatus* most frequently from *Oxyporus latemarginatus* (previously known as *Poria ambigua*), a soft, white polypore that grows prostrate on the undersurfaces of dead tree trunks and limbs. Weiss (1920a) also reports rearing this beetle from *Poria* sp. In addition, Weiss and West (1920) reported this beetle from *Polyporus gilvus* (now referred to as *Phellinus gilvus*). *Ischyrus quadripunctatus* is frequently taken under bark of a wide variety of dead trees; they may be feeding on fungi in these locations, or aestivating there during dry periods. As one might suspect from the large eye facets, *Ischyrus quadripunctatus* is nocturnal and comes readily to light. A large number of specimens are taken "At light" or in U-V light traps.

Adult specimens have been taken in Illinois between 15 February and 20 November, specimens being collected in every month between those dates. Immature stages have been described by Weiss (1920a), Skelley (1988) and Lawrence (1991).

Remarks. There is considerable variation in the relative size of the pronotal spots and of the elytral fasciae. To some extent this is geographic, but considerable intrapopulation variation is found as well.

Specimens Examined. We have examined a total of 1,673 specimens, 284 of which are from Illinois.

Genus *Triplax* Herbst

This genus is the largest in North America, represented by 19 species north of Mexico (Boyle 1956; 1962). We have records of eight species occurring in Illinois. Two of these (*Triplax flavicollis* and *T. thoracica*) are among the most common species of erotylids in the state; the others are scarce or poorly collected. Three new state records are reported in this paper.

Boyle (1956) divided the genus *Triplax* into two species groups, based on the study of their comparative anatomy, including detailed study of the genitalia. We find this classification entirely justified by our study of their host preferences (Skelley, Goodrich & Leschen 1991). Members of species group *thoracica* feed almost exclusively on the gilled fungus *Pleurotus*, while members of the species group *macra* are usually associated with the polypore genus *Inonotus*. With the exception of the striking *Triplax festiva*, all of our Illinois *Triplax* species have a uniform color pattern, with a red pronotum and black elytra. This complicates identification for the non-specialist. The following key should serve as an aid to identify the species of *Triplax* of Illinois.

KEY TO THE ILLINOIS SPECIES OF *TRIPLAX*

1. Sides of the epistomal-frontal region of the head strongly, narrowly margined; apical angles sharp, approximately right-angled (Fig. 7); antennae entirely black beyond the second segment..... Species group *macra* 2
   Sides of epistomal-frontal region weakly, widely, or not at all margined; apical angles rounded, obtusely angled (Fig. 8); antennae with at least part of the stem in addition to segments 1 and 2 lighter in color..... Species group *thoracica* 4

2. Head entirely red..... *macra*
   Head mostly or entirely black..... 3

3. Elytra black with a broad transverse orange band (Fig. 13) ..... *festiva*
   Elytra entirely black..... *frontalis*

4. Elytra distinctly margined basally; meso- and metathorax piceous to black 5
   Elytra indistinctly or not margined; meso- and metathorax orange 6

5. Pronotum without pronotal spots; width of 8th antennal segment greater than the 7th (Fig. 9)..... *flavicollis*
   Pronotum bearing one or two medial piceous spots; 8th antennal segment subequal in width to the 7th (Fig. 10) ..... *dissimulator*

6. Terminal segments of maxillary palpi weakly widened, not more than twice as wide as long..... *puncticeps*
   Terminal segments of maxillary palpi strongly widened, more than three times as wide as long..... 7

7. Elytral intervals distinctly punctate basally; scutellum darker than pronotum ..... *thoracica*
   Elytral intervals smooth basally; scutellum yellow, concolorous with pronotum ..... *frosti*

Species group *thoracica*

This is the larger of the two species groups, with 12 species nationally, five of which have been recorded from Illinois. This group includes the two common species, *Triplax flavicollis* and *T. thoracica*, which are widely distributed throughout the state. These species are frequently collected because their host fungi (*Pleurotus* spp.) have large, conspicuous basidiocarps. Of the remaining three Illinois species in the *thoracica* group, one (*T. puncticeps*) is a southern species whose range extends only into the southernmost counties, and two (*T. frosti* and *T. dissimulator*) are northern species, each with only one record for Illinois.

***Triplax thoracica* Say**

Diagnostic Description. This is one of the two common species of *Triplax* in Illinois with a red pronotum and black elytra (Fig. 12). It is distinguished from *macra*, *frontalis* and *festiva* by the shape of the epistomal region as described in the key and by the light colored stem of the antennae; from *flavicollis* and *dissimulator* by the uniformly orange

undersurface and the absence of basal elytral margins; from *puncticeps* by the strongly widened distal joints of the maxillary palpi; and from *frosti* by the dark scutellum and punctate elytral intervals. Overall length ranges from 3.04 to 5.60 mm.

Range. Eastern and central North America, ranging in the north from New Brunswick westward to Alberta, and in the south from Florida to New Mexico. It occurs east of the Rockies where suitable deciduous forests exist, and is absent only from the dry prairie areas of the central plains. *Triplax thoracica* is widely distributed in Illinois, with specimens being found in all parts of the state (Fig. 15).

Biology. We have host records for over 1,000 specimens of this species, over 98% of which are of *Pleurotus ostreatus* (Skelley, Goodrich & Leschen 1991). All our Illinois host records are from this fungus. In addition, *P. ostreatus* is the only fungus from which we have successfully reared the larvae. The association of *Triplax thoracica* with *Pleurotus ostreatus* is also reported by Weiss (1920b), Boyle (1956) and Chantal (1979). Weiss & West (1921) reported *T. thoracica* from *Amanita rubescens*. We speculate that this record was a misidentification of the beetle. *Tritoma biguttata affinis* Lacordaire, an erotylid that also has a red pronotum and black elytra, regularly feeds and develops in *Amanita* spp.

During our field work, we have observed that adults of *Triplax thoracica* are frequently associated with adults of *T. flavicollis*, although when larvae are found with both species of adults, the larvae almost invariably prove to be of only one species. Adult specimens of *T. thoracica* have been taken in Illinois in every month except February. In most of the state, they are much more common in the spring and fall than in mid-summer. For example, in east central Illinois we have collected or reared 277 specimens from March through June, only 16 specimens in July and August, and 283 specimens in September through November. In March, we have taken it in association with *Cerylon* sp. (Coleoptera: Cerylonidae) and in November with *Derodontus maculatus* (Melsheimer) (Coleoptera: Derodontidae). Specimens have been collected more frequently in July and August in the northern counties of Illinois. The immature stages have been described by Skelley (1988).

Remarks. The scarcity of *T. thoracica* in the summer is the reverse of the situation observed with *T. flavicollis*, which is most numerous during the summer months.

Specimens Examined. We have examined a total of 2,925 specimens, of which 996 are from Illinois.

Triplax flavicollis Lacordaire

Diagnostic Description. This is the second of the two common species of *Triplax* in Illinois. It is similar in structure to *T. thoracica* and similarly marked above, with a red pronotum and black elytra. Although it is frequently collected with *thoracica*, it is immediately distinguished by the black undersurface of the abdomen and pterothorax. *Triplax flavicollis* is also distinguished from *T. thoracica* by the margined elytral bases and the generally smaller body size. *Triplax dissimulator* is similar to *T. flavicollis* in possessing margined elytra and a dark undersurface, but it is recognized by the presence of

dark pronotal spots and smaller 8th antennomeres. Overall length ranges from 2.28 to 4.50 mm.

Range. Eastern and central North America, ranging in the north from New England and Quebec westward to Manitoba and eastern South Dakota, and from Florida westward to eastern Texas, being generally distributed east of the 100th meridian. Two other isolated populations have been found, one in southern Alberta and British Columbia and one centered in Colorado. *Triplax flavicollis* is widely distributed in Illinois, with specimens being found in all parts of the state (Fig. 16).

Biology. We have host records for over 2,000 specimens of this species; over 99% of these are from *Pleurotus ostreatus*. All our Illinois records are from this fungus. We have reared the larvae from *Pleurotus* a number of times, involving hundreds of specimens. Except for one record from *Panus strigosus*, the larvae have not been found in any other host (Skelley, Goodrich & Leschen 1991). The association of *T. flavicollis* with *Pleurotus* is also reported by Weiss (1920b), Weiss & West (1920), Froeschner & Meiners (1953), Boyle (1956) and Chantal (1979).

Adult specimens of *T. flavicollis* have been collected in Illinois in every month from April to October and in the most southern portions of the state up to December. Although sympatric with *T. thoracica* and utilizing the same fungal host, *T. flavicollis* is more a summer species than *thoracica*. In east central Illinois we have collected or reared 366 specimens from late April through June, 2,238 in July and August and 513 in September and October, just the reverse of the frequency of occurrence described earlier for *T. thoracica*. The immature stages have been described by Skelley (1988).

Remarks. Both *Triplax flavicollis* and *T. thoracica* have been taken several times in *Pleurotus ostreatus* in association with another erotylid, *Dacne quadrimaculata* (Say).

Specimens Examined. We have examined a total of 5,262 specimens, of which 3,346 are from Illinois.

Triplax puncticeps **Casey**

Diagnostic Description. This species is similar to *T. thoracica* in size and markings, and thus has been long confused with that species. However, it is more elongate and parallel sided than *T. thoracica* and *T. frosti*. *Triplax puncticeps* is most easily recognized by the distinctive maxillary palpi, which are less strongly expanded at the apex than in *thoracica*, *flavicollis* and *frosti*. This characteristic is concordant with several other distinctive characteristics of the external morphology as well as distinctive male genitalia (Boyle 1956). Overall length ranges from 3.73 to 5.66 mm.

Range. Boyle reported this species only from the southeastern states, from North Carolina to Texas. We have found it to be much more widely distributed, ranging from North Carolina to Florida in the east and as far west as Illinois, Kansas, Arkansas and Oklahoma. It is a southern species, which, like many other *Triplax* spp., is stopped by the dry conditions west of the 100th meridian. Although previously unreported from Illinois, we have four collection records, amounting to 16 specimens, all taken in the southernmost region of the state (Alexander, Massac and Union counties).

Biology. We now have a number of host records for *Triplax puncticeps*; all of these are from *Pleurotus* spp. (Skelley, Goodrich & Leschen 1991). Shepard (1976) also reports this species from *Pleurotus* sp., in association with *Derodontus maculatus*. Although the larvae have not yet been reared in this species, it seems likely that they too will be found in *Pleurotus ostreatus*. We have a number of records of adult *Triplax puncticeps* being taken with *T. thoracica* and/or with *T. flavicollis*.

Adult specimens have been taken in Illinois in October and November, plus one specimen in May. Throughout its range, *T. puncticeps* seems to be active only during the colder months. Nationally, we have examined 120 specimens taken between late September and February, with only 11 between March and May, and none at all from June through September! This winter activity is also reported for Oklahoma by Shepard (1976). The immature stages are undescribed.

Remarks. This species has long been considered a rare or uncommon species. In his revision of the family for North America, Boyle (1956) examined and identified over 14,000 erotylids, but saw only 34 specimens of *T. puncticeps*. However, it would now appear that this small number was a result of the seasonal activity period for the species, causing it to be poorly collected. Karl Stephan (personal communication) reports that *T. puncticeps* is the most common *Triplax* in eastern Oklahoma in the fall and winter periods. Although *Triplax* spp. are frequently found together feeding on *Pleurotus*, there appears to be a substantial seasonal partitioning of the habitat.

Specimens Examined. We have examined a total of 134 specimens, of which 16 are from Illinois.

***Triplax frosti* Casey**

Diagnostic Description. This species is most similar to *T. thoracica*, having broadly expanded maxillary palpi and similar body shape, size and coloration. *Triplax frosti* is externally distinguished from *thoracica* by its impunctate elytral strial intervals, orange scutellum, and a series of other consistently concordant morphological characteristics, including the distinctive male genitalia, illustrated by Boyle (1956). Overall length ranges from 3.31 to 5.39 mm.

Range. Northeastern North America from Virginia to Maine and Quebec, westward across the Great Lakes region to Nebraska, North Dakota, Alberta and British Columbia. Boyle (1956) recorded one specimen labelled "Northern Illinois." We have seen no additional examples from Illinois, but have seen many from Michigan and Wisconsin, including some specimens collected only a few miles from the state line in Kenosha Co., WI. In addition, we have seen one specimen from Brown Co., Indiana, approximately 72 miles east of the Illinois border.

Biology. We have a number of host records for *Triplax frosti*; all of these are of *Pleurotus* spp. (Skelley, Goodrich & Leschen 1991). Boyle (1956) and Chantal (1979) also reported this beetle associated with *Pleurotus ostreatus*. As with the other species in species group *thoracica*, *Triplax frosti* may be taken with other *Triplax* species. We have several records of *T. frosti* collected in association with *T. thoracica*, with which it is

sympatric over much of its range. We also have a recent record of a specimen taken in Maine with a series of 15 *T. dissimulator*.

The sole record of this species from Illinois gives no date of collection, stating only "Northern Illinois" (Boyle, 1956). However, in Michigan, Wisconsin and Minnesota we have numerous records of adults in every month from May to September. The immature stages are undescribed.

Remarks. This is a northern species, whose range must extend into northern Illinois. It should be looked for in wooded areas in the northern counties, from Lake Co. to Jo Daviess Co.

Specimens Examined. We have examined a total of 228 specimens, but none from Illinois.

***Triplax dissimulator* (Crotch)**

Diagnostic Description. This species is similar to *T. flavicollis* in the piceous undersurface and emarginate elytral bases, both characteristics which distinguish it from all other Illinois members of species group *thoracica*. It is readily distinguished from *flavicollis* by the presence of dark spots on the pronotum. Typically there are two dark spots, one at the mid-point of the anterior margin and one at the middle of the posterior margin. These spots are sometimes confluent, forming a stripe along the midline of the pronotum. One or both spots may be weak in some specimens. In addition, antennomere #8 is subequal in width to #7, rather than larger, as in *flavicollis* (see Figs. 9 & 10). A series of other small, but concordant characteristics of external morphology, and distinctive male genitalia are described by Boyle (1956). Overall length ranges from 3.04 to 4.76 mm.

Range. This is another northern species, ranging in the east from New Jersey north to Maine and Quebec, then westward across the Great Lakes to Minnesota and Alberta. We have examined numerous specimens from Michigan and Wisconsin, but only a single specimen from Illinois. The sole record of this species from Illinois is the type specimen in the Ulke Collection (Carnegie Museum), described by Crotch (1873). However, the frequency of the Michigan and Wisconsin records suggests it is likely to be present in our northern counties.

Biology. We have four separate collection records from *Pleurotus* sp., amounting to a total of 31 specimens, and have successfully reared 137 specimens from a mass of *Pleurotus ostreatus* brought back to Illinois from Maine. In addition, a single specimen has been collected from *Hypsizygus tessulatus* (previously described as *Pleurotus ulmus*) (Skelley, Goodrich & Leschen 1991). *Triplax dissimulator* is also reported from *Pleurotus* sp. by Boyle (1956) and Chantal (1979). This species has been taken in association with *T. thoracica*, with which it is sympatric over much of its range.

The only record of this species from Illinois (the Crotch type) bears no date of collection. However, in Michigan and Wisconsin we have numerous records of adults in every month from May to August. The immature stages are undescribed, but we have recently collected specimens at hand and expect to describe them in the near future.

Specimens Examined. We have examined a total of 352 specimens, including the only known specimen from Illinois.

Species group *macra*

This species group, which includes 5 species in North America, is represented by three species in Illinois; two of these were previously unreported. These species have been poorly collected in the past because their preferred fungal hosts, *Inonotus* spp., are often cryptic, the basidiocarps emerging under the bark of dead trees and therefore being inconspicuous. For this reason, earlier works give no data regarding their fungal hosts.

All of these species are characterized by a strongly margined epistomal-frontal region of the head, with sharp, right-angled apical angles (Fig. 7). In addition, the antennae are entirely black beyond segment 2 and clothed with coarse black setae.

***Triplax macra* LeConte**

Diagnostic Description. This is one of the three species in species group *macra* that occur in Illinois. Superficially, *Triplax macra* appears quite similar to *T. frontalis*, from which it can be distinguished by its red head and strongly expanded antennal club, antennomere #10 being three times as wide as antennomere #7. The uniformly black elytra will easily distinguish *T. macra* from *T. festiva*. Overall length ranges from 4.95 to 6.45 mm.

Range. Eastern and central North America, ranging in the north from Maine and Ontario westward to Minnesota, and in the south from North Carolina to northeastern Texas. This species is unevenly distributed, with large gaps within the known distribution. This may be a result of being poorly collected, as suggested above, rather than an actual disjunct distribution. Previously unreported from Illinois, we have collected it in east central Illinois, where it was taken together with *T. frontalis* and *T. festiva*. In addition, we have seen 3 specimens from Pope Co. and there are 3 specimens in the Ulke Collection (Carnegie Museum) labelled "Ill." (see Fig. 17).

Biology. In 1990 we collected a series of 26 specimens of this species in *Inonotus andersonii* and we have one additional host record from *Inonotus rheades.* Adams (1908) reported this species from *Pleurotus ostreatus*. It would be impossible to confuse the conspicuous white gilled fungus *Pleurotus* with the cryptic orange-yellow *Inonotus*, but easy for the non-specialist to confuse *Triplax thoracica* with *T. macra*. Therefore we treat Adams' record with suspicion.

Our Illinois records of *T. macra* are from May and June. However, we have North American records for every month from March to September. The immature stages are undescribed.

Specimens Examined. We have examined a total of 77 specimens, of which 32 are from Illinois.

***Triplax festiva* Lacordaire**

Diagnostic Description. This is the most striking species in the genus, easily recognized by the broad band of orange crossing the elytra at the mid-point (Fig. 13). The antennae are similar to those of *T. macra*, antennomere #10 being three times wider than antennomere #7. In contrast to *macra*, however, antennomere #8 is somewhat wider and more triangular than antennomere #7, as is seen in most species of *Triplax*. Overall length ranges from 4.42 to 6.49 mm.

Range. Eastern and central United States, although more southern in distribution than *T. macra*. *Triplax festiva* ranges from Vermont and New York south to Florida in the east, westward to Michigan, Missouri, Arkansas, Oklahoma and Texas. Although previously unreported from Illinois, we have specimens from six localities in the southern half of the state, including specimens taken as far north as Cumberland, Clark and Coles counties (Fig. 17).

Biology. We have collected this species on numerous occasions, both in the adult and larval stage, from *Inonotus* spp. (Skelley, Goodrich & Leschen 1991). In Illinois we have collected it in *Inonotus andersonii* and *I. cuticularis* (previously known as *Polyporus cuticularis*). As noted earlier, *I. andersonii* has cryptic basidiocarps, which may account for the fact that the hosts of *Triplax festiva* were unknown until recently and probably also explains why this species was unreported from Illinois until now. In addition to collections with its host fungi, *Triplax festiva* has been collected in flight traps and leaf litter samples in Illinois.

Adult specimens have been taken in Illinois as early as 17 April and as late as 19 October; in the southern states they have been collected in almost every month of the year. The immature stages have been described by Skelley (1988).

Remarks. As an adult, *Triplax festiva* is often collected with other members of the species group *macra*. We have found it with both *T. macra* and *T. frontalis* in Illinois, and have collected it with *T. alachuae* Boyle in Florida

Specimens Examined. We have examined a total of 1,407 specimens, of which 75 are from Illinois.

***Triplax frontalis* Horn**

Diagnostic Description. This species most closely resembles *Triplax macra*, but is readily distinguished from that species by the black head and the narrower antennal club, antennomere #10 being not more than twice as wide as antennomere #7. Overall length ranges from 3.93 to 5.87 mm.

Range. Eastern and central United States, ranging in the north from New Jersey and Pennsylvania as far west as Iowa and Nebraska, and in the south from Georgia and northwestern Florida west to east Texas. In Illinois, we have recorded it from six counties (Fig. 17), widely scattered over the state.

Biology. As with the two preceding species, we have taken adults and larvae of *Triplax frontalis* from *Inonotus* spp. (Skelley, Goodrich & Leschen 1991). In Illinois we have

collected it from *Inonotus andersonii* and *Inonotus cuticularis*, in each case finding it in association with adults of one or more other species in species group *macra*. In addition, we have successfully reared the larvae from *I. andersonii*.

Adult specimens have been taken in Illinois from April to October. Further to the south (in Oklahoma) it has been collected as early as March and as late as December. The immature stages are undescribed, although we have an excellent series of larvae and pupae, reared from material collected in Illinois, which we intend to describe in the future.

Remarks. One field observation is worthy of note. On 1 May 1990, we collected a series of 4 adult *Triplax frontalis* in association with 26 adult *T. macra* and 32 *T. festiva*. At the same time a quantity of the host, *Inonotus andersonii*, was collected as well. The host material proved to be filled with *Triplax* larvae, which we reared. We preserved 53 specimens as larvae and 12 as pupae, rearing the remaining 235 specimens to the adult stage. All the adults reared from this sample were *T. frontalis*! This would suggest that there is a partitioning of the larval environment, as we have reared *T. festiva* from other *Inonotus* species on numerous other occasions (Skelley, Goodrich and Leschen 1991). As with the species group *thoracica* in their relationship with *Pleurotus*, members of the species group *macra* may also have a temporal partitioning of the larval habitat.

Specimens Examined. We have examined a total of 435 specimens, of which 320 are from Illinois.

This is the second in a series of three papers covering the Erotylidae of Illinois. We would be pleased to examine and identify any New World members of the family to add to our seasonal and distributional data.

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Figs. 1-2. Right metatarsus of adult. 1. Dacninae - *Megalodacne fasciata* (Fabricius). 2. Tripacinae - *Ischyrus quadripunctatus* (Olivier). Line = 1.00 mm.
Figs. 3-4. Left maxillary palp of adult. 1. Dacninae - *Megalodacne fasciata* (Fabricius). 2. Triplacinae - *Ischyrus quadripunctatus* (Olivier). Line = 0.25 mm.

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Figs. 5-6. Ventral view of prothorax. (Redrawn from Boyle 1956.) 5. *Triplax frosti* Casey 6. *Tritoma biguttata* (Say).

Figs. 7-8. Anterodorsal view of head without mouthparts. (Redrawn from Boyle 1956.) 7. *Triplax macra* LeConte 8. *Triplax thoracica* Say.

Figs. 9-10. Antennae. 9. *Triplax flavicollis* Lacordaire. 10. *Triplax dissimulator* (Crotch).

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Fig. 11. Dorsal habitus of *Ischyrus q. quadripunctatus* Olivier). Line = 2.0 mm.

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Fig. 12. Dorsal habitus of *Triplax thoracica* Say. Line = 2.0 mm

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Fig. 13. Dorsal habitus of *Triplax festiva* Lacordaire. Line = 2.5 mm

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Figs. 14-17. Distribution in Illinois of Triplacinae.
Fig. 14. *Ischyrus q. quadripunctatus* (Olivier)
Fig. 15. *Triplax thoracica* Say.
Fig. 16. *Triplax flavicollis* Lacordaire.
Fig. 17. *Triplax* of the species group *macra*. n = *Triplax macra.* s = *Triplax festiva*. l = *Triplax frontalis*.

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